

# Fairchild Semiconductor Product Catalog

Rev. 1

**Analog & Mixed Signal**

**Discrete Power**

**Interface & Logic**

**Microcontrollers**

**Optoelectronics**

**RF Power**

**Fairchild Semiconductor, The Power Franchise®**

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## Company Information

Fairchild Semiconductor is the leading global supplier of high performance products that optimize power. Our power semiconductor solutions address the world's growing power requirements driven by an increased demand for higher performance and more efficient electronics. We offer the broadest portfolio of products that reduce power consumption while enabling longer battery life and reduced size and weight.

Fairchild is The Power Franchise®, supplying power semiconductors to the consumer, industrial, ultra-portable, communications, and automotive market segments. Fairchild provides the Global Power Resource™—a complete power design source that includes Power Systems Laboratories located worldwide, technical expertise, and online resources that address designers' specific application needs.

**Analog & Mixed Signal** products include Power Management, Analog Signal Processing and Data Conversion ICs. Fairchild is driving continued innovation and portfolio expansion in product areas ranging from Off-Line Switchers, DC/DC converters, PFC and PWM controllers, Battery Management, Data Converters (A/D and D/A) and Video ICs to LDOs, System management & Supervision, LCD back light drive ICs, Electronic ballast ICs, Motor ICs and Amplifiers. Fairchild also offers Microcontrollers and Application Specific Standard Products (ASSP).

Fairchild's **Discrete Power** portfolio is one of the industry's broadest, and includes leading edge SuperFET™, UltraFET®, PowerTrench® and QFET® MOSFETs, Bipolar Transistors, IGBTs, Schottky, Ultrafast, HyperFast and Stealth™ Diode, and SPM™ (Smart Power Module). Fairchild's extensive discrete packaging includes advanced small package solutions with the advantages of superior size, low package height, and excellent thermal and electrical performance.

**Interface & Logic** products include LVDS, GTLP, Universal Serial Bus, DIMM and 1284 standard products. Interface & Logic is also comprised of logic level translator products, TinyLogic® products, low voltage products, analog switches, bus switches and standard logic products. Fairchild's packaging solutions range from space saving MicroPak™ and DQFN packaging, to high pin count QVSOP and BGA packaging.

**Optoelectronic** products include optocouplers, Solid State Relays, LED lamps and displays, and infrared components. Fairchild's portfolio of industry standard and application specific devices features a variety of advanced solutions including a full-color spectrum of low power and high brightness SMD LEDs, infrared variable sensing, mini-flat packages, surface-mount LEDs and infrared, Solid State Relays and isolated error amplifiers. A complete set of safety approval certifications are available for optocoupler products.

**RF** products provides RF power amplifier solutions for wireless communication systems like Wi-Fi™, CDMA and WCDMA cellular handsets. RF packaging solutions include advanced small package options with a small footprint, low package profile and superior thermal and electrical performance.

Fairchild employs 9,000 people worldwide and is headquartered in South Portland, Maine. Additional U.S. design and manufacturing facilities are located in California, Pennsylvania, Colorado and Utah with manufacturing, assembly and test sites in Malaysia, Singapore, the Philippines, China and South Korea.

# The Power Franchise®

Power				
<b>AC/DC Conversion</b>	<b>Battery Management</b>	<b>DC/DC Conversion</b>	<b>Monitoring/Supervisory</b>	<b>Other Power Applications</b>
Battery Charger Support	Microcontrollers	DC Boost Converters	Microcontrollers	Ballast Controllers
Diodes	Battery Chargers	DC/DC Conversion ICs	Supervisory Circuits	Ground Fault Interrupt
Fairchild Power Switches	Diodes	Diodes	Temperature Sensors	IGBTs
IGBTs	MOSFETs	Linear Regulators	Voltage Detectors	MOSFETs
MOSFETs	Optically Isolated Error Amplifiers	MOSFETs		Motor Drivers/Controllers
Optically Isolated Error Amplifiers	Optocouplers	Optically Isolated Error Amplifiers		Multiplexer/Register for Microprocessor VID
Optocouplers	Rectifiers	Optocouplers		Solid State Relays
PFC/PWM Combinations	Temperature Sensors	Rectifiers		Supervisory ICs
Power Factor Correction				Transistors
PWM and Phase Modulation Controllers				TRIAC Optocouplers
Rectifiers				
Voltage References				

Input	
<b>Analog Input and Processing</b>	
ADCs	Timers
Amplifiers	Video Processors
Analog Switches	Voltage References
Comparators	Voltage to Frequency Converters
Multipliers	
Optocouplers	
<b>Interface</b>	
1284 Transceivers	LVDS
Advanced Logic	Memory Module Drivers
Bus Switches	Optocouplers
GTL	USB Transceivers
Low Voltage Logic	
<b>Optical</b>	
Infrared Products	Solid State Relays

Processors
Microcontroller

Logic
Bus Switches
Low Voltage Logic
Standard Logic
TinyLogic®

Output	
<b>Analog</b>	
Amplifiers	Encoders
Analog Switches	Optocouplers
Comparators	Power Amplifiers
DACs	Video Filters/Drivers
<b>Interface</b>	
1284 Transceivers	LVDS
Advanced Logic	Memory Module Drivers
Bus Switches	Optocouplers
GTL	USB Transceivers
Low Voltage Logic	
<b>Optical</b>	
Infrared Products	LED Lamps
LED Displays	Solid State Relays
LED Drivers	
<b>RF</b>	
Power Amplifiers	

Support		
<b>Discrete</b>	<b>Sensing</b>	<b>Feedback &amp; Control</b>
Diodes	Infrared Products	Infrared Products
JFETs	Optocouplers	Optocouplers
MOSFETs	Temperature Sensors	Solid State Relays
Rectifiers		
Transistors		

## Fairchild Semiconductor's Product Tree

### Analog & Mixed Signal

#### Analog Signal Processing

- Amplifiers
- Comparators
- Power Amplifiers
- Voltage to Frequency Converters

#### Application Specific ICs

- Ballast ICs
- CCFL Backlight ICs
- Ground Fault Interrupt ICs
- Motor ICs
- Multiplexer/Register for Microprocessor VID

#### Data Conversion

- Analog to Digital Converters (ADCs)
- Digital to Analog Converters (DACs)

#### Interface and Switches

- DIMM
- GTL
- IEEE1284
- LVDS
- USB
- Switches

#### Power Management

- LED Drivers
- Linear Regulators
- AC/DC Conversion ICs
- DC/DC Conversion ICs
- PWM and Phase Modulation Controllers (AC/DC and DC/DC)
- Supervisory Circuits
- Voltage References and Shunts

#### Special Function ICs

- Landing Correction ICs
- Vertical Output ICs
- Voltage Stabilizers

#### Thermal Management

- Temperature Sensors

#### Timing Circuits

- Temperature Sensors

#### Video ICs

- Analog Filters and Buffers
- Decoder and Genlocks
- Digital Video Filters and Mixers
- Digital Video Memories
- Digital Video Processors
- Encoders
- Video Demo Boards

### Discrete Power

#### Bipolar Power Transistors & JFETs

#### Diodes & Rectifiers

#### IGBTs

- Discrete IGBT
- Ignition IGBT
- IGBT Modules
- SPM™ (Smart Power Module)

#### MOSFETs

- Load Switches
- Power MOSFETs
- MOSFET/Schottky Combos

#### TRIACs

### Interface & Logic

#### Interface

- DIMM
- GTL
- IEEE1284
- LVDS
- USB

#### Logic

- Low Voltage Logic
- Standard Logic
- TinyLogic®

#### Switches

- Analog Switches
- Bus Switches

### Microcontrollers

### Optoelectronics

#### Infrared Products

#### LED Lamps & Displays

#### Optocouplers

#### Solid State Relays

### RF Power

#### Basestation

#### Cellular Handsets

#### Millimeter Wave/Wideband

#### Wireless LAN

**Discrete Power Products**

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DISCRETE POWER



**BGA**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>BGA N-Channel</b>									
1.5x1.5 mm									
<b>FDZ298N</b>	20	Single	–	0.027	0.039	–	7	6	1.7
2.0x2.0 mm									
FDZ203N	20	Single	–	0.018	0.03	–	11	7.5	1.6
2.0x2.5 mm									
FDZ201N	20	Single	–	0.018	0.03	–	11	9	2
<b>FDZ209N</b>	60	Single	–	0.08@5V	–	–	6.3	4	2
2.5x4.0 mm									
FDZ2553N	20	Monolithic Common Drain	–	0.014	0.02	–	12	9.6	2.1
<b>FDZ2553NZ</b>	20	Monolithic Common Drain	–	0.014	0.02	–	13	9.6	2.1
FDZ2551N	20	Monolithic Common Drain	–	0.018	0.03	–	11	9	2.1
3.5x4.0 mm									
FDZ7064N	30	Single	0.007	0.008	–	–	31	13.5	2.2
<b>FDZ7064S</b>	30	SyncFET	0.007	0.009	–	–	25	13.5	2.2
5.0x5.5 mm									
FDZ5047N	30	Single	0.0029	0.0045	–	–	52	22	2.8
<b>BGA P-Channel</b>									
1.5x1.5 mm									
<b>FDZ299P</b>	-20	Single	–	0.055	0.08	–	6.6	4.6	1.7
2.0x2.0 mm									
FDZ204P	-20	Single	–	0.045	0.075	–	9	4.5	1.8
2.0x2.5 mm									
FDZ202P	-20	Single	–	0.045	0.075	–	9	5.5	2
2.5x4.0 mm									
FDZ2554P	-20	Monolithic Common Drain	–	0.028	0.045	–	14	6.5	2.1
<b>FDZ2554PZ</b>	-20	Monolithic Common Drain	–	0.028	0.045	–	15	6.5	2.1
FDZ2552P	-20	Monolithic Common Drain	–	0.045	0.075	–	9	5.5	2.1
3.5x4.0 mm									
FDZ208P	-30	Single	0.0105	0.0165	–	–	25	12.5	2.2
FDZ206P	-20	Single	–	0.0095	0.0145	–	38	13	2.2



**SC70-6**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SC70-6 N-Channel</b>									
FDG6335N	20	Dual	–	0.3	0.4	–	1.1	0.7	0.3
<b>FDG6317NZ</b>	20	Dual	–	0.4	0.55	–	0.76	0.7	0.3
FDG327N	20	Single	–	0.09	0.1	0.14	4.5	1.5	0.42
<b>FDG327NZ</b>	20	Single	–	0.09	0.1	0.14	4.2	1.5	0.42
FDG329N	20	Single	–	0.09	0.115	–	3.3	1.5	0.42
FDG311N	20	Single	–	0.115	0.15	–	3	1.9	0.75
FDG6303N	25	Dual	–	0.45	0.6@2.7V	–	1.64	0.5	0.3
FDG6313N	25	Dual	–	0.45	0.6@2.7V	–	1.64	0.5	0.3
FDG6301N	25	Dual	–	4	5@2.7V	–	0.29	0.22	0.3
FDG313N	25	Single	–	0.45	0.6@2.7V	–	1.64	0.95	0.75
FDG315N	30	Single	0.12	0.16	–	–	2.1	2	0.75
FDG361N	100	Single	0.5	0.55@6V	–	–	3.7	0.6	0.42
<b>SC70-6 Complementary N- and P-Channel</b>									
FDG6332C	20   -20	Complementary	–	0.3   0.42	0.4   0.63	–	1.1   1.4	0.7   0.6	0.3
<b>FDG6321C</b>	25   -25	Complementary	–	0.45   1.1	0.6@2.7V   1.5@2.7V	–	1.64   1.1	0.5   0.41	0.3
FDG6320C	25   -25	Complementary	–	4   10	5@2.7V   13@2.7V	–	0.29   0.22	0.22   0.14	0.3
FDG6322C	25   -25	Complementary	–	4   1.1	5@2.7V   1.5@2.7V	–	1.1   1.4	0.22   0.41	0.3
<b>SC70-6 P-Channel</b>									
FDG316P	-30	Single	0.19	0.3	–	–	3.5	1.6	0.75
FDG6304P	-25	Dual	–	1.1	1.5@2.7V	–	1.1	0.41	0.3
FDG6302P	-25	Dual	–	10	13@2.7V	–	0.22	0.14	0.3
FDG314P	-25	Single	–	1.1	1.5@2.7V	–	1.1	0.65	0.75
FDG6308P	-20	Dual	–	0.4	0.55	0.8	1.8	0.6	0.3
FDG6306P	-20	Dual	–	0.42	0.63	–	1.4	0.6	0.3
<b>FDG6318P</b>	-20	Dual	–	0.78	1.2	–	0.86	0.5	0.3
<b>FDG6318PZ</b>	-20	Dual	–	0.78	1.2	–	1.08	0.5	0.3
FDG326P	-20	Single	–	0.14	0.18	0.25	4.4	1.5	0.75
FDG328P	-20	Single	–	0.145	0.21	–	3.7	1.5	0.75
FDG312P	-20	Single	–	0.18	0.25	–	3.3	1.2	0.75
DG318P	-20	Single	Replaced by FDG328P						
FDG6316P	-12	Dual	–	0.27	0.36	0.65	1.7	0.7	0.3
FDG330P	-12	Single	–	0.11	0.15	0.215	5	2	0.75

**SC75-6 FLMP**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SC75-6 FLMP N-Channel</b>									
<b>FDJ128N</b>	20	Single	–	0.035	0.051	–	5	5.5	1.6
<b>SC75-6 FLMP P-Channel</b>									
<b>FDJ127P</b>	-20	Single	–	0.06	0.085	0.133	7.2	4.1	1.6
FDJ129P	-20	Single	–	0.07	0.12	–	4	4.2	1.6

**SuperSOT™-3/SOT-23**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SuperSOT-3/SOT-23 N-Channel</b>									
FDN339AN	20	Single	–	0.035	0.05	–	7	3	0.5
FDN371N	20	Single	–	0.05	0.06	–	7.6	2.5	0.5
FDN327N	20	Single	–	0.07	0.08	0.12	4.5	2	0.5
FDN335N	20	Single	–	0.07	0.1	–	3.5	1.7	0.5
NDS335N	20	Single	–	0.11	0.14@2.7V	–	6.4	1.7	0.5
NDS331N	20	Single	–	0.16	0.21@2.7V	–	3.5	1.3	0.5
FDV305N	20	Single	–	0.22	0.3	–	1.1	0.9	0.35
FDV303N	25	Single	–	0.45	0.6@2.7V	–	1.64	0.68	0.35
FDV301N	25	Single	–	4	5@2.7V	–	0.49	0.22	0.35
FDN337N	30	Single	–	0.065	0.082	–	7	2.2	0.5
NDS355N	30	Single	Replaced by NDS355AN						
NDS351N	30	Single	Replaced by NDS351AN						
FDN359AN	30	Single	0.046	0.06	–	–	5	2.7	0.5
FDN357N	30	Single	0.06	0.09	–	–	4.2	1.9	0.5
NDS355AN	30	Single	0.085	0.125	–	–	3.5	1.7	0.5
FDN361AN	30	Single	0.1	0.15	–	–	2.1	1.8	0.5
NDS351AN	30	Single	0.16	0.25	–	–	1.3	1.4	0.5
FDN372S	30	SyncFET	0.04	0.05	–	–	5.8	2.6	0.5
BSS138	50	Single	3.5	6	–	–	1.7	0.22	0.36
FDN5630	60	Single	0.1	0.12@6V	–	–	7	1.7	0.5
NDS7002A	60	Single	2	3	–	–	1.7	0.28	0.3
2N7002MTF	60	Single	5	–	–	–	–	0.115	0.2
MMBF170	60	Single	5	–	–	–	1.7	0.5	0.3
2N7002	60	Single	7.5	7.5	–	–	1.7	0.12	0.2
FDN363N	100	Single	0.24	0.35@6V	–	–	4	1	0.5
BSS123	100	Single	6	10	–	–	1.7	0.17	0.36
<b>SuperSOT-3/SOT-23 P-Channel</b>									
FDN5618P	-60	Single	0.17	0.23	–	–	8.6	1.2	0.5
NDS0605	-60	Single	5	–	–	–	1.8	0.18	0.36
NDS0610	-60	Single	10	20	–	–	1.8	0.12	0.36
BSS84	-50	Single	10	–	–	–	0.9	0.13	0.36
FDN360P	-30	Single	0.08	0.125	–	–	6.2	2	0.5
FDN358P	-30	Single	0.125	0.2	–	–	4	1.5	0.5
NDS356AP	-30	Single	0.2	0.3	–	–	3.4	1.1	0.5
NDS352AP	-30	Single	0.3	0.5	–	–	2	0.9	0.5
FDV304P	-25	Single	–	1.1	1.5@2.7V	–	1.1	0.46	0.35
FDV302P	-25	Single	–	10	13@2.7V	–	0.22	0.12	0.35
FDN304P	-20	Single	–	0.052	0.07	0.1	12	2.4	0.5

**SuperSOT™-3/SOT-23 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @ V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FDN304PZ</b>	-20	Single	–	0.052	0.07	0.1	12	2.4	0.5
FDN302P	-20	Single	–	0.055	0.08	–	9	2.4	0.5
FDN340P	-20	Single	–	0.07	0.11	–	8	2	0.5
<b>FDN342P</b>	-20	Single	–	0.08	0.13	–	6.3	2	0.5
FDN338P	-20	Single	–	0.115	0.155	–	4.4	1.6	0.5
FDN308P	-20	Single	–	0.125	0.19	–	3.8	1.5	0.5
FDN336P	-20	Single	–	0.2	0.27	–	3.6	1.2	0.5
NDS356P	-20	Single	Replaced by NDS356AP						
NDS332P	-20	Single	–	0.3	0.41@2.7V	–	3.7	1	0.5
NDS352P	-20	Single	Replaced by NDS352AP						
FDN306P	-12	Single	–	0.04	0.05	0.08	12	2.6	0.5

**MicroFET™**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>MicroFET N-Channel</b>									
<b>FDM3300NZ</b>	20	Dual Common Drain	–	0.023	0.028	–	12	10	2.5
<b>MicroFET P-Channel</b>									
FDM606P	-20	Single	–	0.026	0.033	0.052	20	6.8	1.92

**SuperSOT™-6/TSOP-6 FLMP**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SSOT-6/TSOP-6 FLMP N-Channel</b>									
<b>FDC6000NZ</b>	20	Dual	–	0.02	0.028	–	8	7.3	1.6
<b>FDC796N</b>	30	Single	0.009	0.012	–	–	14	12.5	2
<b>FDC3616N</b>	100	Single	0.07	0.08@6V	–	–	23	3.7	2
<b>SSOT-6/TSOP-6 FLMP P-Channel</b>									
<b>FDC6036P</b>	-20	Dual	–	0.044	0.064	0.095	10	5	1.8
FDC697P	-20	Single	–	0.02	0.025	0.035	39	8	2
FDC699P	-20	Single	–	0.022	0.03	–	27	7	2
<b>SSOT-6/TSOP-6 FLMP Complementary N- and P-Channel</b>									
<b>FDC6020C</b>	-20   20	Complementary	–	0.055   0.027	0.082   0.039	–	7   6	-4.2   5.9	1.6

**SuperSOT-6/TSOP-6**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SuperSOT-6/TSOP-6 N-Channel</b>									
FDC6401N	20	Dual	–	0.07	0.095	–	3.3	3	0.96
FDC6305N	20	Dual	–	0.08	0.12	–	3.5	2.7	0.9
FDC637AN	20	Single	–	0.024	0.032	–	10.5	6.2	1.6
FDC6303N	25	Dual	–	0.45	0.6@2.7V	–	1.64	0.68	0.9
FDC6301N	25	Dual	–	4	5@2.7V	–	0.49	0.22	0.9
FDC6561AN	30	Dual	0.095	0.145	–	–	2.1	2.5	0.9
FDC633N	30	Single	–	0.042	0.054	–	11	5.2	1.6
FDC645N	30	Single	0.026	0.03	–	–	13	5.5	1.6
FDC655AN	30	Single	0.027	0.035	–	–	9	6.3	1.6
FDC653N	30	Single	0.035	0.055	–	–	12	5	1.6
NDC651N	30	Single	0.06	0.09	–	–	10	3.2	1.6
NDC7002N	50	Dual	2	–	–	–	1	0.51	0.96
FDC5612	60	Single	0.055	0.064@6V	–	–	12.5	4.3	1.6
FDC3512	80	Single	0.077	0.088@6V	–	–	13	3	1.6
FDC3601N	100	Dual	0.5	0.55@6V	–	–	3.7	1	0.96
FDC3612	100	Single	0.125	0.135@6V	–	–	14	2.6	1.6
FDC2512	150	Single	0.425	0.475@6V	–	–	8	1.4	1.6
FDC2612	200	Single	0.725	–	–	–	8	1.1	1.6
<b>SuperSOT-6/TSOP-6 Complementary N- and P-Channel</b>									
FDC6420C	20   -20	Complementary	–	0.07   0.125	0.095   0.19	–	3.3   3.7	3   2.2	0.96
FDC6327C	20   -20	Complementary	–	0.08   0.17	0.12   0.25	–	3.25   2.85	2.7   1.9	0.96
FDC6320C	25   -25	Complementary	–	–	5@2.7V   13@2.7V	–	0.29   0.23	0.22   0.12	0.9
<b>FDC6322C</b>	25   -25	Complementary	–	–	5@2.7V   1.5@2.7V	–	0.49   1	0.22   0.46	0.9
FDC6321C	25   -25	Complementary	–	0.45   1.1	–	–	1.64   1.1	0.68   0.46	0.9
<b>FDC6432SH</b>	30   -12	Complementary	0.09	0.09   0.105	0.125	–	2.5   5.7	2.4   2.5	1.3
FDC6333C	30   -30	Complementary	0.095   0.15	0.15   0.22	–	–	4.7   4.1	2.5   2	0.96
NDC7001C	60   -60	Complementary	2   5	4   7.5	–	–	1.1   1.6	0.51   0.34	0.96
<b>SuperSOT-6/TSOP-6 P-Channel</b>									
NDC7003P	-60	Dual	5	7	–	–	1.6	0.34	0.96
FDC5614P	-60	Single	0.105	0.135	–	–	15	3	1.6
FDC6506P	-30	Dual	0.17	0.28	–	–	2.3	1.8	0.96
FDC658P	-30	Single	0.05	0.075	–	–	8	4	1.6
FDC654P	-30	Single	0.075	0.125	–	–	6.2	3.6	1.6
NDC652P	-30	Single	0.11	0.18	–	–	10.5	2.4	1.6
FDC6304P	-25	Dual	–	1.1	1.5@2.7V	–	1.1	0.46	0.9
FDC6302P	-25	Dual	–	10	13@2.7V	–	0.22	0.12	0.9
USB10H	-20	Dual	–	–	–	–	3	-1.9	0.96
FDC6312P	-20	Dual	–	0.115	0.155	0.225	4.4	2.3	0.96
FDC6310P	-20	Dual	–	0.125	0.19	–	3.7	2.2	0.96

**SuperSOT-6/TSOP-6 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FDC6306P	-20	Dual	–	0.17	0.25	–	3	1.9	0.96
FDC6308P	-20	Dual	Replaced by FDC6306P						
FDC604P	-20	Single	–	0.033	0.043	0.06	19	5.5	1.6
FDC602P	-20	Single	–	0.035	0.05	–	14	5.5	1.6
FDC638P	-20	Single	–	0.048	0.065	–	10	4.5	1.6
FDC640P	-20	Single	–	0.053	0.08	–	9	4.5	1.6
FDC642P	-20	Single	–	0.065	0.1	–	7.2	4	1.6
FDC634P	-20	Single	–	0.08	0.11	–	7.2	3.5	1.6
FDC636P	-20	Single	–	0.13	0.18	–	6	2.8	1.6
FDC6318P	-12	Dual	–	0.09	0.125	0.2	5.4	2.5	0.96
FDC606P	-12	Single	–	0.026	0.035	0.053	18	6	1.6



**TSSOP-8**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TSSOP-8 N-Channel</b>									
FDW2501NZ	20	Dual	–	0.018	0.025	–	12	5.5	1
FDW2501N	20	Dual	–	0.018	0.028	–	12	6	1
FDW2503NZ	20	Dual	–	0.02	0.026	–	12	5.5	1
FDW2503N	20	Dual	–	0.021	0.035	–	12	5.5	1
<b>FDW2510NZ</b>	20	Dual	–	0.024	0.032	–	8.2	6.4	1.6
FDW9926A	20	Dual	–	0.032	0.045	–	6.1	4.5	1
FDW2507N	20	Dual Common Drain	–	0.019	0.023	–	20	7.5	1.6
FDW2507NZ	20	Dual Common Drain	–	0.019	0.023	–	20	7.5	1.6
FDW2509NZ	20	Dual Common Drain	–	0.02	0.026	–	13	7.1	1.6
<b>FDW2515NZ</b>	20	Dual Common Drain	–	0.028	0.038	–	9	5.8	1.6
<b>FDW2516NZ</b>	20	Dual Common Drain	–	0.03	0.04	–	9	5.8	1.6
<b>FDW9926NZ</b>	20	Dual Common Drain	–	0.032	0.045	–	5.7	4.5	1
<b>TSSOP-8 Complementary N- and P-Channel</b>									
FDW2520C	20   -20	Complementary	–	0.018   0.035	0.028   0.057	–	14   14	6   4.4	1
FDW2521C	20   -20	Complementary	–	0.021   0.043	0.035   0.07	–	12   9.7	5.5   3.8	1
<b>TSSOP-8 P-Channel</b>									
FDW256P	-30	Single	0.0135	0.02	–	–	28	8	1.3
FDW2506P	-20	Dual	–	0.022	0.033	–	21	5.3	1
FDW2502P	-20	Dual	–	0.035	0.057	–	14	4.4	1
FDW2504P	-20	Dual	–	0.043	0.07	–	9.7	3.8	1
<b>FDW264P</b>	-20	Single	–	0.01	0.0145	–	95	9.7	1.3
FDW254P	-20	Single	–	0.012	0.015	0.0215	60	9.2	1.3
<b>FDW254PZ</b>	-20	Single	–	0.012	0.015	0.0215	60	9.2	1.4
FDW252P	-20	Single	–	0.0125	0.018	–	41	8.8	1.3
FDW262P	-20	Single	–	0.047	0.065	0.1	13	4.5	1.3
FDW2508P	-12	Dual	–	0.018	0.022	0.03	26	6	1.3
FDW258P	-12	Single	–	0.011	0.014	0.02	61	9	1.3

**SuperSOT™-8**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SuperSOT-8 N-Channel</b>									
FDR8305N	20	Dual	–	0.022	0.028	–	16.2	4.5	0.8
FDR6580	20	Single	–	0.009	0.011	–	34	11.2	1.8
NDH831N	20	Single	Replaced by FDC637AN						
FDR6674A	30	Single	0.0085	0.0095	–	–	33	11.5	1.8
FDR4420A	30	Single	0.009	0.013	–	–	23	11	1.8
FDR6678A	30	Single	0.02	0.024	–	–	13	7.5	1.8
<b>SuperSOT-8 Complementary N- and P-Channel</b>									
NDH8321C	20   -20	Complementary	Replaced by FDS8928A						
<b>FDR8702H</b>	20   -20	Complementary	–	0.038   0.08	0.054   0.11	–	7   6	3.6   2.6	0.8
NDH8521C	30   -30	Complementary	Replaced by FDS8958A						
<b>SuperSOT-8 P-Channel</b>									
FDR8508P	-30	Dual	0.05	0.075	–	–	8	3	0.8
NDH8502P	-30	Dual	Replaced by FDN360P						
<b>FDR858P</b>	-30	Single	0.019	0.028	–	–	21	8	1.8
FDR856P	-30	Single	Replaced by FDR858P						
FDR8308P	-20	Dual	–	0.05	0.07	–	13	3.2	0.8
NDH8304P	-20	Dual	–	0.07	0.095@2.7V	–	16	2.7	0.8
NDH8302P	-20	Dual	Replaced by NDH8304P						
FDR844P	-20	Single	–	0.011	0.014	0.02	53	10	1.8
FDR840P	-20	Single	–	0.011	0.016	–	41	10	1.8
FDR838P	-20	Single	–	0.017	0.024	–	30	8	1.8
FDR836P	-20	Single	Replaced by FDR838P						
NDH834P	-20	Single	Replaced by FDR838P						
NDH832P	-20	Single	–	0.06	0.08@2.7V	–	18	4.2	1.8
FDR842P	-12	Single	–	0.009	0.012	0.016	57	11	1.8

**SO-8 FLMP**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SO-8 FLMP N-Channel</b>									
FDS6064N7	20	Single	–	0.0035	0.004	0.006	70	23	3
FDS6162N7	20	Single	–	0.0035	0.005	–	52	23	3
FDS6064N3	20	Single	–	0.004	0.005	0.007	70	23	3
FDS6162N3	20	Single	–	0.0045	0.006	–	52	21	3
FDS7064N7	30	Single	–	0.007	–	–	30	16.5	3
FDS7064N	30	Single	–	0.0075	–	–	30	16	3
FDS7088N7	30	Single	0.003	0.004	–	–	37	23	3
FDS7088N3	30	Single	0.004	0.0055	–	–	37	21	3
FDS7066N7	30	Single	0.0045	0.0055	–	–	43	23	3
FDS7060N7	30	Single	0.005	0.007	–	–	35	19	3
FDS7066N3	30	Single	0.0055	0.0065	–	–	43	23	3
<b>FDS7082N3</b>	30	Single	0.006	0.008	–	–	38	17.5	3
<b>FDS7096N3</b>	30	Single	0.009	0.012	–	–	16	14	3
<b>FDS7288N3</b>	30	Single	0.045	0.056	–	–	26	20.5	3
FDS7066SN3	30	SyncFET	0.0055	0.006	–	–	41	19	3
<b>FDS7068SN3</b>	30	SyncFET	0.0055	0.007	–	–	77	19	3
<b>FDS7064SN3</b>	30	SyncFET	0.008	0.0095	–	–	25	16	3.13
FDS4070N7	40	Single	0.007	–	–	–	47	15.3	3
FDS4070N3	40	Single	0.0075	–	–	–	47	15.3	3
FDS4072N7	40	Single	0.009	0.011	–	–	33	12.4	3
FDS4080N7	40	Single	0.01	–	–	–	30	13	3.9
FDS4072N3	40	Single	0.01	0.012	–	–	33	12.4	3
FDS4080N3	40	Single	0.0105	–	–	–	30	13	3
FDS5170N7	60	Single	0.012	0.015@6V	–	–	51	10.6	3
<b>FDS3170N7</b>	100	Single	0.026	0.028@6V	–	–	55	6.7	3
FDS3172N3	100	Single	0.03	0.033@6V	–	–	53	6.7	3
FDS2070N3	150	Single	0.078	0.088@6V	–	–	38	4.1	3
FDS2070N7	150	Single	0.078	0.088@6V	–	–	38	4.1	3
FDS2170N3	200	Single	0.128	–	–	–	26	3	3
FDS2170N7	200	Single	0.128	–	–	–	26	3	3
<b>SO-8 FLMP P-Channel</b>									
<b>FDS7079ZN3</b>	-30	Single	0.0075	0.0115	–	–	39	16	3.13

**SO-8**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SO-8 N-Channel</b>									
RF1K49090	12	Dual	Replaced by NDS9925A						
RF1K49211	12	Single	Replaced by NDS8425						
FDS6898A	20	Dual	–	0.014	0.018	–	16	9.4	2
FDS6898AZ	20	Dual	–	0.014	0.018	–	16	9.4	2
FDS6894A	20	Dual	–	0.017	0.02	0.03	17	8	2
FDS6894AZ	20	Dual	–	0.017	0.02	0.03	14	8	2
FDS6890A	20	Dual	–	0.018	0.022	–	23	7.5	2
FDS6892A	20	Dual	–	0.018	0.024	–	12	7.5	2
FDS6892AZ	20	Dual	–	0.018	0.024	–	12	7.5	2
FDS6812A	20	Dual	–	0.022	0.035	–	12	6.7	2
FDS9926A	20	Dual	–	0.03	0.043	–	6.2	6.5	2
FDS6574A	20	Single	–	0.006	0.007	0.009	75	16	2.5
FDS6572A	20	Single	–	0.006	0.008	–	57	16	2.5
FDS6570A	20	Single	–	0.0075	0.01	–	47	15	2.5
SI4466DY	20	Single	–	0.0075	0.01	–	47	15	2.5
NDS8426A	20	Single	–	0.0135	0.016@2.7V	–	43	10.5	2.5
NDS8425	20	Single	–	0.022	0.028@2.7V	–	11	7.4	2.5
FDS8926A	30	Dual	–	0.03	0.038	–	19.8	5.5	2
RF1K49088	30	Dual	Replaced by FDS6930A						
FDS6982	30   30	Dual	0.015   0.028	0.02   0.035	–	–	18.5   8.5	8.6   6.3	2
FDS6990A	30	Dual	0.018	0.023	–	–	12	7.5	1.6
FDS6912A	30	Dual	0.028	0.035	–	–	5.8	6	1.6
FDS8936A	30	Dual	0.028	0.04	–	–	19	6	2
FDS6912	30	Dual	0.028	0.042	–	–	7	6	2
HUF76113DK8	30	Dual	0.032	0.043	–	–	8.4	6	2.5
FDS6930A	30	Dual	0.04	0.055	–	–	5	5.5	2
NDS9936	30	Dual	Replaced by FDS6930A						
HUF76105DK8	30	Dual	0.05	0.078	–	–	5.3	5	2.5
NDS9956A	30	Dual	0.08	0.11	–	–	9.5	3.7	2
FDS6961A	30	Dual	0.09	0.14	–	–	2.1	3.5	2
FDS6982S	30   30	Dual (MOSFET & SyncFET)	0.016   0.028	0.022   0.035	–	–	17.5   8.5	8.6   6.3	2
FDS6984S	30   30	Dual (MOSFET & SyncFET)	0.019   0.04	0.028   0.055	–	–	11   5	8.5   5.5	2
FDS6994S	30   30	Dual (MOSFET & SyncFET)	0.021   0.015	0.026   0.0175	–	–	8   25	6.9   8.2	2
FDS6986S	30   30	Dual (MOSFET & SyncFET)	0.029   0.02	0.038   0.028	–	–	6.5   11	6.5   7.9	2
<b>FDS6900S</b>	30   30	Dual (MOSFET & SyncFET)	0.03   0.022	0.037   0.029	–	–	8   12	6.9   8.2	2

**SO-8 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FDS6990S	30	Dual SyncFET	0.022	0.03	–	–	11	7.5	2
FDS7764A	30	Single	–	0.0075	–	–	29	15	2.5
RF1K49156	30	Single	Replaced by FDS6612A						
FDS7788	30	Single	0.004	0.005	–	–	37	18	2.5
FDS7766	30	Single	0.005	0.006	–	–	43	17	2.5
FDS7760A	30	Single	0.0055	0.008	–	–	37	15	2.5
FDS6688	30	Single	0.006	0.007	–	–	40	16	2.5
FDS6676	30	Single	0.007	0.008	–	–	45	14.5	2.5
FDS6682	30	Single	0.0075	0.009	–	–	22	14	2.5
FDS6672A	30	Single	0.008	0.0095	–	–	33	12.5	2.5
FDS6670A	30	Single	0.008	0.01	–	–	21	13	2.5
FDS6644	30	Single	0.0085	0.0105	–	–	25	13	2.5
FDS6680A	30	Single	0.0095	0.013	–	–	16	12.5	2.5
FDS6692	30	Single	0.01	0.0145	–	–	18	12	2.5
FDS6680	30	Single	0.01	0.015	–	–	19	11.5	2.5
FDS6694	30	Single	0.011	0.0135	–	–	13	12	2.5
<b>FDS6294</b>	30	Single	0.0113	0.0144	–	–	10	13	3
HUF76132SK8	30	Single	Replaced by FDS6680						
FDS6690A	30	Single	0.0125	0.017	–	–	12	11	2.5
FDS4410	30	Single	0.0135	0.02	–	–	13	10	2.5
FDS6690	30	Single	0.0135	0.02	–	–	13	10	2.5
FDS6614A	30	Single	0.018	0.025	–	–	12	9.3	2.5
FDS6678A	30	Single	0.02	0.024	–	–	13	7.5	2.5
FDS4488	30	Single	0.022	0.03	–	–	9.5	7.9	2.5
FDS6612A	30	Single	0.022	0.03	–	–	5.4	8.4	2.5
FDS9412	30	Single	0.022	0.036	–	–	9	7.9	2.5
NDS9410A	30	Single	0.028	0.042	–	–	14	7.3	2.5
HUF76113SK8	30	Single	0.03	0.041	–	–	10	6.5	2.5
RF1K49157	30	Single	Replaced by FDS6612A						
FDS6630A	30	Single	0.038	0.053	–	–	5	6.5	2.5
HUF76105SK8	30	Single	0.05	0.078	–	–	5.3	5.5	2.5
<b>FDS7766S</b>	30	SyncFET	0.0055	0.0065	–	–	41	17	2.5
<b>FDS6688S</b>	30	SyncFET	0.006	0.0075	–	–	56	16	2.5
FDS6676S	30	SyncFET	0.0075	0.009	–	–	43	14.5	2.5
FDS7764S	30	SyncFET	0.0075	0.009	–	–	25	13.5	2.5
FDS6670S	30	SyncFET	0.009	0.0125	–	–	24	13.5	2.5
FDS6680S	30	SyncFET	0.011	0.017	–	–	17	11.5	2.5
FDS6690S	30	SyncFET	0.016	0.025	–	–	17	10	2.5
FDS4672A	40	Single	–	0.013	–	–	35	11	2.5
FDS4770	40	Single	0.0075	–	–	–	47	13.2	2.5

**SO-8 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FDS4470	40	Single	0.009	–	–	–	45	12.5	2.5
FDS4780	40	Single	0.0105	–	–	–	30	10.8	2.5
FDS4480	40	Single	0.012	–	–	–	29	10.8	2.5
SSD2009A	50	Dual	0.13	0.2	–	–	19	3	2
NDS9959	50	Dual	0.3	–	–	–	4.3	2	2
SSD2007A	50	Dual	0.3	0.5@5V	–	–	11.5	2	2
HUFA76413DK8	60	Dual	0.049	0.056@5V	–	–	18	4.8	2.5
HUF76407DK8T	60	Dual	0.09	0.105	–	–	9.4	3.8	2.5
HUFA76407DK8T	60	Dual	0.09	0.105	–	–	9.4	3.8	2.5
FDS9945	60	Dual	0.1	0.2	–	–	8	3.5	2
NDS9945	60	Dual	Replaced by Si9945DY						
SSD2025	60	Dual	0.1	0.2	–	–	15	3.3	2
FDS5670	60	Single	0.014	0.017@6V	–	–	49	10	2.5
FDS5680	60	Single	0.02	0.025@6V	–	–	30	8	2.5
FDS5690	60	Single	0.028	0.033@6V	–	–	23	7	2.5
RF1K49154	60	Single	0.13	–	–	–	14	2	2
<b>HUFA76404DK8T</b>	62	Dual	–	0.11@5V	–	–	3.8	3.2	2.5
FDS3890	80	Dual	0.044	0.05@6V	–	–	29	4.7	2
FDS3812	80	Dual	0.074	0.084@6V	–	–	13	3.4	2
HUFA76504DK8T	80	Dual	0.2	0.222@5V	–	–	6.6	2.3	2.5
<b>FDS3572</b>	80	Single	0.016	0.029@6V	–	–	31	8.9	2.5
FDS3570	80	Single	0.019	0.022@6V	–	–	54	9	2.5
FDS3580	80	Single	0.027	0.031@6V	–	–	34	7.6	2.5
HUF75531SK8	80	Single	0.03	–	–	–	37	6	2.5
HUFA75531SK8	80	Single	0.03	–	–	–	37	6	2.5
FDS3590	80	Single	0.037	0.043@6V	–	–	23	6.5	2.5
FDS3512	80	Single	0.07	0.08@6V	–	–	13	4	2.5
FDS3992	100	Dual	0.062	0.108@6V	–	–	11	4.5	2.5
FDS3912	100	Dual	0.125	0.135@6V	–	–	14	3	2
FDS3601	100	Dual	0.48	0.53@6V	–	–	3.7	1.3	2
FDS3672	100	Single	0.022	0.028@6V	–	–	28	7.5	2.5
FDS3670	100	Single	Replaced by FDS3682						
FDS3682	100	Single	0.035	0.057@6V	–	–	19	6	2.5
HUF75631SK8	100	Single	0.039	–	–	–	35	5.5	2.5
HUFA75631SK8	100	Single	0.039	–	–	–	35	5.5	2.5
FDS3680	100	Single	0.043	0.048@6V	–	–	38	5.2	2.5
FDS3690	100	Single	Replaced by FDS3692						
FDS3692	100	Single	0.06	0.105@6V	–	–	11	4.5	2.5
FDS3612	100	Single	0.12	0.13@6V	–	–	14	3.4	2.5

**SO-8 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FDS2572	150	Single	0.047	0.053@6V	–	–	29	4.9	2.5
FDS2582	150	Single	0.066	0.096@6V	–	–	11	4.5	2.5
FDS2570	150	Single	Replaced by HUF75831SK8T						
HUF75831SK8T	150	Single	0.095	–	–	–	35	3	2.5
HUFA75831SK8T	150	Single	0.095	–	–	–	35	3	2.5
FDS2670	200	Single	0.13	–	–	–	27	3	2.5
FQS4901	400	Dual	4.2	–	–	–	5.8	0.45	2
FQS4903	500   500	Dual	6.2	–	–	–	6.3	0.37	2
<b>SO-8 Complementary N- and P-Channel</b>									
RF1K49092	12   12	Complementary	Replaced by FDS8928A						
<b>FDS9934C</b>	20   -20	Complementary	–	0.03   0.055	0.043   0.09	–	6.2   8.7	6.5   -5	2
FDS8928A	30   -20	Complementary	–	0.03   0.055	0.038   0.072	–	19.8   20	5.5   4	2
FDS4501H	30   -20	Complementary	0.018	0.046   0.023	0.063	–	17   13	9.3   5.6	2.5
FDS8958A	30   30	Complementary	0.028   0.052	0.04   0.08	–	–	10.7   9.6	7   5	2
<b>SI4532DY</b>	30   -30	Complementary	0.065   0.085	0.095   0.19	–	–	3.7   5	3.9   3.5	2
NDS9952A	30   -30	Complementary	0.08   0.13	–	–	–	9.5   10	3.7   2.9	2
FDS8333C	30   -30	Complementary	0.08   0.13	0.13   0.2	–	–	4.7   4.1	4.1   3.4	2
FDS4559	60   -60	Complementary	0.055   0.105	0.075   0.135	–	–	12.5   15	4.5   3.5	2
FQS4900	60   -300	Complementary	0.55   15.5	0.65@5V   16@5V	–	–	1.6   3.6	1.3   0.3	2
<b>SO-8 P-Channel</b>									
NDS9948	-60	Dual	0.25	0.5	–	–	9	2.3	2
SSD2011A	-60	Dual	0.28	0.5	–	–	23	2	2
NDS9407	-60	Single	0.15	0.24	–	–	16	3	2.5
FDS4675	-40	Single	0.013	0.017	–	–	40	11	2.4
<b>FDS4935</b>	-30	Dual	0.023	0.035	–	–	15	7	2
FDS4935A	-30	Dual	0.023	0.035	–	–	15	7	2
FDS6975	-30	Dual	0.032	0.045	–	–	14.5	6	2
<b>FDS8947A</b>	-30	Dual	0.052	0.08	–	–	19	4	2
<b>SI4953DY</b>	-30	Dual	0.053	0.095	–	–	8	4.9	2
<b>FDS6993</b>	-30   -12	Dual	0.055	0.017   0.085	0.024	0.03	–	4.3   6.8	2
FDS4953	-30	Dual	0.055	0.095	–	–	6	5	2
NDS9953A	-30	Dual	Replaced by FDS9953A						
FDS9953A	-30	Dual	0.13	0.2	–	–	2.5	2.9	2
RF1K49223	-30	Dual	Replaced by NDS9953A						
RF1K4922396	-30	Dual	0.15	0.36	–	–	1.5	2.5	2
<b>FDS7779Z</b>	-30	Single	0.0072	0.0115	–	–	70	16	3
FDS6679	-30	Single	0.009	0.013	–	–	71	13	2.5
FDS6679Z	-30	Single	0.009	0.013	–	–	67	13	2.5
<b>FDS6675A</b>	-30	Single	0.013	0.019	–	–	24	11	2.5
FDS6675	-30	Single	0.014	0.02	–	–	30	11	2.5

**SO-8 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FDS4435A	-30	Single	0.017	0.025	–	–	21	9	2.5
FDS4435	-30	Single	0.02	0.035	–	–	17	8.8	2.5
FDS6685	-30	Single	0.02	0.035	–	–	19	8.8	2.5
SI4835DY	-30	Single	0.02	0.035	–	–	19	8.8	2.5
NDS8435A	-30	Single	0.023	0.035	–	–	48	7.9	2.5
FDS6609A	-30	Single	0.032	0.05	–	–	18	6	2.5
FDS9435A	-30	Single	0.05	0.08	–	–	10	5.3	2.5
NDS9435A	-30	Single	0.05	0.08	–	–	10	5.3	2.5
NDS9430	-30	Single	0.06	0.1	–	–	10	5.3	2.5
FDS9400A	-30	Single	0.13	0.2	–	–	2.4	3.4	2.5
NDS9400A	-30	Single	Replaced by FDS9400A						
FDS6875	-20	Dual	–	0.03	0.04	–	23	6	2
FDS8934A	-20	Dual	–	0.055	0.072	–	20	4	2
<b>FDS9933</b>	-20	Dual	–	0.055	0.09	–	10	5	2
FDS9933A	-20	Dual	–	0.075	0.105	–	8	3.8	2
NDS9933A	-20	Dual	–	0.14	0.2	–	6	2.8	2
FDS4465	-20	Single	–	0.0085	0.0105	0.014	86	13.5	2.5
SI4463DY	-20	Single	–	0.012	0.0175	–	41	11.5	2.5
FDS6575	-20	Single	–	0.013	0.017	–	50	10	2.5
FDS6576	-20	Single	–	0.014	0.02	–	43	11	2.5
FDS6375	-20	Single	–	0.024	0.032	–	23	8	2.5
FDS8433A	-20	Single	–	0.047	0.07	–	20	5	2.5
FDS9431A	-20	Single	–	0.13	0.18	–	6	3.5	2.5

DISCRETE POWER



**TO-92**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-92 N-Channel</b>									
BS270	60	Single	2	–	–	–	–	0.4	0.63
2N7000BU	60	Single	5	–	–	–	–	0.2	0.4
2N7000TA	60	Single	5	–	–	–	–	0.2	0.4
BS170	60	Single	5	–	–	–	–	0.5	0.83
2N7000	60	Single	5	5.3	–	–	1.7	0.2	0.4
<b>IRFN214B</b>	250	Single	2	–	–	–	8.1	0.6	70
SSN1N45B	450	Single	4.25	–	–	–	6.5	0.5	0.9

**SOT-223**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SOT-223 N-Channel</b>									
FDT439N	30	Single	–	0.045	0.058	–	10.7	6.3	3
NDT453N	30	Single	0.028	0.042	–	–	28	8	3
NDT451AN	30	Single	0.035	0.05	–	–	19	7.2	3
<b>FDT459N</b>	30	Single	0.035	0.055	–	–	12	6.5	3
<b>FDT457N</b>	30	Single	0.06	0.09	–	–	4.2	5	3
HUF75309T3ST	55	Single	0.07	–	–	–	10.7	3	1.1
HUFA75309T3ST	55	Single	0.07	–	–	–	10.7	3	1.1
HUF75307T3ST	55	Single	0.09	–	–	–	8.3	2.6	1.1
HUFA75307T3ST	55	Single	0.09	–	–	–	14	2.6	1.1
NDT3055	60	Single	0.1	–	–	–	9	4	3
NDT3055L	60	Single	0.1	0.12	–	–	13	4	3
FQT13N06L	60	Single	0.11	0.14@5V	–	–	4.8	2.8	2.1
FQT13N06	60	Single	0.14	–	–	–	5.8	2.8	2.1
IRLM120A	100	Single	–	0.22@5V	–	–	10.2	2.3	2.7
IRLM110A	100	Single	–	0.44@5V	–	–	5.5	1.5	2.2
FDT3612	100	Single	0.12	0.13@6V	–	–	14	3.7	3
IRFM120A	100	Single	0.2	–	–	–	16	2.3	2.4
FQT7N10	100	Single	0.35	–	–	–	5.8	1.7	2
FQT7N10L	100	Single	0.35	0.38@5V	–	–	4.6	1.7	2
IRFM110A	100	Single	0.4	–	–	–	8.5	1.5	2
<b>FDT461N</b>	100	Single	2	2.5	–	–	2.36	0.4	1.13
IRLM220A	200	Single	–	0.8@5V	–	–	10.3	1.13	2
IRLM210A	200	Single	–	1.5@5V	–	–	6.1	0.77	1.8
IRFM220B	200	Single	0.8	–	–	–	12	1.1	2.4
FQT4N20L	200	Single	1.35	1.4@5V	–	–	4	0.85	2.2
FQT4N20	200	Single	1.4	–	–	–	5	0.85	2.2
IRFM210B	200	Single	1.5	–	–	–	7.2	0.77	2
FQT4N25	250	Single	1.75	–	–	–	4.3	0.83	2.5
IRFM214B	250	Single	2	–	–	–	8.1	0.64	2.1
<b>SSM1N45B</b>	450	Single	4.25	–	–	–	6.5	0.5	0.9
<b>SOT-223 P-Channel</b>									
FQT2P25	-250	Single	4	–	–	–	6.5	0.55	2.5
SFM9214	-250	Single	4	–	–	–	9	0.45	1.6
FQT3P20	-200	Single	2.7	–	–	–	6	0.67	2.5
SFM9210	-200	Single	3	–	–	–	9	0.5	1.6
FQT5P10	-100	Single	1.05	–	–	–	6.3	1	2
SFM9110	-100	Single	1.2	–	–	–	9	1	2.5
NDT2955	-60	Single	0.3	0.5	–	–	11	2.5	3

**SOT-223 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
SFM9014	-60	Single	0.5	–	–	–	9	1.8	2.8
NDT456P	-30	Single	0.03	0.045	–	–	47	7.5	3
NDT454P	-30	Single	0.05	0.09	–	–	29	5.9	3
NDT452AP	-30	Single	0.065	0.1	–	–	22	5	3
FDT458P	-30	Single	0.13	0.2	–	–	2.5	3.4	3
FDT434P	-20	Single	–	0.05	0.07	–	13	6	3

**SO-14**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>SO-14 N-Channel</b>									
<b>FDQ7698S</b>	30   30	Dual (MOSFET & SyncFET)	0.012   0.0075	0.016   0.009	–	–	12   43	12   15	2.4
<b>FDQ7238S</b>	30   30	Dual (MOSFET & SyncFET)	0.0145   0.0095	0.016   0.0105	–	–	33   48	11   14	2.4
<b>FDQ7244S</b>	30   30	Dual (MOSFET & SyncFET)	0.0145   0.0095	0.016   0.0105	–	–	33   48	11   14	2.4

**TO-92L**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-92L N-Channel</b>									
IRFNL210B	200	Single	1.5	–	–	–	7.2	1	3.1
FQNL2N50B	500	Single	5.3	–	–	–	6	0.35	1.5
FQNL1N50B	500	Single	9	–	–	–	4	0.27	1.5

**TO-251 (IPAK)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-251(IPAK) N-Channel</b>									
FDU6512A	20	Single	–	0.021	0.031	–	12	36	43
FDU6688	20	Single	0.005	0.006	–	–	37	84	83
FDU3706	20	Single	0.009	0.011	0.016	–	16	50	44
<b>FDU044AN03L</b>	30	Single	0.0039	0.0044	–	–	91	35	160
<b>FDU8870</b>	30	Single	0.0039	0.0044	–	–	91	35	160
<b>FDU068AN03L</b>	30	Single	0.0057	0.0068	–	–	24	35	80
<b>FDU8896</b>	30	Single	0.0057	0.0068	–	–	46	94	80
ISL9N306AD3	30	Single	0.006	0.0095	–	–	30	50	125
FDU6682	30	Single	0.0062	0.008	–	–	24	75	71
ISL9N308AD3	30	Single	0.008	–	–	–	24	50	100
FDU6696	30	Single	0.008	0.0107	–	–	17	50	52
<b>FDU8876</b>	30	Single	0.0082	0.01	–	–	34	73	70
FDU6644	30	Single	0.0085	0.0105	–	–	25	67	68
<b>FDU6296</b>	30	Single	0.0088	0.0113	–	–	22.5	50	52
FDU6680A	30	Single	0.0095	0.013	–	–	14	56	60
FDU7030BL	30	Single	0.0095	0.013	–	–	14	56	60
<b>FDU8880</b>	30	Single	0.01	0.013	–	–	23	58	55
<b>FDU6680</b>	30	Single	0.01	0.015	–	–	13	46	56
FDU6692	30	Single	0.012	0.0145	–	–	18	54	57
ISL9N312AD3	30	Single	0.012	0.02	–	–	13	50	75
<b>FDU8878</b>	30	Single	0.015	0.0185	–	–	19	40	40
<b>ISL9N315AD3</b>	30	Single	0.015	0.028	–	–	18	30	55
FDU6030BL	30	Single	0.016	0.022	–	–	22	42	50
HUF76129D3	30	Single	0.016	0.023	–	–	22	20	105
FDU6612A	30	Single	0.02	0.028	–	–	6.7	30	36
HUF76121D3	30	Single	0.023	0.033	–	–	13	20	75
HUF76107D3	30	Single	Replaced by FDD6630A						
RFD16N05	50	Single	0.047	–	–	–	35	16	72
RFD14N05	50	Single	0.1	–	–	–	19	14	48
HUFA75329D3	55	Single	0.026	–	–	–	32	20	128
HUFA75321D3	55	Single	0.036	–	–	–	21	20	93
HUFA75309D3	55	Single	0.07	–	–	–	11	19	55
HUFA75307D3	55	Single	0.09	–	–	–	9	15	45
HUFA76429D3	60	Single	0.023	0.027	–	–	38	20	110
HUF76423D3	60	Single	0.032	0.037	–	–	28	20	85
HUFA76423D3	60	Single	0.032	0.037	–	–	28	20	85
HUF76419D3	60	Single	0.037	0.043	–	–	23	20	75
HUFA76419D3	60	Single	0.037	0.043	–	–	23	20	75

**TO-251 (IPAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQU30N06	60	Single	0.045	–	–	–	19	22.7	44
HUF76413D3	60	Single	0.049	0.056	–	–	17	20	60
HUFA76413D3	60	Single	0.049	0.056	–	–	17	20	60
FQU20N06L	60	Single	0.06	0.075@5V	–	–	9.5	17.2	38
FQU20N06	60	Single	0.063	–	–	–	11.5	16.8	38
HUFA76409D3	60	Single	0.063	0.071	–	–	12	18	49
HUF76407D3	60	Single	0.092	0.107	–	–	9.4	12	38
HUFA76407D3	60	Single	0.092	0.107	–	–	9.4	12	38
FQU13N06L	60	Single	0.11	0.14@5V	–	–	4.8	11	28
FQU13N06	60	Single	0.14	–	–	–	5.8	10	28
RFD3055	60	Single	0.15	–	–	–	10	12	53
FDU3580	80	Single	0.029	0.033@6V	–	–	35	7.7	42
IRLU110A	100	Single	–	0.44@5V	–	–	5.5	4.7	22
HUF76629D3	100	Single	0.052	0.054	–	–	38	20	110
HUFA76629D3	100	Single	0.052	0.054	–	–	38	20	110
HUF76619D3	100	Single	0.085	0.087	–	–	24	18	75
HUFA76619D3	100	Single	0.085	0.087	–	–	24	18	75
HUF75617D3	100	Single	0.09	–	–	–	18	16	64
HUFA75617D3	100	Single	0.09	–	–	–	18	16	64
IRFU130A	100	Single	0.11	–	–	–	27	13	41
HUF76609D3	100	Single	0.16	0.165	–	–	13	10	49
HUFA76609D3	100	Single	0.16	0.165	–	–	13	10	49
FQU13N10	100	Single	0.18	–	–	–	12	10	40
FQU13N10L	100	Single	0.18	0.2@5V	–	–	8.7	10	40
IRFU120A	100	Single	0.2	–	–	–	16	8.4	32
FQU7N10L	100	Single	0.35	0.38@5V	–	–	4.6	5.8	25
IRFU110A	100	Single	0.4	–	–	–	8.5	4.7	20
FDU2572	150	Single	0.054	0.075@6V	–	–	26	29	135
HUF75829D3	150	Single	0.11	–	–	–	31	18	110
FQU18N20V2	200	Single	0.14	–	–	–	20	15	83
FQU12N20	200	Single	0.28	–	–	–	18	9	55
FQU10N20	200	Single	0.36	–	–	–	13.5	7.6	51
<b>FQU10N20C</b>	200	Single	0.36	–	–	–	20	7.8	50
FQU10N20L	200	Single	0.36	0.38@5V	–	–	13	7.6	51
IRFU230B	200	Single	0.4	–	–	–	22	7.5	50
FQU7N20	200	Single	0.69	–	–	–	8	5.3	45
IRFU220B	200	Single	0.8	–	–	–	12	4.6	40
FQU4N20	200	Single	1.4	–	–	–	5	3	30
IRFU210B	200	Single	1.5	–	–	–	7.2	2.7	26
FQU9N25	250	Single	0.42	–	–	–	15.5	7.4	55

**TO-251 (IPAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
IRFU234B	250	Single	0.45	–	–	–	29	6.6	49
FQU8N25	250	Single	0.55	–	–	–	12	6.2	50
FQU6N25	250	Single	1	–	–	–	6.6	4.4	45
IRFU224B	250	Single	1.1	–	–	–	13.5	3.8	42
FQU4N25	250	Single	1.75	–	–	–	4.3	3	37
IRFU214B	250	Single	2	–	–	–	8.1	2.2	25
<b>FQU6N40C</b>	400	Single	1	–	–	–	16	4.5	48
IRFU330B	400	Single	1	–	–	–	25	4.5	48
FQU5N40	400	Single	1.6	–	–	–	10	3.4	45
IRFU320B	400	Single	1.75	–	–	–	14	3.1	41
FQU3N40	400	Single	3.4	–	–	–	6	2	30
IRFU310B	400	Single	3.4	–	–	–	7.7	1.7	26
<b>FQU5N50C</b>	500	Single	1.4	–	–	–	18	4	48
IRFU430B	500	Single	1.5	–	–	–	25	3.5	48
FQU5N50	500	Single	1.8	–	–	–	13	3.5	50
IRFU420B	500	Single	2.6	–	–	–	14	2.3	41
FQU4N50	500	Single	2.7	–	–	–	10	2.6	45
FQU2N50B	500	Single	5.3	–	–	–	6	1.6	1.5
SSU1N50B	500	Single	5.5	–	–	–	8.3	1.3	26
FQU1N50	500	Single	9	–	–	–	4	1.1	25
<b>FQU5N60C</b>	600	Single	2.5	–	–	–	15	2.8	49
SSU4N60B	600	Single	2.5	–	–	–	22	2.8	49
FQU3N60	600	Single	3.6	–	–	–	10	2.4	50
FQU2N60	600	Single	4.7	–	–	–	9	2	45
<b>FQU2N60C</b>	600	Single	4.7	–	–	–	8.5	1.9	44
SSU2N60B	600	Single	5	–	–	–	12.5	1.8	44
FQU1N60	600	Single	11.5	–	–	–	5	1	30
<b>FQU1N60C</b>	600	Single	11.5	–	–	–	4.8	1	28
SSU1N60B	600	Single	12	–	–	–	5.9	0.9	28
FQU2N80	800	Single	6.3	–	–	–	12	1.8	50
FQU1N80	800	Single	20	–	–	–	5.5	1	45
FQU2N90	900	Single	7.2	–	–	–	12	1.7	50
<b>TO-251(IPAK) P-Channel</b>									
FQU3P50	-500	Single	4.9	–	–	–	18	2.1	50
SFU9310	-400	Single	8	–	–	–	17	1.5	36
FQU6P25	-250	Single	1.1	–	–	–	21	4.7	55
FQU4P25	-250	Single	2.1	–	–	–	10	3.1	45
SFU9224	-250	Single	2.4	–	–	–	16	2.5	30
SFU9214	-250	Single	4	–	–	–	9	1.5	19
SFU9230B	-200	Single	0.6	–	–	–	29	5.4	49



**TO-251 (IPAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQU7P20	-200	Single	0.69	–	–	–	19	5.7	55
FQU5P20	-200	Single	1.4	–	–	–	10	3.7	45
SFU9220	-200	Single	1.5	–	–	–	15	3.1	30
<b>FQU3P20</b>	-200	Single	2.7	–	–	–	6	2.4	37
SFU9130	-100	Single	0.3	–	–	–	30	9.8	57
FQU8P10	-100	Single	0.53	–	–	–	12	6.6	44
SFU9120	-100	Single	0.6	–	–	–	16	4.9	32
FQU17P06	-60	Single	0.135	–	–	–	21	12	44
SFU9034	-60	Single	0.14	–	–	–	30	14	49
FQU11P06	-60	Single	0.185	–	–	–	13	9.4	38
SFU9024	-60	Single	0.28	–	–	–	15	7.8	32
FQU7P06	-60	Single	0.45	–	–	–	6.3	5.4	28
SFU9014	-60	Single	0.5	–	–	–	9	5.3	24

**TO-252 (DPAK)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-252(DPAK) N-Channel</b>									
FDD6512A	20	Single	–	0.021	0.031	–	12	36	43
FDD6530A	20	Single	–	0.032	0.047	–	6.5	21	33
FDD3706	20	Single	0.009	0.011	0.016	–	16	50	44
HUF76009D3S	20	Single	0.027	0.039	–	–	5.7	20	41
<b>FDD044AN03L</b>	30	Single	0.0039	0.0044	–	–	91	35	160
<b>FDD8870</b>	30	Single	0.0039	0.0044	–	–	91	35	160
FDD6670AL	30	Single	0.005	0.006	–	–	37	84	83
FDD6688	30	Single	0.005	0.006	–	–	37	84	83
<b>FDD8874</b>	30	Single	0.0051	0.0064	–	–	54	116	110
<b>FDD068AN03L</b>	30	Single	0.0057	0.0068	–	–	24	35	80
<b>FDD8896</b>	30	Single	0.0057	0.0068	–	–	46	94	80
<b>FDD6606</b>	30	Single	0.006	0.008	–	–	24	75	71
ISL9N306AD3ST	30	Single	0.006	0.0095	–	–	30	50	125
FDD6682	30	Single	0.0062	0.008	–	–	24	75	71
ISL9N307AD3ST	30	Single	0.007	0.0115	–	–	28	50	100
FDD6676	30	Single	0.0075	0.0085	–	–	45	78	83
ISL9N308AD3ST	30	Single	0.008	–	–	–	24	50	100
FDD6672A	30	Single	0.008	0.0095	–	–	33	65	70
FDD6670A	30	Single	0.008	0.01	–	–	16	66	63
FDD6696	30	Single	0.008	0.0107	–	–	17	50	52
<b>FDD8876</b>	30	Single	0.0082	0.01	–	–	34	73	70
FDD6644	30	Single	0.0085	0.0105	–	–	25	67	68
<b>FDD6296</b>	30	Single	0.0088	0.0113	–	–	22.5	50	52
FDD6680A	30	Single	0.0095	0.013	–	–	14	56	60
FDD7030BL	30	Single	0.0095	0.013	–	–	14	56	60
<b>FDD8880</b>	30	Single	0.01	0.013	–	–	23	58	55
FDD6680	30	Single	0.01	0.015	–	–	13	46	56
ISL9N310AD3ST	30	Single	0.01	0.015	–	–	17	35	70
FDD6690A	30	Single	0.012	0.014	–	–	13	46	56
FDD6692	30	Single	0.012	0.0145	–	–	18	54	57
FDD6035AL	30	Single	0.0125	0.016	–	–	17	46	50
FDD6030L	30	Single	0.0145	0.021	–	–	13	50	56
<b>FDD8878</b>	30	Single	0.015	0.0185	–	–	19	40	40
<b>ISL9N315AD3ST</b>	30	Single	0.015	0.028	–	–	18	30	55
FDD6030BL	30	Single	0.016	0.022	–	–	22	42	50
HUF76129D3S	30	Single	0.016	0.023	–	–	22	20	105
FQD45N03L	30	Single	0.018	0.028@5V	–	–	9	20	41
ISL9N318AD3ST	30	Single	0.018	0.03	–	–	18	30	55

**TO-252 (DPAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FDD6612A	30	Single	0.02	0.028	–	–	6.7	30	36
FQD60N03L	30	Single	0.023	0.03	–	–	18	30	45
HUF76121D3S	30	Single	0.023	0.033	–	–	13	20	75
ISL9N327AD3ST	30	Single	0.027	0.04	–	–	17	20	50
FDD6630A	30	Single	0.035	0.05	–	–	5	21	28
HUF76107D3S	30	Single	Replaced by FDD6630A						
FDD6632	30	Single	0.09	0.104	–	–	2.6	9	15
<b>FDD6688S</b>	30	SyncFET	0.0051	0.0063	–	–	58	88	69
FDD6676S	30	SyncFET	0.006	0.0071	–	–	41	78	70
FDD6644S	30	SyncFET	0.0085	0.01	–	–	25	66	57
FDD6670S	30	SyncFET	0.009	0.0125	–	–	17	64	70
FDD6680S	30	SyncFET	0.011	0.017	–	–	17	55	60
FDD6690S	30	SyncFET	0.0167	0.0245	–	–	17	40	50
RFD16N05LSM	50	Single	–	0.047	–	–	61	16	60
RFD14N05LSM	50	Single	–	0.1	–	–	31	14	48
<b>RFD14N05SM9A</b>	50	Single	0.1	–	–	–	40	14	48
HUF75329D3S	55	Single	0.026	–	–	–	50	20	128
HUFA75329D3S	55	Single	0.026	–	–	–	32	20	128
HUF75321D3S	55	Single	0.036	–	–	–	21	20	93
HUFA75321D3S	55	Single	0.036	–	–	–	21	20	93
HUF75309D3S	55	Single	0.07	–	–	–	11	19	55
HUFA75309D3S	55	Single	0.07	–	–	–	11	19	55
HUFA75307D3S	55	Single	0.09	–	–	–	9	15	45
RFD16N06LESM	60	Single	–	0.047	–	–	51	16	90
RFD4N06LSM	60	Single	–	0.6	–	–	6	4	30
FDD10AN06A0	60	Single	0.0105	0.027@6V	–	–	28	50	135
<b>FDD14AN06LA0</b>	60	Single	0.0116	0.0146@5V	–	–	25	50	125
<b>FDD13AN06A0</b>	60	Single	0.0135	0.034@6V	–	–	22	50	115
FDD5670	60	Single	0.015	0.018@6V	–	–	49	48	70
<b>FDD24AN06LA0</b>	60	Single	0.019	0.024@5V	–	–	16	36	75
<b>FDD20AN06A0</b>	60	Single	0.02	–	–	–	15	45	90
FDD5680	60	Single	0.021	0.025@6V	–	–	33	38	60
HUF76429D3S	60	Single	0.023	0.027	–	–	38	20	110
HUFA76429D3S	60	Single	0.023	0.027	–	–	38	20	110
HUFA75429D3ST	60	Single	0.025	–	–	–	36	20	125
FDD5690	60	Single	0.027	0.032@6V	–	–	23	30	50
HUF76423D3S	60	Single	0.032	0.037	–	–	28	20	85
HUFA76423D3S	60	Single	0.032	0.037	–	–	28	20	85
<b>FDD45AN06LA0</b>	60	Single	0.036	0.045@5V	–	–	8.3	22	55
HUF76419D3S	60	Single	0.037	0.043	–	–	23	20	75

**TO-252 (DPAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
HUFA76419D3S	60	Single	0.037	0.043	–	–	23	20	75
FQD30N06L	60	Single	0.039	0.047@5V	–	–	15	24	44
FQD30N06	60	Single	0.045	–	–	–	19	22.7	44
HUFA76413D3S	60	Single	0.049	0.056	–	–	17	20	60
FDD5612	60	Single	0.055	0.064@6V	–	–	7.5	18	42
FQD20N06L	60	Single	0.06	0.075@5V	–	–	9.5	17.2	38
FQD20N06LE	60	Single	0.06	0.075@5V	–	–	9.5	17.2	38
FQD20N06	60	Single	0.063	–	–	–	11.5	16.8	38
HUFA76409D3S	60	Single	0.063	0.071	–	–	12	18	49
RFD12N06RLESM	60	Single	0.063	0.075	–	–	12	18	49
<b>FDD107AN06LAO</b>	60	Single	0.091	0.107@5V	–	–	4.2	10	25
HUF76407D3S	60	Single	0.092	0.107	–	–	9.4	12	38
HUFA76407D3S	60	Single	0.092	0.107	–	–	9.4	12	38
FQD13N06L	60	Single	0.11	0.14@5V	–	–	4.8	11	28
FQD13N06	60	Single	0.14	–	–	–	7.5	10	28
RFD3055SM	60	Single	0.15	–	–	–	10	12	53
FDD16AN08AO	75	Single	0.016	0.029@6V	–	–	31	50	135
FDD3570	80	Single	0.019	0.022@6V	–	–	54	10	69
FDD3580	80	Single	0.029	0.033@6V	–	–	35	7.7	42
FQD24N08	80	Single	0.06	–	–	–	19	19.6	50
FQD17N08L	80	Single	0.1	0.115@5V	–	–	8.8	12.9	40
IRLR130A	100	Single	–	0.12@5V	–	–	16.9	13	46
IRLR120A	100	Single	–	0.22@5V	–	–	10.2	8.4	35
IRLR110A	100	Single	–	0.44@5V	–	–	5.5	4.7	22
FDD3672	100	Single	0.028	0.047@6V	–	–	24	44	135
FDD3670	100	Single	0.032	0.035@6V	–	–	57	34	83
FDD3682	100	Single	0.036	0.06@6V	–	–	18.5	32	95
FDD3680	100	Single	0.046	0.051@6V	–	–	38	25	60
HUF76629D3S	100	Single	0.052	0.054	–	–	38	20	110
HUFA76629D3S	100	Single	0.052	0.054	–	–	38	20	110
FDD3690	100	Single	0.064	0.071@6V	–	–	28	22	60
HUF76619D3S	100	Single	0.085	0.087	–	–	24	18	75
HUFA76619D3S	100	Single	0.085	0.087	–	–	24	18	75
HUF75617D3S	100	Single	0.09	–	–	–	18	16	64
HUFA75617D3S	100	Single	0.09	–	–	–	18	16	64
FQD19N10	100	Single	0.1	–	–	–	19	15.6	50
FQD19N10L	100	Single	0.1	0.11@5V	–	–	14	15.6	50
IRFR130A	100	Single	0.11	–	–	–	27	13	41
HUF76609D3S	100	Single	0.16	0.165	–	–	13	10	49

**TO-252 (DPAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
HUFA76609D3S	100	Single	0.16	0.165	–	–	13	10	49
FQD13N10	100	Single	0.18	–	–	–	12	10	40
FQD13N10L	100	Single	0.18	0.2@5V	–	–	8.7	10	40
IRFR120A	100	Single	0.2	–	–	–	16	8.4	32
FQD7N10L	100	Single	0.35	0.38@5V	–	–	4.6	5.8	25
IRFR110A	100	Single	0.4	–	–	–	8.5	4.7	20
FDD2572	150	Single	0.054	0.075@6V	–	–	26	29	135
FDD2582	150	Single	0.066	0.099@6V	–	–	19	21	95
FDD2570	150	Single	0.08	0.09@6V	–	–	39	4.7	70
HUF75829D3S	150	Single	0.11	–	–	–	31	18	110
FDD120AN15A0	150	Single	0.12	0.17@6V	–	–	11.2	14	65
FQD16N15	150	Single	0.16	–	–	–	23	11.8	55
FQD14N15	150	Single	0.21	–	–	–	18	10	50
FDD2512	150	Single	0.42	0.47@6V	–	–	8	6.7	42
FQD5N15	150	Single	0.8	–	–	–	5.4	4.3	30
IRLR230A	200	Single	–	0.4@5V	–	–	18.6	7.5	48
IRLR220A	200	Single	–	0.8@5V	–	–	10.3	4.6	33
IRLR210A	200	Single	–	1.5@5V	–	–	6.1	2.7	21
FDD2670	200	Single	0.13	–	–	–	27	3.6	70
FQD18N20V2	200	Single	0.14	–	–	–	20	15	83
HUF75925D3ST	200	Single	0.275	–	–	–	32	11	100
FQD12N20	200	Single	0.28	–	–	–	18	9	55
FQD12N20L	200	Single	0.28	0.32@5V	–	–	16	9	55
FQD10N20	200	Single	0.36	–	–	–	13.5	7.6	51
<b>FQD10N20C</b>	200	Single	0.36	–	–	–	20	7.8	50
FQD10N20L	200	Single	0.36	0.38@5V	–	–	13	7.6	51
FQD630	200	Single	0.4	–	–	–	19	7	46
IRFR230B	200	Single	0.4	–	–	–	22	7.5	50
FQD7N20	200	Single	0.69	–	–	–	8	5.3	45
FDD2612	200	Single	0.72	–	–	–	8	4.9	42
FQD7N20L	200	Single	0.75	0.78@5V	–	–	6.8	5.5	45
IRFR220B	200	Single	0.8	–	–	–	12	4.6	40
FQD5N20	200	Single	1.2	–	–	–	6	3.8	37
FQD5N20L	200	Single	1.2	1.25@5V	–	–	4.8	3.8	37
FQD4N20L	200	Single	1.35	1.4@5V	–	–	4	3.2	30
IRFR210B	200	Single	1.5	–	–	–	7.2	2.7	26
FQD9N25	250	Single	0.42	–	–	–	15.5	7.4	55
IRFR234B	250	Single	0.45	–	–	–	29	6.6	49
FQD8N25	250	Single	0.55	–	–	–	12	6.2	50
FQD6N25	250	Single	1	–	–	–	6.6	4.4	45

**TO-252 (DPAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
IRFR224B	250	Single	1.1	–	–	–	13.5	3.8	2.5
FQD4N25	250	Single	1.75	–	–	–	4.3	3	37
IRFR214B	250	Single	2	–	–	–	8.1	2.2	25
FQD7N30	300	Single	0.7	–	–	–	13	5.5	50
FQD5N30	300	Single	0.9	–	–	–	9.8	4.4	45
FQD3N30	300	Single	2.2	–	–	–	5.5	2.4	30
FQD2N30	300	Single	3.7	–	–	–	3.7	1.7	25
<b>FQD6N40C</b>	400	Single	1	–	–	–	16	4.5	48
IRFR330B	400	Single	1	–	–	–	25	4.5	48
FQD6N40	400	Single	1.15	–	–	–	13	4.2	50
FQD5N40	400	Single	1.6	–	–	–	10	3.4	45
IRFR320B	400	Single	1.75	–	–	–	14	3.1	41
FQD3N40	400	Single	3.4	–	–	–	6	2	30
IRFR310B	400	Single	3.4	–	–	–	7.7	1.7	26
FQD2N40	400	Single	5.8	–	–	–	4	1.4	25
<b>FQD6N50C</b>	500	Single	1.3	–	–	–	19	4.5	61
<b>FQD5N50C</b>	500	Single	1.4	–	–	–	18	4	48
IRFR430B	500	Single	1.5	–	–	–	25	3.5	48
FQD5N50	500	Single	1.8	–	–	–	13	3.5	50
IRFR420B	500	Single	2.6	–	–	–	14	2.3	41
FQD4N50	500	Single	2.7	–	–	–	10	2.6	45
FQD2N50	500	Single	5.3	–	–	–	6	1.6	30
FQD1N50	500	Single	9	–	–	–	4	1.1	25
<b>FQD5N60C</b>	600	Single	2.5	–	–	–	15	2.8	49
SSR4N60B	600	Single	2.5	–	–	–	22	2.8	49
FQD3N60	600	Single	3.6	–	–	–	10	2.4	50
FQD2N60	600	Single	4.7	–	–	–	9	2	45
<b>FQD2N60C</b>	600	Single	4.7	–	–	–	8.5	1.9	44
SSR2N60B	600	Single	5	–	–	–	12.5	1.8	44
FQD1N60	600	Single	11.5	–	–	–	5	1	30
<b>FQD1N60C</b>	600	Single	11.5	–	–	–	4.8	1	28
SSR1N60B	600	Single	12	–	–	–	5.9	0.9	28
FQD2N80	800	Single	6.3	–	–	–	12	1.8	50
FQD1N80	800	Single	20	–	–	–	5.5	1	45
FQD2N90	900	Single	7.2	–	–	–	12	1.7	50
FQD2N100	1000	Single	10	–	–	–	12	1.7	50
<b>TO-252(DPAK) P-Channel</b>									
FQD3P50	-500	Single	4.9	–	–	–	18	2.1	50
FQD1P50	-500	Single	10.5	–	–	–	11	1.2	38
FQD4P40	-400	Single	3.1	–	–	–	18	2.7	50

**TO-252 (DPAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
SFR9310	-400	Single	8	–	–	–	17	1.5	36
FQD6P25	-250	Single	1.1	–	–	–	21	4.7	55
FQD4P25	-250	Single	2.1	–	–	–	10	3.1	45
SFR9224	-250	Single	2.4	–	–	–	16	2.5	30
SFR9214	-250	Single	4	–	–	–	9	1.5	19
SFR9230B	-200	Single	0.6	–	–	–	29	5.4	49
FQD7P20	-200	Single	0.69	–	–	–	19	5.7	55
FQD5P20	-200	Single	1.4	–	–	–	10	3.7	45
SFR9220	-200	Single	1.5	–	–	–	15	3.1	30
FQD3P20	-200	Single	2.7	–	–	–	6	2.4	37
SFR9210	-200	Single	3	–	–	–	9	1.6	19
FQD12P10	-100	Single	0.29	–	–	–	21	9.4	50
SFR9130	-100	Single	0.3	–	–	–	30	9.8	57
FQD8P10	-100	Single	0.53	–	–	–	12	6.6	44
SFR9120	-100	Single	0.6	–	–	–	16	4.9	32
FQD5P10	-100	Single	1.05	–	–	–	6.3	3.6	25
SFR9110	-100	Single	1.2	–	–	–	9	2.8	20
FDD5614P	-60	Single	0.1	0.13	–	–	15	15	42
FQD17P06	-60	Single	0.135	–	–	–	21	12	44
SFR9034	-60	Single	0.14	–	–	–	30	14	49
FQD11P06	-60	Single	0.185	–	–	–	13	9.4	38
SFR9024	-60	Single	0.28	–	–	–	15	7.8	32
SFR2955	-60	Single	0.3	–	–	–	15	7.6	32
FQD7P06	-60	Single	0.45	–	–	–	6.3	5.4	28
SFR9014	-60	Single	0.5	–	–	–	9	5.3	24
<b>FDD6685</b>	-30	Single	0.02	0.03	–	–	17	40	52

**DIP-8**

Product	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>DIP-8 Complementary N- and P-Channel</b>									
FQG4902	250   -250	Complementary	2   2	–	–	–	6   12	0.54   0.54	1.4
FQG4904	400   -400	Complementary	3   3	–	–	–	7.6   20	0.46   0.46	1.6

DISCRETE POWER



**TO-126**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO126 N-Channel</b>									
<b>FQE10N20C</b>	200	Single	0.36	–	–	–	20	4	12.8
<b>FQE10N20LC</b>	200	Single	0.36	–	–	–	14.5	4	12.8

**TO-220**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-220 N-Channel</b>									
ISL9N302AP3	30	Single	0.0025	0.0033	–	–	110	75	345
ISL9N303AP3	30	Single	0.0032	0.005	–	–	61	75	215
FDP8030L	30	Single	0.0035	0.0045	–	–	120	80	187
<b>FDP8870</b>	30	Single	0.0041	0.0046	–	–	106	156	160
FDP7045L	30	Single	0.0045	0.006	–	–	41	100	107
HUF76145P3	30	Single	0.0045	0.0065	–	–	73	75	270
ISL9N304AP3	30	Single	0.0045	0.0075	–	–	38	75	145
<b>IFDP8874</b>	30	Single	0.0053	0.0066	–	–	56	114	110
<b>FDP8896</b>	30	Single	0.0059	0.007	–	–	48	92	80
FDP6676	30	Single	0.006	0.0075	–	–	43	84	93
ISL9N306AP3	30	Single	0.006	0.0095	–	–	30	75	125
FDP6670AL	30	Single	0.0065	0.0085	–	–	24	80	68
FDP7030L	30	Single	0.007	0.01	–	–	24	80	68
ISL9N307AP3	30	Single	0.007	0.0115	–	–	28	75	100
FDP7042L	30	Single	0.0075	0.009	–	–	32	50	83
HUF76139P3	30	Single	0.0075	0.011	–	–	65	75	165
ISL9N308AP3	30	Single	0.008	0.012	–	–	45	75	100
FDP7030BL	30	Single	0.009	0.012	–	–	17	60	60
ISL9N7030BLP3	30	Single	0.009	0.012	–	–	45	75	100
ISL9N310AP3	30	Single	0.01	0.015	–	–	17	62	70
FDP6035L	30	Single	0.0112	0.014	–	–	13	48	52
ISL9N312AP3	30	Single	0.012	0.02	–	–	13	58	75
FDP6035AL	30	Single	0.0125	0.017	–	–	17	48	58
FDP6030L	30	Single	0.013	0.017	–	–	13	48	52
HUF76129P3	30	Single	0.016	0.023	–	–	37	56	105
FDP6030BL	30	Single	0.018	0.024	–	–	12	40	60
HUF76121P3	30	Single	0.021	0.031	–	–	24	47	75
HUF76107P3	30	Single	0.052	0.085	–	–	4.7	20	35
FDP6676S	30	SyncFET	0.0065	0.008	–	–	40	76	70
FDP6670S	30	SyncFET	0.0085	0.0105	–	–	23	62	62.5
FDP6644S	30	SyncFET	0.01	0.012	–	–	27	55	60
FDP6690S	30	SyncFET	0.0155	0.023	–	–	11	42	48
HUF75229P3	50	Single	0.022	–	–	–	35	44	90
BUZ11	50	Single	0.04	–	–	–	–	30	75
HUF75345P3	55	Single	0.007	–	–	–	125	75	325
HUFA75345P3	55	Single	0.007	–	–	–	125	75	325
HUF75344P3	55	Single	0.008	–	–	–	90	75	285
HUFA75344P3	55	Single	0.008	–	–	–	90	75	285

**TO-220 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
HUF75343P3	55	Single	0.009	–	–	–	92	75	270
HUFA75343P3	55	Single	0.009	–	–	–	92	75	270
HUF75339P3	55	Single	0.012	–	–	–	60	75	200
HUFA75339P3	55	Single	0.012	–	–	–	60	75	200
HUF75337P3	55	Single	0.014	–	–	–	51	75	175
HUFA75337P3	55	Single	0.014	–	–	–	51	75	175
HUF75333P3	55	Single	0.016	–	–	–	40	66	150
HUFA75333P3	55	Single	0.016	–	–	–	40	66	150
HUF75332P3	55	Single	0.019	–	–	–	40	60	145
HUFA75332P3	55	Single	0.019	–	–	–	40	60	145
HUFA75329P3	55	Single	0.024	–	–	–	35	49	128
HUF75329P3	55	Single	0.026	–	–	–	35	49	128
HUF75321P3	55	Single	0.034	–	–	–	21	35	93
HUFA75321P3	55	Single	0.034	–	–	–	21	35	93
HUF75309P3	55	Single	0.07	–	–	–	11	19	55
HUFA75309P3	55	Single	0.07	–	–	–	11	19	55
HUFA75307P3	55	Single	0.09	–	–	–	9	15	45
FDP038AN06A0	60	Single	0.0038	0.0074@6V	–	–	95	80	310
<b>FDP050AN06A0</b>	60	Single	0.005	0.011@6V	–	–	61	80	245
HUF76445P3	60	Single	0.0065	0.0075	–	–	124	75	310
HUFA76445P3	60	Single	0.0065	0.0075	–	–	124	75	310
<b>FDP070AN06A0</b>	60	Single	0.007	–	–	–	51	15	175
HUF76443P3	60	Single	0.008	0.0095	–	–	107	75	260
HUFA76443P3	60	Single	0.008	0.0095	–	–	107	75	260
FDP5645	60	Single	0.0095	0.011@6V	–	–	76	80	125
FQP85N06	60	Single	0.01	–	–	–	86	85	160
FDP10AN06A0	60	Single	0.0105	0.027@6V	–	–	28	75	135
<b>FDP14AN06LA0</b>	60	Single	0.0116	0.0146@5V	–	–	24	61	125
HUF76439P3	60	Single	0.012	0.014	–	–	70	75	180
HUFA76439P3	60	Single	0.012	0.014	–	–	70	75	180
<b>FDP13AN06A0</b>	60	Single	0.0135	0.034@6V	–	–	22	62	115
RFP70N06	60	Single	0.014	–	–	–	100	70	150
HUFA76437P3	60	Single	0.014	0.017	–	–	59	71	155
FQP65N06	60	Single	0.016	–	–	–	48	65	150
HUF76432P3	60	Single	0.017	0.019	–	–	44	59	130
HUFA76432P3	60	Single	0.017	0.019	–	–	44	59	130
<b>FDP24AN06LA0</b>	60	Single	0.019	0.024@5V	–	–	16	36	75
<b>FDP20AN06A0</b>	60	Single	0.02	–	–	–	15	45	90
FQP55N06	60	Single	0.02	–	–	–	35	55	133
FDP5680	60	Single	0.02	0.023@6V	–	–	33	40	65

**TO-220 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQP50N06L	60	Single	0.021	0.025@5V	–	–	24.5	52	121
FQP50N06	60	Single	0.022	–	–	–	31	50	120
RFP50N06	60	Single	0.022	–	–	–	67	50	131
HUF76429P3	60	Single	0.022	0.025	–	–	38	47	110
HUFA76429P3	60	Single	0.022	0.025	–	–	38	47	110
FDP5690	60	Single	0.027	0.032@6V	–	–	23	32	58
HUF76423P3	60	Single	0.03	0.035	–	–	28	35	85
HUFA76423P3	60	Single	0.03	0.035	–	–	28	35	85
HUF76419P3	60	Single	0.035	0.04	–	–	22	29	75
HUFA76419P3	60	Single	0.035	0.04	–	–	22	29	75
FQP30N06L	60	Single	0.035	0.045@5V	–	–	15	32	79
FQP30N06	60	Single	0.04	–	–	–	19	30	79
HUFA76413P3	60	Single	0.049	0.056	–	–	17	23	60
FQP20N06L	60	Single	0.055	0.07@5V	–	–	9.5	21	53
FQP20N06	60	Single	0.06	–	–	–	11.5	20	53
HUFA76409P3	60	Single	0.062	0.07	–	–	12	18	49
HUF76407P3	60	Single	0.092	0.107	–	–	9.4	13	38
HUFA76407P3	60	Single	0.092	0.107	–	–	9.4	13	38
FQP13N06L	60	Single	0.11	0.14@5V	–	–	4.8	13.6	45
FQP13N06	60	Single	0.135	–	–	–	5.8	13	45
RFP3055	60	Single	0.15	–	–	–	10	12	53
FDPO47AN08A0	75	Single	0.0047	0.0087@6V	–	–	92	80	310
<b>FDPO60AN08A0</b>	75	Single	0.006	0.01@6V	–	–	99	80	285
FDPI6AN08A0	75	Single	0.016	0.029@6V	–	–	28	58	135
HUF75545P3	80	Single	0.01	–	–	–	105	75	270
HUFA75545P3	80	Single	0.01	–	–	–	105	75	270
HUF75542P3	80	Single	0.014	–	–	–	80	75	230
HUFA75542P3	80	Single	0.014	–	–	–	80	75	230
FQP90N08	80	Single	0.016	–	–	–	84	71	160
FQP70N08	80	Single	0.017	–	–	–	75	70	155
FQP58N08	80	Single	0.024	–	–	–	50	57	146
FQP44N08	80	Single	0.034	–	–	–	38	44	127
FQP24N08	80	Single	0.06	–	–	–	19	24	75
FQP17N08L	80	Single	0.1	0.115@5V	–	–	8.8	16.5	65
FQP17N08	80	Single	0.115	–	–	–	12	16.5	65
FQP9N08	80	Single	0.21	–	–	–	5.9	9.3	40
FQP9N08L	80	Single	0.21	0.23@5V	–	–	4.7	9.3	40
IRL540A	100	Single	–	0.058@5V	–	–	38.4	28	121
IRL530A	100	Single	–	0.12@5V	–	–	16.9	14	62

**TO-220 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
IRL520A	100	Single	–	0.22@5V	–	–	10.2	9.2	49
IRL510A	100	Single	–	0.44@5V	–	–	5.5	5.6	37
FDP3632	100	Single	0.009	0.015@6V	–	–	84	80	310
<b>FQP90N10V2</b>	100	Single	0.01	–	–	–	146	90	250
HUF75645P3	100	Single	0.014	–	–	–	106	75	310
HUFA75645P3	100	Single	0.014	–	–	–	106	75	310
HUF76645P3	100	Single	0.014	0.015	–	–	127	75	310
HUFA76645P3	100	Single	0.014	0.015	–	–	127	75	310
FDP3652	100	Single	0.016	0.026@6V	–	–	41	61	150
FQP70N10	100	Single	0.025	–	–	–	85	57	160
HUF75639P3	100	Single	0.025	–	–	–	57	56	200
HUFA75639P3	100	Single	0.025	–	–	–	57	56	200
FQP55N10	100	Single	0.026	–	–	–	75	55	155
HUF76639P3	100	Single	0.026	0.027	–	–	71	51	180
HUFA76639P3	100	Single	0.026	0.027	–	–	71	51	180
HUF75637P3	100	Single	0.03	–	–	–	48	44	155
HUFA75637P3	100	Single	0.03	–	–	–	48	44	155
HUF76633P3	100	Single	0.035	0.036	–	–	56	39	145
HUFA76633P3	100	Single	0.035	0.036	–	–	56	39	145
FDP3682	100	Single	0.036	0.06@6V	–	–	18.5	32	95
FQP44N10	100	Single	0.039	–	–	–	48	43.5	146
HUF75631P3	100	Single	0.04	–	–	–	35	33	120
HUFA75631P3	100	Single	0.04	–	–	–	35	33	120
IRF550A	100	Single	0.04	–	–	–	75	40	167
FQP33N10	100	Single	0.052	–	–	–	38	33	127
IRF540A	100	Single	0.052	–	–	–	60	28	107
FQP33N10L	100	Single	0.052	0.055@5V	–	–	30	33	127
HUF75623P3	100	Single	0.064	–	–	–	23	22	85
HUFA75623P3	100	Single	0.064	–	–	–	23	22	85
FQP19N10	100	Single	0.1	–	–	–	19	19	75
FQP19N10L	100	Single	0.1	0.11@5V	–	–	14	19	75
IRF530A	100	Single	0.11	–	–	–	27	14	55
FQP13N10	100	Single	0.18	–	–	–	12	12.8	65
FQP13N10L	100	Single	0.18	0.2@5V	–	–	8.7	12.8	65
IRF520A	100	Single	0.2	–	–	–	16	9.2	45
FQP7N10	100	Single	0.35	–	–	–	5.8	7.3	40
FQP7N10L	100	Single	0.35	0.38@5V	–	–	4.6	7.3	40
IRF510A	100	Single	0.4	–	–	–	8.5	5.6	33
FDP3672	105	Single	0.033	0.055@6V	–	–	28	41	135
<b>FQP32N12V2</b>	120	Single	0.05	–	–	–	41	32	150

**TO-220 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FDP2532	150	Single	0.016	0.024@6V	–	–	86	79	310
FDP2552	150	Single	0.036	0.054@6V	–	–	41	37	150
FQP46N15	150	Single	0.042	–	–	–	85	45.6	210
HUF75842P3	150	Single	0.042	–	–	–	77	43	230
HUFA75842P3	150	Single	0.042	–	–	–	77	43	230
FDP42AN15A0	150	Single	0.042	0.06@6V	–	–	30	35	150
FDP2572	150	Single	0.056	0.075@6V	–	–	27	29	135
FDP2570	150	Single	0.08	0.09@6V	–	–	40	22	93
FDP120AN15A0	150	Single	0.12	0.17@6V	–	–	11.2	14	65
FQP16N15	150	Single	0.16	–	–	–	23	16.4	108
FQP14N15	150	Single	0.21	–	–	–	18	14.4	104
FQP9N15	150	Single	0.4	–	–	–	10	9	75
FQP6N15	150	Single	0.6	–	–	–	6.5	6.4	63
IRL640A	200	Single	–	0.18@5V	–	–	40	18	110
IRL630A	200	Single	–	0.4@5V	–	–	18.6	9	69
IRL620A	200	Single	–	0.8@5V	–	–	10.3	5	39
IRL610A	200	Single	–	1.5@5V	–	–	6.1	3.3	33
SSP45N20B	200	Single	0.065	–	–	–	133	35	176
FQP34N20	200	Single	0.075	–	–	–	60	31	180
FQP34N20L	200	Single	0.075	0.08@5V	–	–	55	31	180
<b>FQP32N20C</b>	200	Single	0.082	–	–	–	82.5	28	156
IRF650B	200	Single	0.085	–	–	–	95	28	156
HUF75939P3	200	Single	0.125	–	–	–	64	22	180
FDP2670	200	Single	0.13	–	–	–	27	19	93
FQP18N20V2	200	Single	0.14	–	–	–	20	18	–
FQP19N20L	200	Single	0.14	0.15@5V	–	–	27	21	140
FQP19N20	200	Single	0.15	–	–	–	31	19.4	140
<b>FQA19N20C</b>	200	Single	0.17	–	–	–	40.5	21.8	180
<b>FQP19N20C</b>	200	Single	0.17	–	–	–	40.5	19	139
IRF640A	200	Single	Replaced by IRF640B						
IRF640B	200	Single	0.18	–	–	–	45	18	139
<b>FQP10N20C</b>	200	Single	0.36	–	–	–	40.5	21.8	180
FQP630	200	Single	0.4	–	–	–	19	9	78
IRF630B	200	Single	0.4	–	–	–	22	9	72
FQP7N20	200	Single	0.69	–	–	–	8	6.6	63
FQP7N20L	200	Single	0.75	0.78@5V	–	–	6.8	6.5	63
IRF620B	200	Single	0.8	–	–	–	12	5	47
FQP5N20	200	Single	1.2	–	–	–	6	4.5	52
FQP5N20L	200	Single	1.2	1.25@5V	–	–	4.8	4.5	52

**TO-220 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQP4N20L	200	Single	1.35	1.4@5V	–	–	4	3.8	45
FQP4N20	200	Single	1.4	–	–	–	5	3.6	45
IRF610B	200	Single	1.5	–	–	–	7.2	3.3	38
FQP27N25	250	Single	0.11	–	–	–	50	25.5	180
IRF654B	250	Single	0.14	–	–	–	95	15	156
FQP16N25	250	Single	0.23	–	–	–	27	16	142
<b>FQA16N25C</b>	250	Single	0.27	–	–	–	41	17.8	180
<b>FQAF16N25C</b>	250	Single	0.27	–	–	–	41	11.4	73
<b>FQP16N25C</b>	250	Single	0.27	–	–	–	41	15.6	139
IRF644B	250	Single	0.28	–	–	–	47	14	139
FQI9N25C	250	Single	0.43	–	–	–	26.5	8.8	74
<b>FQP9N25C</b>	250	Single	0.43	–	–	–	26.5	8.8	74
IRF634B	250	Single	0.45	–	–	–	29	8.1	74
FQP6N25	250	Single	1	–	–	–	6.6	5.5	63
IRF624B	250	Single	1.1	–	–	–	13.5	4.1	49
FQP4N25	250	Single	1.75	–	–	–	4.3	3.6	52
IRF614B	250	Single	2	–	–	–	8.1	2.8	40
FQP3N25	250	Single	2.2	–	–	–	4	2.8	45
FQP22N30	300	Single	0.16	–	–	–	47	21	170
FQP14N30	300	Single	0.29	–	–	–	30	9.1	147
FQP9N30	300	Single	0.45	–	–	–	17	9	98
FQP5N30	300	Single	0.9	–	–	–	9.8	5.4	70
FQP3N30	300	Single	2.2	–	–	–	5.5	3.2	55
FQP2N30	300	Single	3.7	–	–	–	3.7	1.3	16
<b>FDP20N40</b>	400	Single	0.216	–	–	–	35	20	273
FQP17N40	400	Single	0.27	–	–	–	45	16	170
FQP11N40	400	Single	0.48	–	–	–	27	11.4	147
<b>FQP11N40C</b>	400	Single	0.53	–	–	–	28	11	135
FQP7N40	400	Single	0.8	–	–	–	16.5	7	98
<b>FQP6N40C</b>	400	Single	1	–	–	–	16	6	73
IRF730B	400	Single	1	–	–	–	25	5.5	73
FQP5N40	400	Single	1.6	–	–	–	10	4.5	70
IRF720B	400	Single	1.75	–	–	–	14	3.3	46
FQP3N40	400	Single	3.4	–	–	–	6	2.5	55
IRF710B	400	Single	3.4	–	–	–	7.7	2	36
FQP2N40	400	Single	5.8	–	–	–	4	1.8	40
FQP18N50V2	500	Single	0.265	–	–	–	42	18	208
FDP15N50	500	Single	0.38	–	–	–	33	15	300
FQP13N50	500	Single	0.43	–	–	–	45	12.5	170
<b>FQP13N50C</b>	500	Single	0.48	–	–	–	43	13	195

**TO-220 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FDP11N50</b>	500	Single	0.725	–	–	–	17	11	250
FQP9N50	500	Single	0.73	–	–	–	28	9	147
<b>FQP9N50C</b>	500	Single	0.8	–	–	–	28	9	135
IRF840B	500	Single	0.85	–	–	–	41	8	134
FQP6N50	500	Single	1.3	–	–	–	17	5.5	98
<b>FQP5N50C</b>	500	Single	1.4	–	–	–	18	5	73
IRF830B	500	Single	1.5	–	–	–	27	4.5	73
IRF820B	500	Single	2.6	–	–	–	14	2.5	49
FQP4N50	500	Single	2.7	–	–	–	10	3.4	70
FQP2N50	500	Single	5.3	–	–	–	6	2.1	55
SSP1N50B	500	Single	5.5	–	–	–	8.3	1.5	36
FQP1N50	500	Single	9	–	–	–	4	1.4	40
<b>FCP11N60</b>	600	Single	0.38	–	–	–	40	11	125
<b>FDP14N60</b>	600	Single	0.49	–	–	–	36	14	300
<b>FQP12N60C</b>	600	Single	0.65	–	–	–	48	12	225
FQP12N60	600	Single	0.7	–	–	–	42	10.5	180
<b>FQP10N60C</b>	600	Single	0.73	–	–	–	44	9.5	156
SSP10N60A	600	Single	0.8	–	–	–	74	9	156
SSP10N60B	600	Single	0.8	–	–	–	54	9	156
FQP7N60	600	Single	1	–	–	–	29	7.4	142
<b>FQP8N60C</b>	600	Single	1.2	–	–	–	28	7.5	147
SSP7N60B	600	Single	1.2	–	–	–	38	7	147
FQP6N60	600	Single	1.5	–	–	–	20	6.2	130
<b>FQP6N60C</b>	600	Single	2	–	–	–	16	5.5	125
FQP4N60	600	Single	2.2	–	–	–	15	4.4	106
<b>FQP5N60C</b>	600	Single	2.5	–	–	–	15	4.5	100
SSP4N60B	600	Single	2.5	–	–	–	22	4	100
FQP3N60	600	Single	3.6	–	–	–	10	3	75
FQP2N60	600	Single	4.7	–	–	–	9	2.4	64
<b>FQP2N60C</b>	600	Single	4.7	–	–	–	8.5	2	54
SSP2N60B	600	Single	5	–	–	–	12.5	2	54
FQP1N60	600	Single	11.5	–	–	–	5	1.2	40
<b>FQP1N60C</b>	600	Single	11.5	–	–	–	4.8	1.1	34
SSP1N60B	600	Single	12	–	–	–	5.9	1	34
FQP6N70	700	Single	1.5	–	–	–	30	6.2	142
SSP6N70A	700	Single	1.8	–	–	–	51	6	130
<b>FQP8N80C</b>	800	Single	1.55	–	–	–	35	8	178
<b>FQP7N80C</b>	800	Single	1.9	–	–	–	27	6.6	167
FQP6N80	800	Single	1.95	–	–	–	31	5.8	158



**TO-220 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FQP6N80C</b>	800	Single	2.5	–	–	–	21	5.5	158
FQP5N80	800	Single	2.6	–	–	–	25	4.8	140
FQP4N80	800	Single	3.6	–	–	–	19	3.9	130
<b>FQP3N80C</b>	800	Single	4.8	–	–	–	13	3	107
SSP3N80A	800	Single	Replaced by FQP3N80						
FQP3N80	800	Single	5	–	–	–	15	3	107
FQP2N80	800	Single	6.3	–	–	–	12	2.4	85
<b>FQP9N90C</b>	900	Single	1.4	–	–	–	45	8	205
<b>FQP8N90C</b>	900	Single	1.9	–	–	–	35	6	170
<b>FQP6N90C</b>	900	Single	2.3	–	–	–	30	6	167
FQP4N90	900	Single	3.1	–	–	–	24	4.2	140
<b>FQP4N90C</b>	900	Single	4.2	–	–	–	17	4	140
FQP3N90	900	Single	4.25	–	–	–	20	3.6	130
FQP2NA90	900	Single	5.8	–	–	–	15	2.8	107
FQP2N90	900	Single	7.2	–	–	–	12	2.2	85
<b>TO-220 P-Channel</b>									
FQP3P50	-500	Single	4.9	–	–	–	18	2.7	85
FQP1P50	-500	Single	10.5	–	–	–	11	1.5	63
FQP4P40	-400	Single	3.1	–	–	–	18	3.5	85
FQP2P40	-400	Single	6.5	–	–	–	10	2	63
FQP9P25	-250	Single	0.62	–	–	–	29	9.4	120
SFP9644	-250	Single	0.8	–	–	–	45	8.6	123
FQP6P25	-250	Single	1.1	–	–	–	21	6	90
SFP9634	-250	Single	1.3	–	–	–	29	5	70
FQP4P25	-250	Single	2.1	–	–	–	10	4	75
FQP2P25	-250	Single	4	–	–	–	6.5	2.3	52
SFP9614	-250	Single	4	–	–	–	9	1.6	20
SFP9640L	-200	Single	–	0.5@5V	–	–	46	11	98
FQP12P20	-200	Single	0.47	–	–	–	31	11.5	120
SFP9640	-200	Single	0.5	–	–	–	46	11	123
FQP7P20	-200	Single	0.69	–	–	–	19	7.3	90
SFP9630	-200	Single	0.8	–	–	–	29	6.5	70
FQP5P20	-200	Single	1.4	–	–	–	10	4.8	75
SFP9620	-200	Single	1.5	–	–	–	15	3.5	38
FQP3P20	-200	Single	2.7	–	–	–	6	2.8	52
SFP9610	-200	Single	3	–	–	–	9	1.8	20
<b>FQP15P12</b>	-120	Single	0.2	–	–	–	29	15	100
FQP22P10	-100	Single	0.125	–	–	–	40	22	125
FQP17P10	-100	Single	0.19	–	–	–	30	16.5	100
SFP9540	-100	Single	0.2	–	–	–	43	17	132

**TO-220 (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQP12P10	-100	Single	0.29	–	–	–	21	11.5	75
SFP9530	-100	Single	0.3	–	–	–	30	10.5	66
FQP8P10	-100	Single	0.53	–	–	–	12	8	65
SFP9520	-100	Single	0.6	–	–	–	16	6	49
FQP5P10	-100	Single	1.05	–	–	–	6.3	4.5	40
SFP9510	-100	Single	1.2	–	–	–	9	3.6	32
FQP47P06	-60	Single	0.026	–	–	–	84	47	160
FQP27P06	-60	Single	0.07	–	–	–	33	27	120
FQP17P06	-60	Single	0.12	–	–	–	21	17	79
SFP9Z34	-60	Single	0.14	–	–	–	30	18	82
FQP11P06	-60	Single	0.175	–	–	–	13	11.4	53
SFP9Z24	-60	Single	0.28	–	–	–	15	9.7	49
SFP2955	-60	Single	0.3	–	–	–	15	9.4	49
FQP7P06	-60	Single	0.41	–	–	–	6.3	6.7	45
SFP9Z14	-60	Single	0.5	–	–	–	9	6.7	38
NDP6020P	-20	Single	–	0.05	0.075-10.07@2.7V	–	25	24	60
FDP4020P	-20	Single	–	0.08	0.11	–	9.5	16	37.5

**TO-262 (I<sup>2</sup>PAK)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-262(I<sup>2</sup>PAK) N-Channel</b>									
ISL9N302AS3S	30	Single	0.0023	0.0033	–	–	110	75	345
ISL9N303AS3	30	Single	0.0032	0.005	–	–	61	75	215
RF1S70N03	30	Single	Replaced by FQI95N03L						
HUF75345S3	55	Single	0.007	–	–	–	125	75	325
<b>HUFA75344S3</b>	55	Single	0.008	–	–	–	90	75	285
HUF75333S3	55	Single	0.016	–	–	–	40	66	150
FDI038AN06A0	60	Single	0.0038	0.0074@6V	–	–	95	80	310
FQI50N06L	60	Single	0.021	0.025@5V	–	–	24.5	52	121
FQI50N06	60	Single	0.022	–	–	–	31	50	120
FQI30N06L	60	Single	0.035	0.045@5V	–	–	15	32	79
RF1S25N06	60	Single	0.047	–	–	–	35	25	72
FQI13N06L	60	Single	0.11	0.14@5V	–	–	4.8	13.6	45
FQI13N06	60	Single	0.135	–	–	–	5.8	13	45
<b>FDI047AN08A0</b>	75	Single	0.0047	0.0087@6V	–	–	92	80	310
HUF75545S3	80	Single	0.01	–	–	–	105	75	270
FQI90N08	80	Single	0.016	–	–	–	84	71	160
FQI70N08	80	Single	0.017	–	–	–	75	70	155
FQI44N08	80	Single	0.034	–	–	–	38	44	127
FQI17N08L	80	Single	0.1	0.115@5V	–	–	8.8	16.5	65
FQI17N08	80	Single	0.115	–	–	–	12	16.5	65
FQI9N08	80	Single	0.21	–	–	–	5.9	9.3	40
FQI9N08L	80	Single	0.21	0.23@5V	–	–	4.7	9.3	40
IRLI540A	100	Single	–	0.058@5V	–	–	38.4	28	121
IRLI530A	100	Single	–	0.12@5V	–	–	16.9	14	62
IRLI520A	100	Single	–	0.22@5V	–	–	10.2	9.2	49
IRLI510A	100	Single	–	0.44@5V	–	–	5.5	5.6	37
FDI3632	100	Single	0.009	0.015@6V	–	–	84	80	310
FDI3652	100	Single	0.016	0.026@6V	–	–	41	61	150
FQI70N10	100	Single	0.025	–	–	–	85	57	160
HUF75639S3	100	Single	0.025	–	–	–	57	56	200
FQI44N10	100	Single	0.039	–	–	–	48	43.5	146
IRFI550A	100	Single	0.04	–	–	–	75	40	167
FQI33N10	100	Single	0.052	–	–	–	38	33	127
IRFI540A	100	Single	0.052	–	–	–	60	28	107
FQI33N10L	100	Single	0.052	0.055@5V	–	–	30	33	127
FQI19N10	100	Single	0.1	–	–	–	19	19	75
FQI19N10L	100	Single	0.1	0.11@5V	–	–	14	19	75
IRFI530A	100	Single	0.11	–	–	–	27	14	55

**TO-262 (I<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQI13N10	100	Single	0.18	–	–	–	12	12.8	65
FQI13N10L	100	Single	0.18	0.2@5V	–	–	8.7	12.8	65
IRFI520A	100	Single	0.2	–	–	–	16	9.2	45
FQI7N10	100	Single	0.35	–	–	–	5.8	7.3	40
FQI7N10L	100	Single	0.35	0.38@5V	–	–	4.6	7.3	40
IRFI510A	100	Single	0.4	–	–	–	8.5	5.6	33
<b>FQI32N12V2</b>	120	Single	0.05	–	–	–	41	32	150
FDI2532	150	Single	0.016	0.024@6V	–	–	86	79	310
FQI28N15	150	Single	0.09	–	–	–	40	28	168
FQI16N15	150	Single	0.16	–	–	–	23	16.4	108
FQI9N15	150	Single	0.4	–	–	–	10	9	75
FQI6N15	150	Single	0.6	–	–	–	6.5	6.4	63
FQI5N15	150	Single	0.8	–	–	–	5.4	5.4	54
IRLI630A	200	Single	–	0.4@5V	–	–	18.6	9	69
IRLI620A	200	Single	–	0.8@5V	–	–	10.3	5	39
IRLI610A	200	Single	–	1.5@5V	–	–	6.1	3.3	33
FQI34N20	200	Single	0.075	–	–	–	60	31	180
<b>FQI32N20C</b>	200	Single	0.082	–	–	–	82.5	28	156
IRFI650B	200	Single	0.085	–	–	–	95	28	156
FQI19N20L	200	Single	0.14	0.15@5V	–	–	27	21	140
FQI19N20	200	Single	0.15	–	–	–	31	19.4	140
<b>FQI19N20C</b>	200	Single	0.17	–	–	–	40.5	19	139
IRFI640B	200	Single	0.18	–	–	–	45	18	139
FQI12N20L	200	Single	0.28	0.32@5V	–	–	16	11.6	90
<b>FQI10N20C</b>	200	Single	0.36	–	–	–	20	9.5	72
FQI10N20L	200	Single	0.36	0.38@5V	–	–	13	10	87
IRFI630B	200	Single	0.4	–	–	–	22	9	72
FQI7N20	200	Single	0.69	–	–	–	8	6.6	63
FQI7N20L	200	Single	0.75	0.78@5V	–	–	6.8	6.5	63
IRFI620B	200	Single	0.8	–	–	–	12	5	47
FQI5N20	200	Single	1.2	–	–	–	6	4.5	52
FQI5N20L	200	Single	1.2	1.25@5V	–	–	4.8	4.5	52
FQI4N20L	200	Single	1.35	1.4@5V	–	–	4	3.8	45
FQI4N20	200	Single	1.4	–	–	–	5	3.6	45
IRFI610B	200	Single	1.5	–	–	–	7.2	3.3	38
FQI27N25	250	Single	0.11	–	–	–	50	25.5	180
IRFI654B	250	Single	0.14	–	–	–	95	15	156
IRFI644B	250	Single	0.28	–	–	–	47	14	139
IRFI634B	250	Single	0.45	–	–	–	29	8.1	74

**TO-262 (I<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
IRFI624B	250	Single	1.1	–	–	–	13.5	4.1	49
FQI4N25	250	Single	1.75	–	–	–	4.3	3.6	52
IRFI614B	250	Single	2	–	–	–	8.1	2.8	40
FQI3N25	250	Single	2.2	–	–	–	4	2.8	45
FQI5N30	300	Single	0.9	–	–	–	9.8	5.4	70
FQI3N30	300	Single	2.2	–	–	–	5.5	3.2	55
FQI2N30	300	Single	3.7	–	–	–	3.7	2.1	40
FQI11N40	400	Single	0.48	–	–	–	27	11.4	147
IRFI740B	400	Single	0.54	–	–	–	41	10	134
FQI7N40	400	Single	0.8	–	–	–	16.5	7	98
<b>FQI6N40C</b>	400	Single	1	–	–	–	16	6	73
FQI6N40	400	Single	1.15	–	–	–	13	5.5	85
FQI5N40	400	Single	1.6	–	–	–	10	4.5	70
FQI3N40	400	Single	3.4	–	–	–	6	2.5	55
FQI6N45	450	Single	1.1	–	–	–	16	6.2	98
<b>FQI13N50C</b>	500	Single	0.48	–	–	–	43	13	195
FQI9N50	500	Single	0.73	–	–	–	28	9	147
<b>FQI9N50C</b>	500	Single	0.8	–	–	–	28	9	135
IRFI840B	500	Single	0.85	–	–	–	41	8	134
<b>FQI6N50</b>	500	Single	1.3	–	–	–	17	5.5	98
<b>FQI5N50C</b>	500	Single	1.4	–	–	–	18	5	73
IRFI830B	500	Single	1.5	–	–	–	27	4.5	73
FQI5N50	500	Single	1.8	–	–	–	13	4.5	85
SSI1N50B	500	Single	5.5	–	–	–	8.3	1.5	36
<b>FQI12N60C</b>	600	Single	0.65	–	–	–	48	12	225
FQI12N60	600	Single	0.7	–	–	–	42	10.5	180
<b>FQI10N60C</b>	600	Single	0.73	–	–	–	44	9.5	156
SSI10N60B	600	Single	0.8	–	–	–	54	9	156
FQI7N60	600	Single	1	–	–	–	29	7.4	142
<b>FQI8N60C</b>	600	Single	1.2	–	–	–	28	7.5	147
SSI7N60B	600	Single	1.2	–	–	–	38	7	147
<b>FQI6N60C</b>	600	Single	2	–	–	–	16	5.5	125
FQI4N60	600	Single	2.2	–	–	–	15	4.4	106
<b>FQI5N60C</b>	600	Single	2.5	–	–	–	15	4.5	100
SSI4N60B	600	Single	2.5	–	–	–	22	4	100
SSI2N60B	600	Single	5	–	–	–	12.5	2	54
SSI1N60B	600	Single	12	–	–	–	5.9	1	34
FQI6N70	700	Single	1.5	–	–	–	30	6.2	142
FQI7N80	800	Single	1.5	–	–	–	40	6.6	167

**TO-262 (I<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQI5N80	800	Single	2.6	–	–	–	25	4.8	140
FQI4N80	800	Single	3.6	–	–	–	19	3.9	130
FQI3N80	800	Single	5	–	–	–	15	3	107
FQI2N80	800	Single	6.3	–	–	–	12	2.4	85
FQI6N90	900	Single	1.9	–	–	–	40	5.8	167
FQI5N90	900	Single	2.3	–	–	–	31	5.4	158
FQI4N90	900	Single	3.1	–	–	–	24	4.2	140
FQI3N90	900	Single	4.25	–	–	–	20	3.6	130
FQI2NA90	900	Single	5.8	–	–	–	15	2.8	107
FQI2N90	900	Single	7.2	–	–	–	12	2.2	85
<b>TO-262(I<sup>2</sup>PAK) P-Channel</b>									
FQI3P50	-500	Single	4.9	–	–	–	18	2.7	85
FQI1P50	-500	Single	10.5	–	–	–	11	1.5	63
FQI4P40	-400	Single	3.1	–	–	–	18	3.5	85
FQI2P40	-400	Single	6.5	–	–	–	10	2	63
FQI9P25	-250	Single	0.62	–	–	–	29	9.4	120
SFI9644	-250	Single	0.8	–	–	–	45	8.6	123
FQI6P25	-250	Single	1.1	–	–	–	21	6	90
SFI9634	-250	Single	1.3	–	–	–	29	5	70
SFI9624	-250	Single	2.4	–	–	–	16	2.7	38
FQI2P25	-250	Single	4	–	–	–	6.5	2.3	52
SFI9614	-250	Single	4	–	–	–	9	1.6	20
FQI12P20	-200	Single	0.47	–	–	–	31	11.5	120
SFI9640	-200	Single	0.5	–	–	–	46	11	123
FQI7P20	-200	Single	0.69	–	–	–	19	7.3	90
SFI9630	-200	Single	0.8	–	–	–	29	6.5	70
FQI5P20	-200	Single	1.4	–	–	–	10	4.8	75
FQI3P20	-200	Single	2.7	–	–	–	6	2.8	52
SFI9610	-200	Single	3	–	–	–	9	1.8	20
<b>FQI15P12</b>	-120	Single	0.2	–	–	–	29	15	100
FQI17P10	-100	Single	0.19	–	–	–	30	16.5	100
SFI9540	-100	Single	0.2	–	–	–	43	17	132
FQI12P10	-100	Single	0.29	–	–	–	21	11.5	75
SFI9530	-100	Single	0.3	–	–	–	30	10.5	66
FQI8P10	-100	Single	0.53	–	–	–	12	8	65
SFI9520	-100	Single	0.6	–	–	–	16	6	49
FQI5P10	-100	Single	1.05	–	–	–	6.3	4.5	40
SFI9510	-100	Single	1.2	–	–	–	9	3.6	32
FQI47P06	-60	Single	0.026	–	–	–	84	47	160

**TO-262 (I<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQI27P06	-60	Single	0.07	–	–	–	33	27	120
FQI17P06	-60	Single	0.12	–	–	–	21	17	79
SFI9Z34	-60	Single	0.14	–	–	–	30	18	82
FQI11P06	-60	Single	0.175	–	–	–	13	11.4	53
SFI9Z24	-60	Single	0.28	–	–	–	15	9.7	49
SFI2955	-60	Single	0.3	–	–	–	15	9.4	49
FQI7P06	-60	Single	0.41	–	–	–	6.3	7	45
SFI9Z14	-60	Single	0.5	–	–	–	9	6.7	38

**TO-263 (D<sup>2</sup>PAK)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-263(D<sup>2</sup>PAK) N-Channel</b>									
ISL9N302AS3ST	30	Single	0.0023	0.0033	–	–	200	75	345
ISL9N303AS3ST	30	Single	0.0032	0.005	–	–	151	75	215
FDB8030L	30	Single	0.0035	0.0045	–	–	120	80	187
<b>FDB8870</b>	30	Single	0.0039	0.0044	–	–	106	160	160
FDB7045L	30	Single	0.0045	0.006	–	–	41	100	107
ISL9N304AS3ST	30	Single	0.0045	0.0075	–	–	38	75	145
<b>FDB8874</b>	30	Single	0.0047	0.006	–	–	56	121	110
<b>FDB8896</b>	30	Single	0.0057	0.0068	–	–	48	93	80
FDB6676	30	Single	0.006	0.0075	–	–	43	84	93
ISL9N306AS3ST	30	Single	0.006	0.0095	–	–	60	75	125
FDB6670AL	30	Single	0.0065	0.0085	–	–	24	80	68
FDB7030L	30	Single	0.007	0.01	–	–	24	80	68
ISL9N307AS3ST	30	Single	0.007	0.0115	–	–	28	75	100
FDB7042L	30	Single	0.0075	0.009	–	–	32	50	83
HUF76139S3S	30	Single	Replaced by ISL9N307S3S						
ISL9N308AS3ST	30	Single	0.008	–	–	–	24	75	100
FQB95N03L	30	Single	0.008	0.012	–	–	45	75	80
FDB6644	30	Single	0.0085	0.0105	–	–	27	50	83
ISL9N7030BLS3ST	30	Single	Replaced by FDB7030BL						
FDB7030BL	30	Single	0.009	0.012	–	–	17	60	60
ISL9N310AS3ST	30	Single	0.01	0.015	–	–	17	62	70
HUF76132S3S	30	Single	Replaced by ISL9N310AS3S						
FDB6035L	30	Single	0.012	0.014	–	–	13	48	52
ISL9N312AS3ST	30	Single	0.012	0.02	–	–	13	58	75
FDB6035AL	30	Single	0.0125	0.017	–	–	17	48	58
FDB6030L	30	Single	0.013	0.017	–	–	13	48	52
FQB60N03L	30	Single	0.0135	0.02	–	–	25	51	62
HUF76129S3S	30	Single	Replaced by ISL9N316AS3S						
FDB6030BL	30	Single	0.018	0.024	–	–	12	40	60
HUF76121S3ST	30	Single	0.021	0.028@5V	–	–	24	47	75
HUF76121S3S	30	Single	Replaced by FDB6030BL						
FDB603AL	30	Single	0.022	0.036	–	–	19	33	50
FDB6676S	30	SyncFET	0.0065	0.008	–	–	40	76	70
FDB6670S	30	SyncFET	0.0085	0.0105	–	–	23	62	62.5
FDB6644S	30	SyncFET	0.01	0.012	–	–	27	55	60
FDB7030BLS	30	SyncFET	0.0105	0.0165	–	–	15	56	65
FDB6690S	30	SyncFET	0.0155	0.023	–	–	11	42	48
HUF75345S3S	55	Single	0.007	–	–	–	125	75	325



**TO-263 (D<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
HUFA75345S3S	55	Single	0.007	–	–	–	125	75	325
HUF75344S3S	55	Single	0.008	–	–	–	90	75	285
HUFA75344S3S	55	Single	0.008	–	–	–	90	75	285
HUFA75343S3S	55	Single	0.009	–	–	–	92	75	270
HUFA75339S3S	55	Single	0.012	–	–	–	60	75	200
HUF75337S3S	55	Single	0.014	–	–	–	51	75	175
HUFA75337S3S	55	Single	0.014	–	–	–	51	75	175
HUF75333S3S	55	Single	0.016	–	–	–	40	66	150
HUF75332S3S	55	Single	0.019	–	–	–	40	60	145
HUFA75332S3S	55	Single	0.019	–	–	–	40	60	145
HUFA75329S3S	55	Single	0.024	–	–	–	35	49	128
HUF75321S3S	55	Single	0.034	–	–	–	21	35	93
HUFA75321S3S	55	Single	0.034	–	–	–	21	35	93
FDB035AN06A0	60	Single	0.0035	0.0066@6V	–	–	95	80	310
<b>FDB050AN06A0</b>	60	Single	0.005	0.011@6V	–	–	61	80	245
HUF76445S3S	60	Single	0.0065	0.0075	–	–	124	75	310
HUFA76445S3S	60	Single	0.0065	0.0075	–	–	124	75	310
<b>FDB070AN06A0</b>	60	Single	0.007	–	–	–	51	15	175
HUFA76443S3S	60	Single	0.008	0.0095	–	–	107	75	260
FDB5645	60	Single	0.0095	0.011@6V	–	–	76	80	125
<b>FQB85N06</b>	60	Single	0.01	–	–	–	86	85	160
FDB10AN06A0	60	Single	0.0105	0.027@6V	–	–	28	75	135
<b>FDB14AN06LA0</b>	60	Single	0.0116	0.0146@5V	–	–	24	60	125
HUF76439S3S	60	Single	0.012	0.014	–	–	70	75	180
HUFA76439S3S	60	Single	0.012	0.014	–	–	70	75	180
<b>FDB13AN06A0</b>	60	Single	0.0135	0.034@6V	–	–	22	62	115
HUF76437S3S	60	Single	0.014	0.017	–	–	59	71	155
HUFA76437S3S	60	Single	0.014	0.017	–	–	59	71	155
FQB65N06	60	Single	0.016	–	–	–	48	65	150
HUFA75433S3ST	60	Single	0.016	–	–	–	50	64	150
HUF76432S3S	60	Single	0.017	0.019	–	–	44	59	130
HUFA76432S3S	60	Single	0.017	0.019	–	–	44	59	130
<b>FDB24AN06LA0</b>	60	Single	0.019	0.024@5V	–	–	16	36	75
<b>FDB20AN06A0</b>	60	Single	0.02	–	–	–	15	45	90
FQB55N06	60	Single	0.02	–	–	–	35	55	133
FDB5680	60	Single	0.02	0.023@6V	–	–	33	40	65
FQB50N06L	60	Single	0.021	0.025@5V	–	–	24.5	52	121
FQB50N06	60	Single	0.022	–	–	–	31	50	120
RF1S50N06SM	60	Single	0.022	–	–	–	67	50	131

**TO-263 (D<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
HUF76429S3S	60	Single	0.022	0.025	–	–	38	47	110
HUFA76429S3S	60	Single	0.022	0.025	–	–	38	47	110
FDB5690	60	Single	0.027	0.032@6V	–	–	23	32	58
HUFA76423S3S	60	Single	0.03	0.035	–	–	28	35	85
HUF76419S3S	60	Single	0.035	0.04	–	–	22	29	75
HUFA76419S3S	60	Single	0.035	0.04	–	–	22	29	75
FQB30N06L	60	Single	0.035	0.045@5V	–	–	15	32	79
FQB30N06	60	Single	0.04	–	–	–	19	30	79
FQB20N06L	60	Single	0.055	0.07@5V	–	–	9.5	21	53
FQB20N06	60	Single	0.06	–	–	–	11.5	20	53
FQB13N06L	60	Single	0.11	0.14@5V	–	–	4.8	13.6	45
FQB13N06	60	Single	0.135	–	–	–	5.8	13	45
FDB045AN08A0	75	Single	0.0045	0.0084@6V	–	–	92	80	310
<b>FDB060AN08A0</b>	75	Single	0.006	0.01@6V	–	–	99	80	285
FDB16AN08A0	75	Single	0.016	0.029@6V	–	–	28	58	135
HUF75545S3S	80	Single	0.01	–	–	–	105	75	270
HUFA75545S3S	80	Single	0.01	–	–	–	105	75	270
HUF75542S3S	80	Single	0.014	–	–	–	80	75	230
HUFA75542S3S	80	Single	0.014	–	–	–	80	75	230
FQB90N08	80	Single	0.016	–	–	–	84	71	160
FQB70N08	80	Single	0.017	–	–	–	75	70	155
FQB44N08	80	Single	0.034	–	–	–	38	44	127
FQB24N08	80	Single	0.06	–	–	–	19	24	75
FQB17N08L	80	Single	0.1	0.115@5V	–	–	8.8	16.5	65
FQB17N08	80	Single	0.115	–	–	–	12	16.5	65
FQB9N08	80	Single	0.21	–	–	–	5.9	9.3	40
FQB9N08L	80	Single	0.21	0.23@5V	–	–	4.7	9.3	40
IRLW540A	100	Single	–	0.058@5V	–	–	38.4	28	121
IRLW530A	100	Single	–	0.12@5V	–	–	16.9	14	62
IRLW520A	100	Single	–	0.22@5V	–	–	10.2	9.2	49
IRLW510A	100	Single	–	0.44@5V	–	–	5.5	5.6	37
HUF75645S3S	100	Single	0.014	–	–	–	106	75	310
HUFA75645S3S	100	Single	0.014	–	–	–	106	75	310
HUF76645S3S	100	Single	0.014	0.015	–	–	127	75	310
HUFA76645S3S	100	Single	0.014	0.015	–	–	127	75	310
FDB3652	100	Single	0.016	0.026@6V	–	–	41	61	150
FQB70N10	100	Single	0.025	–	–	–	85	57	160
HUF75639S3S	100	Single	0.025	–	–	–	57	56	200
HUFA75639S3S	100	Single	0.025	–	–	–	57	56	200

**TO-263 (D<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQB55N10	100	Single	0.026	–	–	–	75	55	155
HUF76639S3S	100	Single	0.026	0.027	–	–	71	51	180
HUFA76639S3S	100	Single	0.026	0.027	–	–	71	51	180
HUF75637S3S	100	Single	0.03	–	–	–	48	44	155
HUFA75637S3S	100	Single	0.03	–	–	–	48	44	155
HUF76633S3S	100	Single	0.035	0.036	–	–	56	39	145
HUFA76633S3S	100	Single	0.035	0.036	–	–	56	39	145
FDB3682	100	Single	0.036	0.06@6V	–	–	18.5	32	95
FQB44N10	100	Single	0.039	–	–	–	48	43.5	146
HUF75631S3S	100	Single	0.04	–	–	–	35	33	120
HUFA75631S3S	100	Single	0.04	–	–	–	35	33	120
IRFW550A	100	Single	0.04	–	–	–	75	40	167
RF1S40N10SM	100	Single	0.04	–	–	–	115	40	160
FQB33N10	100	Single	0.052	–	–	–	38	33	127
IRFW540A	100	Single	0.052	–	–	–	60	28	107
FQB33N10L	100	Single	0.052	0.055@5V	–	–	30	33	127
HUF75623S3S	100	Single	0.064	–	–	–	23	22	85
HUFA75623S3S	100	Single	0.064	–	–	–	23	22	85
FQB19N10	100	Single	0.1	–	–	–	19	19	75
FQB19N10L	100	Single	0.1	0.11@5V	–	–	14	19	75
IRFW530A	100	Single	0.11	–	–	–	27	14	55
FQB13N10	100	Single	0.18	–	–	–	12	12.8	65
FQB13N10L	100	Single	0.18	0.2@5V	–	–	8.7	12.8	65
IRFW520A	100	Single	0.2	–	–	–	16	9.2	45
FQB7N10	100	Single	0.35	–	–	–	5.8	7.3	40
FQB7N10L	100	Single	0.35	0.38@5V	–	–	4.6	7.3	40
IRFW510A	100	Single	0.4	–	–	–	8.5	5.6	33
<b>FQB32N12V2</b>	120	Single	0.05	–	–	–	41	32	150
FDB2532	150	Single	0.016	0.024@6V	–	–	86	79	310
FDB2552	150	Single	0.036	0.054@6V	–	–	41	37	150
<b>FQB45N15V2</b>	150	Single	0.04	–	–	–	72	45	220
<b>FQB46N15</b>	150	Single	0.042	–	–	–	85	45.6	210
HUFA75842S3S	150	Single	0.042	–	–	–	77	43	230
FDB42AN15A0	150	Single	0.042	0.06@6V	–	–	30	35	150
FDB2572	150	Single	0.056	0.075@6V	–	–	27	29	135
FDB2570	150	Single	0.08	0.09@6V	–	–	40	22	93
FQB16N15	150	Single	0.16	–	–	–	23	16.4	108
FQB14N15	150	Single	0.21	–	–	–	18	14.4	104
FQB9N15	150	Single	0.4	–	–	–	10	9	75

**TO-263 (D<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQB6N15	150	Single	0.6	–	–	–	6.5	6.4	63
FQB5N15	150	Single	0.8	–	–	–	5.4	5.4	54
IRLW640A	200	Single	–	0.18@5V	–	–	40	18	110
IRLW630A	200	Single	–	0.4@5V	–	–	18.6	9	69
IRLW620A	200	Single	–	0.8@5V	–	–	10.3	5	39
IRLW610A	200	Single	–	1.5@5V	–	–	6.1	3.3	33
<b>FQB34N20</b>	200	Single	0.075	–	–	–	60	31	180
<b>FQB34N20L</b>	200	Single	0.075	0.08@5V	–	–	55	31	180
<b>FQB32N20C</b>	200	Single	0.082	–	–	–	82.5	28	156
IRFW650B	200	Single	0.085	–	–	–	95	28	156
FDB2670	200	Single	0.13	–	–	–	27	19	93
FQB19N20L	200	Single	0.14	0.15@5V	–	–	27	21	140
FQB19N20	200	Single	0.15	–	–	–	31	19.4	140
<b>FQB19N20C</b>	200	Single	0.17	–	–	–	40.5	19	139
IRFW640B	200	Single	0.18	–	–	–	45	18	139
FQB12N20	200	Single	0.28	–	–	–	18	11.6	90
FQB12N20L	200	Single	0.28	0.32@5V	–	–	16	11.6	90
FQB10N20	200	Single	0.36	–	–	–	13.5	10	87
<b>FQB10N20C</b>	200	Single	0.36	–	–	–	20	9.5	72
FQB10N20L	200	Single	0.36	0.38@5V	–	–	13	10	87
FQB630	200	Single	0.4	–	–	–	19	9	78
IRFW630B	200	Single	0.4	–	–	–	22	9	72
FQB7N20	200	Single	0.69	–	–	–	8	6.6	63
FQB7N20L	200	Single	0.75	0.78@5V	–	–	6.8	6.5	63
IRFW620B	200	Single	0.8	–	–	–	12	5	47
FQB5N20	200	Single	1.2	–	–	–	6	4.5	52
FQB5N20L	200	Single	1.2	1.25@5V	–	–	4.8	4.5	52
FQB4N20L	200	Single	1.35	1.4@5V	–	–	4	3.8	45
FQB4N20	200	Single	1.4	–	–	–	5	3.6	45
IRFW610B	200	Single	1.5	–	–	–	7.2	3.3	38
<b>FQB27N25</b>	250	Single	0.11	–	–	–	50	25.5	180
IRFW654B	250	Single	0.14	–	–	–	95	15	156
FQB16N25	250	Single	0.23	–	–	–	27	16	142
<b>FQB16N25C</b>	250	Single	0.27	–	–	–	41	15.6	139
IRFW644B	250	Single	0.28	–	–	–	47	14	139
FQB9N25	250	Single	0.42	–	–	–	15.5	9.4	90
IRFW634B	250	Single	0.45	–	–	–	29	8.1	74
FQB8N25	250	Single	0.55	–	–	–	12	8	87
FQB6N25	250	Single	1	–	–	–	6.6	5.5	63

**TO-263 (D<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
IRFW624B	250	Single	1.1	–	–	–	13.5	4.1	49
FQB4N25	250	Single	1.75	–	–	–	4.3	3.6	52
IRFW614B	250	Single	2	–	–	–	8.1	2.8	40
FQB3N25	250	Single	2.2	–	–	–	4	2.8	45
FQB14N30	300	Single	0.29	–	–	–	30	9.1	147
FQB7N30	300	Single	0.7	–	–	–	13	7	85
FQB5N30	300	Single	0.9	–	–	–	9.8	5.4	70
FQB3N30	300	Single	2.2	–	–	–	5.5	3.2	55
FQB2N30	300	Single	3.7	–	–	–	3.7	2.1	40
FQB11N40	400	Single	0.48	–	–	–	27	11.4	147
<b>FQB11N40C</b>	400	Single	0.53	–	–	–	28	11	135
IRFW740B	400	Single	0.54	–	–	–	41	10	134
FQB7N40	400	Single	0.8	–	–	–	16.5	7	98
<b>FQB6N40C</b>	400	Single	1	–	–	–	16	6	73
IRFW730B	400	Single	1	–	–	–	25	5.5	73
FQB5N40	400	Single	1.6	–	–	–	10	4.5	70
IRFW720B	400	Single	1.75	–	–	–	14	3.3	46
FQB3N40	400	Single	3.4	–	–	–	6	2.5	55
IRFW710B	400	Single	3.4	–	–	–	7.7	2	36
FQB6N45	450	Single	1.1	–	–	–	16	6.2	98
<b>FDB15N50</b>	500	Single	0.38	–	–	–	33	15	300
<b>FQB12N50</b>	500	Single	0.43	–	–	–	45	12.5	170
<b>FQB13N50C</b>	500	Single	0.48	–	–	–	43	13	195
FQB9N50	500	Single	0.73	–	–	–	28	9	147
<b>FQB9N50C</b>	500	Single	0.8	–	–	–	28	9	135
IRFW840B	500	Single	0.85	–	–	–	41	8	134
FQB6N50	500	Single	1.3	–	–	–	17	5.5	98
<b>FQB5N50C</b>	500	Single	1.4	–	–	–	18	5	73
IRFW830B	500	Single	1.5	–	–	–	27	4.5	73
FQB5N50	500	Single	1.8	–	–	–	13	4.5	85
IRFW820B	500	Single	2.6	–	–	–	14	2.5	49
FQB4N50	500	Single	2.7	–	–	–	10	3.4	70
FQB2N50	500	Single	5.3	–	–	–	6	2.1	55
SSW1N50B	500	Single	5.5	–	–	–	8.3	1.5	36
<b>FQB12N60C</b>	600	Single	0.65	–	–	–	48	12	225
<b>FQB12N60</b>	600	Single	0.7	–	–	–	42	10.5	180
<b>FQB10N60C</b>	600	Single	0.73	–	–	–	44	9.5	156
SSW10N60B	600	Single	0.8	–	–	–	54	9	156
FQB7N60	600	Single	1	–	–	–	29	7.4	142

**TO-263 (D<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @ V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FQB8N60C</b>	600	Single	1.2	–	–	–	28	7.5	147
SSW7N60B	600	Single	1.2	–	–	–	38	7	147
FQB6N60	600	Single	1.5	–	–	–	20	6.2	130
FQB5N60	600	Single	2	–	–	–	16	5	120
<b>FQB6N60C</b>	600	Single	2	–	–	–	16	5.5	125
FQB4N60	600	Single	2.2	–	–	–	15	4.4	106
<b>FQB5N60C</b>	600	Single	2.5	–	–	–	15	4.5	100
SSW4N60B	600	Single	2.5	–	–	–	22	4	100
FQB2N60	600	Single	4.7	–	–	–	9	2.4	64
SSW2N60B	600	Single	5	–	–	–	12.5	2	54
FQB1N60	600	Single	11.5	–	–	–	5	1.2	40
SSW1N60B	600	Single	12	–	–	–	5.9	1	34
FQB6N70	700	Single	1.5	–	–	–	30	6.2	142
FQB6N80	800	Single	1.95	–	–	–	31	5.8	158
FQB5N80	800	Single	2.6	–	–	–	25	4.8	140
FQB4N80	800	Single	3.6	–	–	–	19	3.9	130
FQB3N80	800	Single	5	–	–	–	15	3	107
FQB2N80	800	Single	6.3	–	–	–	12	2.4	85
FQB5N90	900	Single	2.3	–	–	–	31	5.4	158
FQB4N90	900	Single	3.1	–	–	–	24	4.2	140
FQB3N90	900	Single	4.25	–	–	–	20	3.6	130
FQB2NA90	900	Single	5.8	–	–	–	15	2.8	107
FQB2N90	900	Single	7.2	–	–	–	12	2.2	85
<b>TO-263(D<sup>2</sup>PAK) P-Channel</b>									
FQB3P50	-500	Single	4.9	–	–	–	18	2.7	85
FQB1P50	-500	Single	10.5	–	–	–	11	1.5	63
FQB4P40	-400	Single	3.1	–	–	–	18	3.5	85
FQB2P40	-400	Single	6.5	–	–	–	10	2	63
FQB9P25	-250	Single	0.62	–	–	–	29	9.4	120
SFW9644	-250	Single	0.8	–	–	–	45	8.6	123
FQB6P25	-250	Single	1.1	–	–	–	21	6	90
FQB4P25	-250	Single	2.1	–	–	–	10	4	75
SFW9624	-250	Single	2.4	–	–	–	16	2.7	38
FQB2P25	-250	Single	4	–	–	–	6.5	2.3	52
SFW9614	-250	Single	4	–	–	–	9	1.6	20
FQB12P20	-200	Single	0.47	–	–	–	31	11.5	120
SFW9640	-200	Single	0.5	–	–	–	46	11	123
FQB7P20	-200	Single	0.69	–	–	–	19	7.3	90
SFW9630	-200	Single	0.8	–	–	–	29	6.5	70

**TO-263 (D<sup>2</sup>PAK) (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
FQB5P20	-200	Single	1.4	–	–	–	10	4.8	75
SFW9620	-200	Single	1.5	–	–	–	15	3.5	38
FQB3P20	-200	Single	2.7	–	–	–	6	2.8	52
SFW9610	-200	Single	3	–	–	–	9	1.8	20
<b>FQB15P12</b>	-120	Single	0.2	–	–	–	29	15	100
<b>FQB34P10</b>	-100	Single	–	–	–	–	85	-33.5	155
FQB22P10	-100	Single	0.125	–	–	–	40	22	125
FQB17P10	-100	Single	0.19	–	–	–	30	16.5	100
SFW9540	-100	Single	0.2	–	–	–	43	17	132
FQB12P10	-100	Single	0.29	–	–	–	21	11.5	75
SFW9530	-100	Single	0.3	–	–	–	30	10.5	66
FQB8P10	-100	Single	0.53	–	–	–	12	8	65
SFW9520	-100	Single	0.6	–	–	–	16	6	49
FQB5P10	-100	Single	1.05	–	–	–	6.3	4.5	40
SFW9510	-100	Single	1.2	–	–	–	9	3.6	32
<b>FQB47P06</b>	-60	Single	0.026	–	–	–	84	47	160
FQB27P06	-60	Single	0.07	–	–	–	33	27	120
FQB17P06	-60	Single	0.12	–	–	–	21	17	79
SFW9Z34	-60	Single	0.14	–	–	–	30	18	82
FQB11P06	-60	Single	0.175	–	–	–	13	11.4	53
SFW9Z24	-60	Single	0.28	–	–	–	15	9.7	49
SFW2955	-60	Single	0.3	–	–	–	15	9.4	49
FQB7P06	-60	Single	0.41	–	–	–	6.3	7	45
SFW9Z14	-60	Single	0.5	–	–	–	9	6.7	38
FDB6021P	-20	Single	–	0.03	0.04	0.065	20	28	37
NDB6020P	-20	Single	–	0.05	0.075   0.07@2.7V	–	25	24	60
FDB4020P	-20	Single	–	0.08	0.11	–	9.5	16	37.5

**TO-220F**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-220F N-Channel</b>									
FQPF85N06	60	Single	0.01	–	–	–	86	53	62
FQPF65N06	60	Single	0.016	–	–	–	48	40	56
FQPF50N06L	60	Single	0.021	0.025@5V	–	–	24.5	32.6	47
FQPF50N06	60	Single	0.022	–	–	–	31	31	47
FQPF30N06L	60	Single	0.035	0.045@5V	–	–	15	22.5	38
FQPF30N06	60	Single	0.04	–	–	–	19	21	39
FQPF20N06L	60	Single	0.055	0.07@5V	–	–	9.5	15.7	30
FQPF20N06	60	Single	0.06	–	–	–	11.5	15	30
FQPF13N06L	60	Single	0.11	0.14@5V	–	–	4.8	10	24
FQPF13N06	60	Single	0.135	–	–	–	5.8	9.4	24
FQPF44N08	80	Single	0.034	–	–	–	38	25	41
FQPF17N08L	80	Single	0.1	0.115@5V	–	–	8.8	11.2	30
FQPF17N08	80	Single	0.115	–	–	–	12	11.2	30
FQPF9N08	80	Single	0.21	–	–	–	5.9	7	23
FQPF9N08L	80	Single	0.21	0.23@5V	–	–	4.7	7	23
IRLS540A	100	Single	–	0.058@5V	–	–	38.4	17	44
IRLS520A	100	Single	–	0.22@5V	–	–	10.2	7.2	30
IRLS510A	100	Single	–	0.44@5V	–	–	5.5	4.5	23
<b>FQPF90N10V2</b>	100	Single	0.01	–	–	–	146	90	83
FQPF70N10	100	Single	0.025	–	–	–	85	35	62
FQPF55N10	100	Single	0.026	–	–	–	75	34.2	60
FQPF44N10	100	Single	0.039	–	–	–	48	27	55
FQPF33N10	100	Single	0.052	–	–	–	38	18	41
IRFS540A	100	Single	0.052	–	–	–	60	17	39
FQPF33N10L	100	Single	0.052	0.055@5V	–	–	30	18	41
FQPF19N10	100	Single	0.1	–	–	–	19	13.6	38
FQPF19N10L	100	Single	0.1	0.11@5V	–	–	14	13.6	38
IRFS530A	100	Single	0.11	–	–	–	27	10.7	32
FQPF13N10	100	Single	0.18	–	–	–	12	8.7	30
FQPF13N10L	100	Single	0.18	0.2@5V	–	–	8.7	8.7	30
IRFS520A	100	Single	0.2	–	–	–	16	7.2	28
FQPF7N10	100	Single	0.35	–	–	–	5.8	5.5	23
FQPF7N10L	100	Single	0.35	0.38@5V	–	–	4.6	5.5	23
IRFS510A	100	Single	0.4	–	–	–	8.5	4.5	21



**TO-220F (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FQPF32N12V2</b>	120	Single	0.05	–	–	–	41	32	50
FQPF46N15	150	Single	0.042	–	–	–	85	25.6	66
FQPF28N15	150	Single	0.09	–	–	–	40	16.7	60
<b>FQPF16N15</b>	150	Single	0.16	–	–	–	23	11.6	53
<b>FQPF14N15</b>	150	Single	0.21	–	–	–	18	9.8	48
FQPF9N15	150	Single	0.4	–	–	–	10	6.9	44
FQPF6N15	150	Single	0.6	–	–	–	6.5	5	38
FQPF5N15	150	Single	0.8	–	–	–	5.4	4.2	32
IRLS640A	200	Single	–	0.18@5V	–	–	40	9.8	40
IRLS630A	200	Single	–	0.4@5V	–	–	18.6	6.5	36
IRLS620A	200	Single	–	0.8@5V	–	–	10.3	4.1	26
SSS45N20B	200	Single	0.065	–	–	–	133	20	57
FQPF34N20	200	Single	0.075	–	–	–	60	17.5	55
FQPF34N20L	200	Single	0.075	0.08@5V	–	–	55	17.5	55
<b>FQPF32N20C</b>	200	Single	0.082	–	–	–	82.5	28	50
IRFS650B	200	Single	0.085	–	–	–	95	28	50
FQPF18N20V2	200	Single	0.14	–	–	–	20	18	40
FQPF19N20	200	Single	0.15	–	–	–	31	11.8	50
<b>FQPF19N20C</b>	200	Single	0.17	–	–	–	40.5	19	43
IRFS640B	200	Single	0.18	–	–	–	45	18	43
<b>FQPF10N20C</b>	200	Single	0.36	–	–	–	20	9.5	38
FQPF630	200	Single	0.4	–	–	–	19	6.3	38
IRFS630B	200	Single	0.4	–	–	–	22	9	38
FQPF7N20	200	Single	0.69	–	–	–	8	4.8	37
FQPF7N20L	200	Single	0.75	0.78@5V	–	–	6.8	5	37
IRFS620B	200	Single	0.8	–	–	–	12	5	32
FQPF5N20	200	Single	1.2	–	–	–	6	3.5	32
FQPF5N20L	200	Single	1.2	1.25@5V	–	–	4.8	3.5	32
FQPF4N20L	200	Single	1.35	1.4@5V	–	–	4	3	27
FQPF4N20	200	Single	1.4	–	–	–	5	2.8	27
IRFS610B	200	Single	1.5	–	–	–	7.2	3.3	22
FQPF27N25	250	Single	0.11	–	–	–	50	14	55
IRFS654B	250	Single	0.14	–	–	–	95	15	50
FQPF16N25	250	Single	0.23	–	–	–	27	9.5	50
<b>FQPF16N25C</b>	250	Single	0.27	–	–	–	41	15.6	43

**TO-220F (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
IRFS644B	250	Single	0.28	–	–	–	47	14	43
FQPF9N25	250	Single	0.42	–	–	–	15.5	6.7	45
<b>FQPF9N25C</b>	250	Single	0.43	–	–	–	26.5	8.8	38
IRFS634B	250	Single	0.45	–	–	–	29	8.1	38
FQPF6N25	250	Single	1	–	–	–	6.6	4	37
IRFS624B	250	Single	1.1	–	–	–	13.5	4.1	34
FQPF4N25	250	Single	1.75	–	–	–	4.3	2.8	32
IRFS614B	250	Single	2	–	–	–	8.1	2.8	22
FQPF3N25	250	Single	2.2	–	–	–	4	2.3	27
FQPF22N30	300	Single	0.16	–	–	–	47	12	56
FQPF14N30	300	Single	0.29	–	–	–	30	8.5	50
FQPF9N30	300	Single	0.45	–	–	–	17	6	42
FQPF5N30	300	Single	0.9	–	–	–	9.8	3.9	35
FQPF3N30	300	Single	2.2	–	–	–	5.5	2	20
FQPF2N30	300	Single	3.7	–	–	–	3.7	2.1	40
FQPF17N40	400	Single	0.27	–	–	–	45	9.5	56
IRFS750A	400	Single	0.3	–	–	–	101	8.4	49
<b>FQPF11N40C</b>	400	Single	0.53	–	–	–	28	11	44
IRFS740B	400	Single	0.54	–	–	–	41	10	44
FQPF7N40	400	Single	0.8	–	–	–	16.5	4.6	42
<b>FQPF6N40C</b>	400	Single	1	–	–	–	16	6	38
IRFS730B	400	Single	1	–	–	–	25	5.5	38
FQPF5N40	400	Single	1.6	–	–	–	10	3	35
IRFS720B	400	Single	1.75	–	–	–	14	3.3	33
FQPF3N40	400	Single	3.4	–	–	–	6	1.6	20
IRFS710B	400	Single	3.4	–	–	–	7.7	2	23
FQPF2N40	400	Single	5.8	–	–	–	4	1.1	16
FQPF18N50V2	500	Single	0.265	–	–	–	42	18	69
FQPF13N50	500	Single	0.43	–	–	–	45	7.3	56
<b>FQPF13N50C</b>	500	Single	0.48	–	–	–	43	13	48
FQPF9N50	500	Single	0.73	–	–	–	28	5.3	50
<b>FQPF9N50C</b>	500	Single	0.8	–	–	–	28	9	44
IRFS840B	500	Single	0.85	–	–	–	41	8	44
FQPF6N50	500	Single	1.3	–	–	–	17	3.6	42
<b>FQPF5N50C</b>	500	Single	1.4	–	–	–	18	5	38

**TO-220F (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
IRFS830B	500	Single	1.5	–	–	–	27	4.5	38
FQPF5N50	500	Single	1.8	–	–	–	13	3	39
IRFS820B	500	Single	2.6	–	–	–	14	2.5	33
FQPF4N50	500	Single	2.7	–	–	–	10	2.3	35
FQPF2N50	500	Single	5.3	–	–	–	6	1.3	20
SSS1N50B	500	Single	5.5	–	–	–	8.3	1.2	23
FQPF1N50	500	Single	9	–	–	–	4	0.9	16
<b>FCPF11N60</b>	600	Single	0.38	–	–	–	40	11	36
<b>FQPF12N60C</b>	600	Single	0.65	–	–	–	48	12	51
FQPF12N60	600	Single	0.7	–	–	–	42	5.8	55
<b>FQPF10N60C</b>	600	Single	0.73	–	–	–	44	9.5	50
SSS10N60B	600	Single	0.8	–	–	–	54	9	50
FQPF7N60	600	Single	1	–	–	–	29	4.3	48
<b>FQPF8N60C</b>	600	Single	1.2	–	–	–	28	7.5	48
SSS7N60B	600	Single	1.2	–	–	–	38	7	48
FQPF6N60	600	Single	1.5	–	–	–	20	3.6	44
FQPF5N60	600	Single	2	–	–	–	16	2.8	40
<b>FQPF6N60C</b>	600	Single	2	–	–	–	16	5.5	40
FQPF4N60	600	Single	2.2	–	–	–	15	2.6	36
<b>FQPF5N60C</b>	600	Single	2.5	–	–	–	15	4.5	33
SSS4N60B	600	Single	2.5	–	–	–	22	4	33
FQPF3N60	600	Single	3.6	–	–	–	10	2	34
FQPF2N60	600	Single	4.7	–	–	–	9	1.6	28
<b>FQPF2N60C</b>	600	Single	4.7	–	–	–	8.5	2	23
SSS2N60B	600	Single	5	–	–	–	12.5	2	23
FQPF1N60	600	Single	11.5	–	–	–	5	0.9	21
<b>FQPF1N60C</b>	600	Single	11.5	–	–	–	4.8	1.1	17
SSS1N60B	600	Single	12	–	–	–	5.9	1	17
<b>FQPF7N65C</b>	650	Single	1.4	–	–	–	28	7	52
FQPF6N70	700	Single	1.5	–	–	–	30	3.5	48
SSS6N70A	700	Single	1.8	–	–	–	51	4	40
FQPF2N70	700	Single	6.3	–	–	–	8.1	2	28
<b>FQPF8N80C</b>	800	Single	1.55	–	–	–	35	8	59
<b>FQPF7N80C</b>	800	Single	1.9	–	–	–	27	6.6	56
FQPF6N80	800	Single	1.95	–	–	–	31	3.3	51

**TO-220F (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FQPF6N80C</b>	800	Single	2.5	–	–	–	21	5.5	51
FQPF5N80	800	Single	2.6	–	–	–	25	2.8	47
FQPF4N80	800	Single	3.6	–	–	–	19	2.2	43
<b>FQPF3N80C</b>	800	Single	4.8	–	–	–	13	3	39
FQPF3N80	800	Single	5	–	–	–	15	1.8	39
FQPF2N80	800	Single	6.3	–	–	–	12	1.5	35
<b>FQPF9N90C</b>	900	Single	1.4	–	–	–	45	8	68
<b>FQPF8N90C</b>	900	Single	1.9	–	–	–	35	6	60
FQPF5N90	900	Single	2.3	–	–	–	31	3	51
<b>FQPF6N90C</b>	900	Single	2.3	–	–	–	30	6	56
FQPF4N90	900	Single	3.1	–	–	–	24	2.5	47
<b>FQPF4N90C</b>	900	Single	4.2	–	–	–	17	4	47
FQPF3N90	900	Single	4.25	–	–	–	20	2.1	43
FQPF2NA90	900	Single	5.8	–	–	–	15	1.7	39
FQPF2N90	900	Single	7.2	–	–	–	12	1.4	35
<b>TO-220F P-Channel</b>									
FQPF3P50	-500	Single	4.9	–	–	–	18	1.9	39
FQPF1P50	-500	Single	10.5	–	–	–	11	1	28
FQPF4P40	-400	Single	3.1	–	–	–	18	2.4	39
FQPF2P40	-400	Single	6.5	–	–	–	10	1.3	28
FQPF9P25	-250	Single	0.62	–	–	–	29	6	50
SFS9644	-250	Single	0.8	–	–	–	45	4.9	40
FQPF6P25	-250	Single	1.1	–	–	–	21	4.2	45
SFS9634	-250	Single	1.3	–	–	–	29	3.4	33
SFS9624	-250	Single	2.4	–	–	–	16	2.4	28
FQPF2P25	-250	Single	4	–	–	–	6.5	1.8	32
SFS9614	-250	Single	4	–	–	–	9	1.3	13
FQPF12P20	-200	Single	0.47	–	–	–	31	7.3	50
SFS9640	-200	Single	0.5	–	–	–	46	6.2	40
FQPF7P20	-200	Single	0.69	–	–	–	19	5.2	45
SFS9630	-200	Single	0.8	–	–	–	29	4.4	33
FQPF5P20	-200	Single	1.4	–	–	–	10	3.4	38
SFS9620	-200	Single	1.5	–	–	–	15	3	28
FQPF3P20	-200	Single	2.7	–	–	–	6	2.2	32
SFS9610	-200	Single	3	–	–	–	9	1.4	13

**TO-220F (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FQPF15P12</b>	-120	Single	0.2	–	–	–	29	15	41
FQPF22P10	-100	Single	0.125	–	–	–	40	13.2	45
FQPF17P10	-100	Single	0.19	–	–	–	30	10.5	41
SFS9540	-100	Single	0.2	–	–	–	43	10.7	53
FQPF12P10	-100	Single	0.29	–	–	–	21	8.2	38
FQPF8P10	-100	Single	0.53	–	–	–	12	5.3	28
SFS9520	-100	Single	0.6	–	–	–	16	4.6	29
FQPF5P10	-100	Single	1.05	–	–	–	6.3	2.9	23
SFS9510	-100	Single	1.2	–	–	–	9	2.5	16
FQPF47P06	-60	Single	0.026	–	–	–	84	30	62
FQPF27P06	-60	Single	0.07	–	–	–	33	17	47
FQPF17P06	-60	Single	0.12	–	–	–	21	12	39
SFS9Z34	-60	Single	0.14	–	–	–	30	12	36
FQPF11P06	-60	Single	0.175	–	–	–	13	8.6	30
SFS9Z24	-60	Single	0.28	–	–	–	15	7.5	29
SFS2955	-60	Single	0.3	–	–	–	15	7.3	29
FQPF7P06	-60	Single	0.41	–	–	–	6.3	5.3	24
SFS9Z14	-60	Single	0.5	–	–	–	9	5.3	24

**TO-247**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-247 N-Channel</b>									
HUF75345G3	55	Single	0.007	–	–	–	125	75	325
HUFA75345G3	55	Single	0.007	–	–	–	125	75	325
HUF75344G3	55	Single	0.008	–	–	–	90	75	285
HUFA75344G3	55	Single	0.008	–	–	–	90	75	285
HUF75343G3	55	Single	0.009	–	–	–	92	75	270
HUFA75343G3	55	Single	0.009	–	–	–	92	75	270
HUF75339G3	55	Single	0.012	–	–	–	60	75	200
HUFA75339G3	55	Single	0.012	–	–	–	60	75	200
HUFA75337G3	55	Single	0.014	–	–	–	51	75	175
HUFA75333G3	55	Single	0.016	–	–	–	40	66	145
HUFA75332G3	55	Single	0.019	–	–	–	40	60	145
HUFA75329G3	55	Single	0.024	–	–	–	35	49	128
RF670N06	60	Single	0.014	–	–	–	100	70	150
<b>FDH038AN08A1</b>	75	Single	0.0038	0.0071@6V	–	–	125	80	450
<b>FDH047AN08A0</b>	75	Single	0.0047	0.0087@6V	–	–	92	80	310
HUF75652G3	100	Single	0.008	–	–	–	211	75	515
HUFA75652G3	100	Single	0.008	–	–	–	211	75	515
<b>FQH140N10</b>	100	Single	0.01	–	–	–	220	140	375
<b>FQH70N10</b>	100	Single	0.023	–	–	–	85	70	214
HUF75639G3	100	Single	0.025	–	–	–	57	56	200
HUFA75639G3	100	Single	0.025	–	–	–	57	56	200
<b>FQH44N10</b>	100	Single	0.039	–	–	–	48	48	–
HUF75852G3	150	Single	0.016	–	–	–	215	75	500
HUFA75852G3	150	Single	0.016	–	–	–	215	75	500
<b>FDH34N40</b>	400	Single	0.115	–	–	–	57	34	469
FDH44N50	500	Single	0.12	–	–	–	90	44	625
<b>FQH18N50V2</b>	500	Single	0.265	–	–	–	–	20	277
FDH15N50	500	Single	0.38	–	–	–	33	15	300

**TO-3P**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-3P N-Channel</b>									
FQA170N06	60	Single	0.0056	–	–	–	220	170	375
FQA85N06	60	Single	0.01	–	–	–	86	100	214
FQA65N06	60	Single	0.016	–	–	–	48	72	183
FQA160N08	80	Single	0.007	–	–	–	220	160	375
FQA90N08	80	Single	0.016	–	–	–	84	90	214
FQA44N08	80	Single	0.034	–	–	–	38	49.8	163
FQA140N10	100	Single	0.01	–	–	–	220	140	375
SSH70N10A	100	Single	0.023	–	–	–	151	70	300
FQA70N10	100	Single	0.025	–	–	–	85	70	214
FQA55N10	100	Single	0.026	–	–	–	75	61	190
FQA44N10	100	Single	0.039	–	–	–	48	48	180
IRFP150A	100	Single	0.04	–	–	–	75	43	193
FQA33N10	100	Single	0.052	–	–	–	38	36	163
IRFP140A	100	Single	0.052	–	–	–	60	31	131
FQA33N10L	100	Single	0.052	0.055@5V	–	–	30	36	163
FQA90N15	150	Single	0.018	–	–	–	220	90	375
FQA70N15	150	Single	0.028	–	–	–	135	70	330
FQA46N15	150	Single	0.042	–	–	–	85	50	250
SFH154	150	Single	0.075	–	–	–	90	34	204
FQA28N15	150	Single	0.09	–	–	–	40	33	227
FQA65N20	200	Single	0.032	–	–	–	170	65	310
FQA48N20	200	Single	0.05	–	–	–	100	48	280
SSH45N20B	200	Single	0.065	–	–	–	133	45	278
FQA34N20	200	Single	0.075	–	–	–	60	34	210
FQA34N20L	200	Single	0.075	0.08@5V	–	–	55	34	210
<b>FQA32N20C</b>	200	Single	0.082	–	–	–	82.5	32	204
IRFP250B	200	Single	0.085	–	–	–	95	32	204
FQA19N20L	200	Single	0.14	0.15@5V	–	–	27	25	190
FQA19N20	200	Single	0.15	–	–	–	31	23	190
IRFP240B	200	Single	0.18	–	–	–	45	20	180
<b>FQA62N25C</b>	250	Single	0.035	–	–	–	100	62	298
FQA55N25	250	Single	0.04	–	–	–	140	55	310
FQA40N25	250	Single	0.07	–	–	–	85	40	280
FQA34N25	250	Single	0.085	–	–	–	60	34	245
FQA27N25	250	Single	0.11	–	–	–	50	27	210
IRFP254B	250	Single	0.14	–	–	–	95	25	221
IRFP244B	250	Single	0.28	–	–	–	47	16	180
FQA44N30	300	Single	0.069	–	–	–	120	43.5	310
FQA38N30	300	Single	0.085	–	–	–	90	38.4	290

**TO-3P (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FQA14N30</b>	300	Single	0.29	–	–	–	30	15	160
FQA35N40	400	Single	0.105	–	–	–	110	35	310
FQA30N40	400	Single	0.14	–	–	–	90	30	290
FQA20N40	400	Single	0.22	–	–	–	60	19.5	200
FQA17N40	400	Single	0.27	–	–	–	45	17.2	190
IRFP350A	400	Single	0.3	–	–	–	101	17	202
IRFP340B	400	Single	0.54	–	–	–	41	11	162
FQA28N50	500	Single	0.16	–	–	–	110	28.4	310
FQA28N50F	500	Single	0.16	–	–	–	110	28.4	310
FQA24N50	500	Single	0.2	–	–	–	90	24	290
FQA24N50F	500	Single	0.2	–	–	–	90	24	290
IRFP460C	500	Single	0.24	–	–	–	87	14	205
SSH22N50A	500	Single	0.25	–	–	–	182	22	278
FQA18N50V2	500	Single	0.265	–	–	–	42	20	277
FQA16N50	500	Single	0.32	–	–	–	17	16	200
IRFP450B	500	Single	0.39	–	–	–	87	14	205
FQA13N50	500	Single	0.43	–	–	–	45	13.4	190
FQA9N50	500	Single	0.73	–	–	–	28	9.6	160
IRFP440B	500	Single	0.85	–	–	–	41	8.5	162
FQA24N60	600	Single	0.24	–	–	–	110	23.5	310
FQA19N60	600	Single	0.38	–	–	–	70	18.5	300
FQA12N60	600	Single	0.7	–	–	–	42	12	240
<b>FQA10N60C</b>	600	Single	0.73	–	–	–	44	10	192
SSH10N60B	600	Single	0.8	–	–	–	54	10	193
FQA7N60	600	Single	1	–	–	–	29	7.7	152
SSH7N60B	600	Single	1.2	–	–	–	38	7.3	160
FQA6N70	700	Single	1.5	–	–	–	30	6.4	152
FQA13N80	800	Single	0.75	–	–	–	68	12.6	300
<b>FQA10N80C</b>	800	Single	1.1	–	–	–	44	10	240
<b>FQA8N80C</b>	800	Single	1.55	–	–	–	35	8.4	220
<b>FQA7N80C</b>	800	Single	1.9	–	–	–	27	7	198
FQA6N80	800	Single	1.95	–	–	–	31	6.3	185
FQA11N90	900	Single	0.96	–	–	–	72	11.4	300
FQA11N90C	900	Single	1.1	–	–	–	60	11	300
<b>FQA8N90C</b>	900	Single	1.1	–	–	–	35	8	240
<b>FQA9N90C</b>	900	Single	1.4	–	–	–	45	9	280
FQA5N90	900	Single	2.3	–	–	–	31	5.8	185
<b>FQA6N90C</b>	900	Single	2.3	–	–	–	30	6	198



**TO-3P (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-3P P-Channel</b>									
FQA9P25	-250	Single	0.62	–	–	–	29	10.5	150
SFH9250L	-200	Single	–	0.23@5V	–	–	90	19.5	204
FQA12P20	-200	Single	0.47	–	–	–	31	12.6	150
SFH9240	-200	Single	0.5	–	–	–	46	11	126
<b>FQA36P15</b>	-150	Single	0.09	–	–	–	125	36	294
SFH9154	-150	Single	0.2	–	–	–	100	18	204
FQA22P10	-100	Single	0.125	–	–	–	40	24	150
FQA17P10	-100	Single	0.19	–	–	–	30	18	120
SFH9140	-100	Single	0.2	–	–	–	43	19	166
FQA47P06	-60	Single	0.026	–	–	–	84	55	214

**TO-3PF**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-3PF N-Channel</b>									
FQAF85N06	60	Single	0.01	–	–	–	86	67	100
FQAF65N06	60	Single	0.016	–	–	–	48	49	86
FQAF90N08	80	Single	0.016	–	–	–	84	56	100
FQAF58N08	80	Single	0.024	–	–	–	50	44	85
FQAF44N08	80	Single	0.034	–	–	–	38	35.6	83
FQAF44N10	100	Single	0.039	–	–	–	48	33	85
IRFS150A	100	Single	0.04	–	–	–	75	31	100
FQAF33N10	100	Single	0.052	–	–	–	38	25.8	83
IRFS140A	100	Single	0.052	–	–	–	60	23	72
FQAF33N10L	100	Single	0.052	0.055@5V	–	–	30	25.8	83
FQAF70N15	150	Single	0.028	–	–	–	135	44	130
FQAF28N15	150	Single	0.09	–	–	–	40	22	102
IRFS250B	200	Single	0.085	–	–	–	95	21.3	90
FQAF19N20L	200	Single	0.14	0.15@5V	–	–	27	16	85
FQAF19N20	200	Single	0.15	–	–	–	31	15	85
IRFS240B	200	Single	0.18	–	–	–	45	12.8	73
FQAF40N25	250	Single	0.07	–	–	–	85	24	108
FQAF34N25	250	Single	0.085	–	–	–	60	21.7	100
FQAF16N25	250	Single	0.23	–	–	–	27	12.4	85
IRFS244B	250	Single	0.28	–	–	–	47	10.2	73
FQAF14N30	300	Single	0.29	–	–	–	30	11.4	90
FQAF17N40	400	Single	0.27	–	–	–	45	12.2	100
IRFS350A	400	Single	0.3	–	–	–	101	11.5	92
FQAF11N40	400	Single	0.48	–	–	–	27	8.8	90
IRFS340B	400	Single	0.54	–	–	–	41	8	85
FQAF16N50	500	Single	0.32	–	–	–	17	11.3	110
IRFS450B	500	Single	0.39	–	–	–	87	9.6	96
FQAF9N50	500	Single	0.73	–	–	–	28	7.2	90
IRFS440B	500	Single	0.85	–	–	–	41	6.2	85
FQAF19N60	600	Single	0.38	–	–	–	70	11.2	120
SSF17N60A	600	Single	0.45	–	–	–	128	9	100
FQAF12N60	600	Single	0.7	–	–	–	42	7.8	100
SSF7N60B	600	Single	1.2	–	–	–	38	5.4	86
FQAF15N70	700	Single	0.56	–	–	–	70	9.5	120
FQAF13N80	800	Single	0.75	–	–	–	68	8	120
FQAF8N80	800	Single	1.2	–	–	–	44	5.9	107
FQAF6N80	800	Single	1.95	–	–	–	31	4.4	90
FQAF11N90	900	Single	0.96	–	–	–	72	7.2	120

**TO-3PF (Continued)**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> =5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>FQAF11N90C</b>	900	Single	1.1	–	–	–	60	7.2	120
FQAF5N90	900	Single	2.3	–	–	–	31	4.1	90
<b>TO-3PF P-Channel</b>									
FQAF9P25	-250	Single	0.62	–	–	–	29	7.1	70
SFF9244	-250	Single	0.8	–	–	–	45	6	60
SFF9250L	-200	Single	–	0.23@5V	–	–	90	12.6	90
FQAF12P20	-200	Single	0.47	–	–	–	31	11.5	70
SFF9240	-200	Single	0.5	–	–	–	46	7.6	60
FQAF22P10	-100	Single	0.125	–	–	–	40	16.6	70
FQAF17P10	-100	Single	0.19	–	–	–	30	12.4	56
SFF9140	-100	Single	0.2	–	–	–	43	13	80
FQAF47P06	-60	Single	0.026	–	–	–	84	38	100

**TO-264**

Products	BV <sub>DSS</sub> Min. (V)	Config.	R <sub>DS(ON)</sub> Max (Ω) @ V <sub>GS</sub> =				Q <sub>g</sub> Typ. (nC) @V <sub>GS</sub> = 5V	I <sub>D</sub> (A)	P <sub>D</sub> (W)
			10V	4.5V	2.5V	1.8V			
<b>TO-264 N-Channel</b>									
FQL50N40	400	Single	0.075	–	–	–	160	50	460
FQL40N50	500	Single	0.11	–	–	–	155	40	460
FQL40N50F	500	Single	0.11	–	–	–	155	40	460

## MOSFET and Schottky Diodes

Products	V <sub>DS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)</sub> Max (Ω) V <sub>GS</sub> =			Q <sub>G</sub>		Schottky Diode		P <sub>D</sub> (W)
			10V	4.5V	2.5V	(nC)	@ V <sub>GS</sub> (V)	V <sub>F</sub> (V)	@ I <sub>F</sub> (A)	
<b>SO-8 N-Channel</b>										
FDFS6N303	30	6	0.035	0.055	–	12	4.5	0.42	3	2
<b>SO-8 P-Channel</b>										
FDFS2P106A	-60	3	0.11	0.14	–	15	10	0.58	2	2
FDFS2P103	-30	5.3	0.059	0.092	–	5.3	5	0.57	1	2
FDFS2P103A	-30	5.3	0.059	0.092	–	5.7	5	0.35	0.25	2
FDFS2P102	-20	3.3	0.125	0.2	–	3.5	4.5	0.58	2	2
FDFS2P102A	-20	3.3	0.125	0.2	–	2.1	5	0.58	2	2
<b>SSOT-6 N-Channel</b>										
<b>FDFC3N108</b>	20	3	–	0.07	0.095	3.5	4.5	0.449	2	0.96
<b>SSOT-6 P-Channel</b>										
FDC6392S	-20	2.2	–	0.15	0.2	3.7	4.5	0.45	1	0.96
<b>TSSOP-8 P-Channel</b>										
FDW6923	-20	3.5	–	0.045	0.075	9.7	4.5	0.5	2	1.2

## Load Switches

Products	V <sub>IN</sub> Max (V)	V <sub>GS</sub> Max (V)	I <sub>L</sub> (A) @ V <sub>DROP</sub> = 0.2V			R <sub>DS(on)</sub> Max(Ω) @ V <sub>IN</sub> =				
			12V	5V	2.5V	12V	4.5V	3.3V	2.5V	1.8V
<b>SC70 P-Channel</b>										
FDG901D	6	–	–	–	–	–	–	–	–	–
<b>SC70-6 P-Channel</b>										
FDG6331L	8	8	–	–	0.7	–	0.26	–	0.33	0.45
FDG6323L	8	8	–	0.36	0.27	–	0.55	–	0.75	–
<b>FDG6324L</b>	20	8	0.36	0.27	–	0.55	0.75	–	–	–
<b>SSOT-6 P-Channel</b>										
FDC6901L	6	1.5	–	–	–	–	–	–	–	–
FDC6331L	8	8	–	2.8	2.5	–	0.055	–	0.07	0.1
SI3861DV	8	8	–	–	–	–	0.055	–	0.07	0.1
FDC6329L	8	8	–	2.8	1.9	–	0.07	–	0.105	–
FDC6325L	8	8	–	1.5	1	–	0.13	–	0.18	–
FDC6323L	8	8	–	1	0.67	–	0.2	0.3	–	–
<b>FDC6332L</b>	8	8	–	–	–	–	0.35	–	0.5	0.75
FDC6330L	20	20	2.5	1.6	–	0.08	0.125	–	–	–
FDC6326L	20	20	1.5	1	–	0.125	0.2	–	–	–
FDC6324L	20	20	1	0.67	–	0.2	0.3	–	–	–
<b>SSOT-8 P-Channel</b>										
FDR8521L	20	20	2.9	1.8	–	0.07	0.115	–	–	–

## Application Specific MOSFET Drivers

Products	Function	Polarity	Configuration	Operating Voltage Range		I <sub>LOAD Typ</sub> (A)	t <sub>rise Typ</sub> (µs)	t <sub>fall Typ</sub> (µs)	P <sub>D</sub> (W)
				V <sub>DD Min</sub>	V <sub>DD Max</sub>				
<b>SC70-5</b>									
FDG901D	P-Channel Slew Rate Control Driver	P-Channel	Single	2.7	6	0.00012	28	–	0.15
<b>SuperSOT-6/TSOP-6</b>									
FDC6901L	Integrated Driver & Load Switch	P-Channel	Single Integrated	2.7	6	3	124	–	1.6

## Bipolar Power Transistors – Anti-Saturation Transistors

Products	V <sub>CB0</sub> (V)	V <sub>CEO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)				t <sub>STG</sub> (μs)	t <sub>F</sub> (μs)
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)		
<b>TO-220 NPN Configuration</b>															
KSC5302D	800	400	12	2	50	20	–	0.4	1	–	0.4	0.4	0.04	2	0.2
KSC5402DT	1000	450	12	2	30	14	–	0.4	1	0.25	0.6	0.4	0.04	0.65	0.175
KSC5603D	1600	800	12	3	100	20	35	0.4	3	0.5	1.25	0.25	0.025	0.175	0.2
KSC5305D	800	400	12	5	75	22	–	0.8	1	–	0.4	0.8	0.08	2	0.2
KSC5338D	1000	450	12	5	75	6	–	2	1	0.47	0.75	2	0.4	2.2	0.15
<b>TO-252(DPAK) NPN Configuration</b>															
KSC5502D	1200	600	12	2	50	15	40	0.2	1	0.31	0.8	0.2	0.02	2	0.2
<b>TO-263(D<sup>2</sup>PAK) NPN Configuration</b>															
KSC5603D	1600	800	12	3	100	20	35	0.4	3	0.5	1.25	0.25	0.025	0.175	0.2



**Bipolar Power Transistors – Audio/Car Amp Output Transistors**

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
<b>TO-220 NPN Configuration</b>													
FJP3835	8	120	200	8	50	120	250	3	4	–	0.5	3	0.3
<b>TO-220F NPN Configuration</b>													
FJPF3835	8	120	200	8	30	120	250	3	4	–	0.5	3	0.3
<b>TO-264 NPN Configuration</b>													
FJL4315	15	230	230	5	150	55	160	1	–	0.4	3	–	–
<b>TO-264 PNP Configuration</b>													
FJL4215	15	230	230	5	150	55	160	1	–	0.4	3	–	–
<b>TO-3P NPN Configuration</b>													
KSC4010	6	120	120	5	60	55	160	1	5	–	2.5	5	0.5
FJA3835	8	120	200	8	80	120	250	3	4	–	0.5	3	0.3
FJA4310	10	140	200	6	100	50	180	3	4	–	0.5	5	0.5
<b>FJA4313</b>	15	230	230	5	130	55	160	1	5	–	0.5	5	0.5
<b>TO-3P PNP Configuration</b>													
KSA3010	6	120	120	5	60	55	160	1	5	–	2.5	5	0.5
FJA4210	10	140	200	6	100	50	180	3	4	–	0.5	5	0.5
<b>FJA4213</b>	15	230	230	5	130	55	160	1	5	–	0.5	5	0.5
<b>TO-3PF NPN Configuration</b>													
FJAF4310	10	140	200	6	80	50	180	3	4	–	0.5	5	0.5
<b>TO-3PF PNP Configuration</b>													
FJAF4210	10	140	200	6	80	50	180	3	4	–	0.5	5	0.5

## Bipolar Power Transistors – Darlington Transistors

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
<b>TO-126 NPN Configuration</b>													
KSD985	1.5	60	150	8	10	2000	30000	1	2	–	1.5	1	0.001
KSD986	1.5	80	150	8	10	2000	30000	1	2	–	1.5	1	0.001
KSD1692	3	100	150	8	15	2000	20000	1.5	2	0.9	1.2	1.5	0.002
BD675A	4	45	45	5	14	750	–	2	3	–	2.8	2	0.04
BD677A	4	60	60	5	14	750	–	2	3	–	2.8	2	0.04
KSE800	4	60	60	5	14	750	–	1.5	3	–	2.5	1.5	0.03
KSE801	4	60	60	5	14	750	–	2	3	–	2.8	2	0.04
MJE800	4	60	60	5	14	750	–	1.5	3	–	2.5	1.5	0.03
MJE801	4	60	60	5	14	750	–	2	3	–	2.8	2	0.04
BD679A	4	80	80	5	14	750	–	2	3	–	2.8	2	0.04
KSE802	4	80	80	5	14	750	–	1.5	3	–	2.5	1.5	0.03
KSE803	4	80	80	5	14	750	–	2	3	–	2.8	2	0.04
<b>MJE802</b>	4	80	80	5	14	750	–	1.5	3	–	2.5	1.5	0.03
MJE803	4	80	80	5	14	750	–	2	3	–	2.8	2	0.04
BD681	4	100	100	5	14	750	–	1.5	3	–	2.5	1.5	0.03
<b>TO-126 PNP Configuration</b>													
KSB794	1.5	60	60	8	10	2000	30000	1	2	–	1.5	1	0.001
KSB795	1.5	80	80	8	10	2000	30000	1	2	–	1.5	1	0.001
KSB1149	3	100	100	8	15	2000	20000	1.5	2	0.9	1.2	1.5	0.002
BD676A	4	45	45	5	14	750	–	2	3	–	2.8	2	0.04
BD678A	4	60	60	5	14	750	–	2	3	–	2.8	2	0.04
KSE700	4	60	60	5	14	750	–	1.5	3	–	2.5	1.5	0.03
KSE701	4	60	60	5	14	750	–	2	3	–	2.8	2	0.04
MJE700	4	60	60	5	14	750	–	1.5	3	–	2.5	1.5	0.03
MJE701	4	60	60	5	14	750	–	2	3	–	2.8	2	0.04
BD680A	4	80	80	5	14	750	–	2	3	–	2.8	2	0.04
KSE702	4	80	80	5	14	750	–	1.5	3	–	2.5	1.5	0.03
KSE703	4	80	80	5	14	750	–	2	3	–	2.8	2	0.04
MJE702	4	80	80	5	14	750	–	1.5	3	–	2.5	1.5	0.03
MJE703	4	80	80	5	14	750	–	2	3	–	2.8	2	0.04
BD682	4	100	100	5	14	750	–	1.5	3	–	2.5	1.5	0.03
<b>TO-220 NPN Configuration</b>													
TIP110	2	60	60	5	50	500	–	2	4	–	2.5	2	0.008
TIP111	2	80	80	5	50	500	–	2	4	–	2.5	2	0.008

**Bipolar Power Transistors – Darlington Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
TIP112	2	100	100	5	50	500	–	2	4	–	2.5	2	0.008
KSD5018	4	275	600	10	40	–	–	–	–	–	1.5	2	0.005
FJP9100	4	275	600	10	40	1000	5000	0.5	5	–	1.5	2	0.005
TIP120	5	60	60	5	65	1000	–	0.5	3	–	2	3	0.012
TIP121	5	80	80	5	65	1000	–	0.5	3	–	2	3	0.012
TIP122	5	100	100	5	65	1000	–	0.5	3	–	2	3	0.012
KSD560	5	100	150	7	30	2000	15000	3	2	0.9	1.5	3	0.003
BDW23	6	45	45	5	50	750	20000	2	3	–	2	2	0.008
BDW23A	6	60	60	5	50	750	20000	2	3	–	2	2	0.008
BDW23B	6	80	80	5	50	750	20000	2	3	–	2	2	0.008
BDW23C	6	100	100	5	50	750	20000	2	3	–	2	2	0.008
BDX53	8	45	45	5	60	750	–	3	3	–	2	3	0.012
BDX53A	8	60	60	5	60	750	–	3	3	–	2	3	0.012
TIP100	8	60	60	5	80	1000	20000	3	4	–	2	3	0.006
BDX53B	8	80	80	5	60	750	–	3	3	–	2	3	0.012
BDX53C	8	100	100	5	60	750	–	3	3	–	2	3	0.012
TIP102	8	100	100	5	80	1000	20000	3	4	–	2	3	0.006
BU807	8	150	330	6	60	–	–	–	–	–	1.5	5	0.05
BU806	8	200	400	6	60	–	–	–	–	–	1.5	5	0.05
KSE5740	8	300	–	8	80	50	–	0.5	5	–	2	4	0.2
KSE5741	8	350	–	8	80	50	–	0.5	5	–	2	4	0.2
KSE5742	8	400	–	8	80	50	–	0.5	5	–	2	4	0.2
BDX33B	10	80	80	–	70	750	–	3	3	–	2.5	3	0.006
TIP141T	10	80	80	5	80	1000	–	5	4	–	2	5	0.01
BDX33C	10	100	100	–	70	750	–	3	3	–	2.5	3	0.006
TIP142T	10	100	100	5	80	1000	–	5	4	–	2	5	0.01
BDW93	12	45	45	–	80	750	20000	5	3	–	2	5	0.02
BDW93A	12	60	60	–	80	750	20000	5	3	–	2	5	0.02
BDW93C	12	100	100	–	80	750	20000	5	3	–	2	5	0.02
<b>TO-220 PNP Configuration</b>													
TIP115	2	60	60	5	50	500	–	2	4	–	2.5	2	0.008
TIP116	2	80	80	5	50	500	–	2	4	–	2.5	2	0.008
TIP117	2	100	100	5	50	500	–	2	4	–	2.5	2	0.008
TIP125	5	60	60	5	65	1000	–	0.5	3	–	2	3	0.012
TIP126	5	80	80	5	65	1000	–	0.5	3	–	2	3	0.012

**Bipolar Power Transistors – Darlington Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
TIP127	5	100	100	5	65	1000	–	0.5	3	–	2	3	0.012
KSB601	5	100	100	7	30	2000	15000	3	2	–	1.5	3	0.003
BDW24	6	45	45	5	50	750	20000	2	3	–	2	2	0.008
BDW24A	6	60	60	5	50	750	20000	2	3	–	2	2	0.008
BDW24B	6	80	80	5	50	750	20000	2	3	–	2	2	0.008
BDW24C	6	100	100	5	50	750	20000	2	3	–	2	2	0.008
BDX54	8	45	45	5	60	750	–	3	3	–	2	3	0.012
BDX54A	8	60	60	5	60	750	–	3	3	–	2	3	0.012
TIP105	8	60	60	5	80	1000	20000	3	4	–	2	3	0.006
BDX54B	8	80	80	5	60	750	–	3	3	–	2	3	0.012
TIP106	8	80	80	5	80	1000	20000	3	4	–	2	3	0.006
BDX54C	8	100	100	5	60	750	–	3	3	–	2	3	0.012
TIP107	8	100	100	5	80	1000	20000	3	4	–	2	3	0.006
BDX34A	10	60	60	–	70	750	–	4	3	–	2.5	4	0.008
BDX34B	10	80	80	–	70	750	–	3	3	–	2.5	3	0.006
TIP146T	10	80	80	5	80	1000	–	5	4	–	2	5	0.01
BDX34C	10	100	100	–	70	750	–	3	3	–	2.5	3	0.006
TIP147T	10	100	100	5	80	1000	–	5	4	–	2	5	0.01
BDW94	12	45	45	–	80	750	20000	5	3	–	2	5	0.02
BDW94C	12	100	100	–	80	750	20000	5	3	–	2	5	0.02
<b>TO-220F NPN Configuration</b>													
KSD1413	3	60	60	5	20	2000	–	1	2	–	1.5	2	0.004
KSD1589	5	100	150	7	20	2000	15000	3	2	0.9	1.5	3	0.003
KSD1417	7	60	60	5	30	2000	15000	3	3	0.9	1.5	3	0.006
BDW93CF	12	100	100	–	30	750	20000	5	–	–	2	5	0.02
<b>TO-220F PNP Configuration</b>													
FJPF9020	2	550	550	6	15	400	700	1	4	–	1.5	1	0.02
KSB1023	3	60	60	5	20	2000	–	1	2	–	1.5	2	0.004
KSB1098	5	100	100	7	20	2000	15000	3	2	–	1.5	3	0.003
KSB1022	7	60	60	5	30	2000	15000	3	3	0.95	1.5	3	0.006
<b>TO-251(IPAK) NPN Configuration</b>													
KSD1222	3	40	60	5	15	2000	–	1	2	–	1.5	2	0.004
<b>TO-251(IPAK) PNP Configuration</b>													
KSB907	3	40	60	5	15	2000	–	1	2	–	1.5	2	0.004

**Bipolar Power Transistors – Darlington Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
<b>TO-252(DPAK) NPN Configuration</b>													
KSH112	2	100	100	5	20	1000	12000	2	3	–	2	2	0.008
MJD112	2	100	100	5	20	1000	12000	2	3	–	2	2	0.008
KSH122	8	100	100	5	20	1000	12000	4	4	–	2	4	0.016
MJD122	8	100	100	5	20	1000	12000	4	4	–	2	4	0.016
<b>TO-252(DPAK) PNP Configuration</b>													
KSH117	2	100	100	5	20	1000	12000	2	3	–	2	2	0.008
MJD117	2	100	100	5	20	1000	12000	2	3	–	2	2	0.008
KSH127	8	100	100	5	20	1000	12000	4	4	–	2	4	0.016
MJD127	8	100	100	5	20	1000	12000	4	4	–	2	4	0.016
<b>TO-3P NPN Configuration</b>													
TIP140	10	60	60	5	125	1000	–	5	4	–	2	5	0.01
TIP142	10	100	100	5	125	1000	–	5	4	–	2	5	0.01
KSC5047	15	50	100	15	100	40	–	5	5	–	0.5	5	0.12
<b>TO-3P PNP Configuration</b>													
TIP146	10	80	80	5	125	1000	–	5	4	–	2	5	0.01
TIP147	10	100	100	5	125	1000	–	5	4	–	2	5	0.01
<b>TO-3PF NPN Configuration</b>													
TIP142F	10	100	100	5	60	1000	–	5	4	–	2	5	0.01
<b>TO-3PF PNP Configuration</b>													
TIP147F	10	100	100	5	60	1000	–	5	4	–	2	5	0.01

## Bipolar Power Transistors – Dynamic Focus Transistors

Products	V <sub>CB0</sub> (V)	V <sub>CEO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)				Datash eet
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)	
<b>TO-126 NPN Configuration</b>														
KSC5042M	1500	900	5	0.1	4	30	–	0.01	5	–	5	0.02	0.004	DS9008 17.pdf
<b>TO-220F NPN Configuration</b>														
KSC5042F	1500	900	5	0.1	6	30	–	0.01	5	–	5	0.02	0.004	DS9008 16.pdf

## Bipolar Power Transistors – General Purpose Transistors

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE (sat)</sub>			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
<b>TO-126 NPN Configuration</b>													
KSC2682	0.1	180	180	5	8	100	320	0.01	5	0.12	0.5	0.05	0.005
KSC3502	0.1	200	200	5	5	40	320	0.01	10	–	0.6	0.02	0.002
KSC2258	0.1	250	250	6	4	40	–	0.04	20	–	1.2	0.05	0.005
KSC2258A	0.1	300	300	6	4	40	–	0.04	20	–	1.2	0.05	0.005
KSC3503	0.1	300	300	5	7	40	320	0.01	10	–	0.6	0.02	0.002
KSC3953	0.2	120	120	3	8	40	120	0.01	10	–	1	0.03	0.003
KSC2688	0.2	300	300	5	10	40	250	0.01	10	–	1.5	0.05	0.005
BD157	0.5	250	275	5	20	30	240	0.05	10	–	–	–	–
BD158	0.5	300	325	5	20	30	240	0.05	10	–	–	–	–
KSE340	0.5	300	300	5	20	30	240	0.05	10	–	–	–	–
MJE340	0.5	300	300	5	20	30	240	0.05	10	–	–	–	–
BD159	0.5	350	375	5	20	30	240	0.05	10	–	–	–	–
<b>KSC2690</b>	1.2	120	120	5	20	60	320	0.3	5	0.4	0.7	1	0.2
KSC2690A	1.2	160	160	5	20	60	320	0.3	5	0.4	0.7	1	0.2
BD135	1.5	45	45	5	12.5	40	250	0.15	2	–	0.5	0.5	0.05
BD137	1.5	60	60	5	12.5	40	250	0.15	2	–	0.5	0.5	0.05
BD139	1.5	80	80	5	12.5	40	250	0.15	2	–	0.5	0.5	0.05
BD233	2	45	45	5	25	40	–	0.15	2	–	0.6	1	0.1
BD375	2	45	50	5	25	40	375	0.15	2	–	1	1	0.1
BD235	2	60	60	5	25	40	–	0.15	2	–	0.6	1	0.1
BD377	2	60	75	5	25	40	375	0.15	2	–	1	1	0.1
BD237	2	80	100	5	25	40	–	0.15	2	–	0.6	1	0.1
BD379	2	80	100	5	25	40	375	0.15	2	–	1	1	0.1
KSD882	3	30	40	5	10	60	400	1	2	0.3	0.5	2	0.2
KSE180	3	40	60	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
MJE180	3	40	60	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
BD175	3	45	45	5	30	40	250	0.15	2	–	0.8	1	0.1
KSD794	3	45	70	5	10	60	320	0.5	5	0.5	2	1.5	0.15
KSE181	3	60	80	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
MJE181	3	60	80	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
KSD794A	3	60	70	5	10	60	320	0.5	5	0.5	2	1.5	0.15
BD179	3	80	80	5	30	40	250	0.15	2	–	0.8	1	0.1
KSE182	3	80	100	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
MJE182	3	80	100	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05

**Bipolar Power Transistors – General Purpose Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE(sat)</sub>			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
BD433	4	22	22	5	36	40	–	0.01	5	0.2	0.5	2	0.2
BD435	4	32	32	5	36	40	–	0.01	5	0.2	0.5	2	0.2
BD437	4	45	45	5	36	30	–	0.01	5	0.2	0.6	2	0.2
BD439	4	60	60	5	36	20	–	0.01	5	–	0.8	2	0.2
BD441	4	80	80	5	36	15	–	0.01	5	–	0.8	2	0.2
KSE200	5	25	40	8	15	45	180	2	1	–	0.75	2	0.2
MJE200	5	25	40	8	15	45	180	2	1	–	0.75	2	0.2
KSD1691	5	60	60	7	20	100	400	2	1	0.1	0.3	2	0.2
<b>TO-126 PNP Configuration</b>													
KSA1142	0.1	180	180	5	8	100	320	0.01	5	0.16	0.5	0.05	0.005
KSA1406	0.1	200	200	4	7	40	120	0.01	10	–	0.8	0.03	0.003
KSA1381	0.1	300	300	5	7	40	320	0.01	10	–	0.6	0.02	0.002
KSE350	0.5	300	300	5	20	30	240	0.05	10	–	–	–	–
MJE350	0.5	300	300	5	20	30	240	0.05	10	–	–	–	–
KSA1220	1.2	120	120	5	20	60	320	0.3	5	0.4	0.7	1	0.2
KSA1220A	1.2	160	160	5	20	60	320	0.3	5	0.4	0.7	1	0.2
BD136	1.5	45	45	5	12.5	40	250	0.15	2	–	0.5	0.5	0.05
BD138	1.5	60	60	5	12.5	40	250	0.15	2	–	0.5	0.5	0.05
BD140	1.5	80	80	5	12.5	40	250	0.15	2	–	0.5	0.5	0.05
BD234	2	45	45	5	25	40	–	0.15	2	–	0.6	1	0.1
BD376	2	45	50	5	25	40	375	0.15	2	–	1	1	0.1
BD236	2	60	60	5	25	40	–	0.15	2	–	0.6	1	0.1
BD378	2	60	75	5	25	40	375	0.15	2	–	1	1	0.1
BD238	2	80	100	5	25	40	–	0.15	2	–	0.6	1	0.1
BD380	2	80	100	5	25	40	375	0.15	2	–	1	1	0.1
KSB772	3	30	40	5	10	60	400	1	2	0.3	0.5	2	0.2
KSE170	3	40	60	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
MJE170	3	40	60	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
BD176	3	45	45	5	30	40	250	0.15	2	–	0.8	1	0.1
KSB744	3	45	70	5	10	60	320	0.5	5	0.5	2	1.5	0.15
BD178	3	60	60	5	30	40	250	0.15	2	–	0.8	1	0.1
KSE171	3	60	80	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
MJE171	3	60	80	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
KSB744A	3	60	70	5	10	60	320	0.5	5	0.5	2	1.5	0.15
BD180	3	80	80	5	30	40	250	0.15	2	–	0.8	1	0.1



**Bipolar Power Transistors – General Purpose Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CE0</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE (sat)</sub>			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
KSE172	3	80	100	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
MJE172	3	80	100	7	12.5	50	250	0.1	1	–	0.3	0.5	0.05
BD434	4	22	22	5	36	40	–	0.01	5	0.2	0.5	2	0.2
BD436	4	32	32	5	36	40	–	0.01	5	0.2	0.5	2	0.2
BD438	4	45	45	5	36	30	–	0.01	5	0.2	0.6	2	0.2
BD440	4	60	60	5	36	20	–	0.01	5	–	0.8	2	0.2
BD442	4	80	80	5	36	15	–	0.01	5	–	0.8	2	0.2
KSE210	5	25	40	8	15	45	180	2	1	–	0.75	2	0.2
MJE210	5	25	40	8	15	45	180	2	1	–	0.75	2	0.2
KSB1151	5	60	60	7	20	100	400	2	1	0.1	0.3	2	0.2
<b>TO-220 NPN Configuration</b>													
KSC1507	0.2	300	300	7	15	40	240	0.01	10	–	2	0.05	0.005
TIP29	1	40	40	5	30	15	75	1	4	–	0.7	1	0.125
TIP29A	1	60	60	5	30	15	75	1	4	–	0.7	1	0.125
TIP29C	1	100	100	5	30	15	75	1	4	–	0.7	1	0.125
TIP47	1	250	350	5	40	30	150	0.3	10	–	1	1	0.2
TIP48	1	300	400	5	40	30	150	0.3	10	–	1	1	0.2
KSC2073	1	350	450	5	40	30	150	0.3	10	–	1	1	0.2
TIP50	1	400	500	5	40	30	150	0.3	10	–	1	1	0.2
KSC2073	1.5	150	150	5	25	40	140	0.5	10	–	1	0.5	0.05
KSE13003T	1.5	400	700	9	30	8	40	0.5	–	–	0.5	–	–
BD239	2	45	55	5	30	15	–	1	4	–	0.7	1	0.2
BD239A	2	60	70	5	30	15	–	1	4	–	0.7	1	0.2
BD239B	2	80	90	5	30	15	–	1	4	–	0.7	1	0.2
BD239C	2	100	115	5	30	15	–	1	4	–	0.7	1	0.2
KSD401	2	150	200	5	25	40	400	0.4	10	–	1	0.5	0.05
KSC1173	3	30	30	5	10	70	240	0.5	2	0.3	0.8	2	0.2
TIP31	3	40	40	5	40	10	50	3	4	–	1.2	3	0.375
BD241	3	45	55	5	40	10	–	3	4	–	1.2	3	0.6
KSD288	3	55	80	5	25	40	240	0.5	5	–	1	1	0.1
BD241A	3	60	70	5	40	10	–	3	4	–	1.2	3	0.6
TIP31A	3	60	60	5	40	10	50	3	4	–	1.2	3	0.375
KSD880	3	60	60	7	30	60	300	0.5	5	0.4	1	3	0.3
KSD1943	3	60	80	8	40	400	2000	0.5	4	–	1.5	2	0.05
BD241B	3	80	90	5	40	10	–	3	4	–	1.2	3	0.6

**Bipolar Power Transistors – General Purpose Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE (sat)</sub>			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
TIP31B	3	80	80	5	40	10	50	3	4	–	1.2	3	0.375
BD241C	3	100	115	5	40	10	–	3	4	–	1.2	3	0.6
TIP31C	3	100	100	5	40	10	50	3	4	–	1.2	3	0.375
KSC2233	4	60	200	5	40	30	150	1	5	–	1	4	0.4
KSD526	4	80	80	5	30	40	240	0.5	5	0.45	1.5	3	0.3
KSD73	5	60	100	5	30	70	240	1	10	–	2	5	0.5
KSD362	5	70	150	8	40	20	140	5	5	–	1	5	0.5
TIP41	6	40	40	5	65	15	75	3	4	–	1.5	6	0.6
BD243	6	45	45	5	65	30	–	0.3	4	–	1.5	6	1
TIP41A	6	60	60	5	65	15	75	3	4	–	1.5	6	0.6
BD243A	6	60	60	5	65	30	–	0.3	4	–	1.5	6	1
TIP41B	6	80	80	5	65	15	75	3	4	–	1.5	6	0.6
BD243B	6	80	80	5	65	30	–	0.3	4	–	1.5	6	1
TIP41C	6	100	100	5	65	15	75	3	4	–	1.5	6	0.6
BD243C	6	100	100	5	65	30	–	0.3	4	–	1.5	6	1
KSD363	6	120	300	8	40	40	240	1	5	–	1	1	0.1
KSD568	7	60	100	7	40	40	200	3	1	–	0.5	5	0.5
KSD569	7	80	100	7	40	40	200	3	1	–	0.5	5	0.5
KSC2334	7	100	150	7	40	40	240	3	5	–	0.6	5	0.5
BU407	7	150	330	6	60	–	–	–	–	–	1	5	0.5
BU407H	7	150	330	6	60	–	–	–	–	–	1	5	0.8
BU406	7	200	400	6	60	–	–	–	–	–	1	5	0.5
BU408	7	200	400	6	60	–	–	–	–	–	1	6	1.2
BD533	8	45	45	5	50	20	–	0.01	5	–	0.8	2	0.2
BD535	8	60	60	5	50	20	–	0.01	5	–	0.8	2	0.2
BD537	8	80	80	5	50	15	–	0.01	5	–	0.8	2	0.2
KSE3055T	10	60	70	5	75	20	100	4	4	–	1.1	4	0.4
MJE3055T	10	60	70	5	75	20	100	4	4	–	1.1	4	0.4
KSE44H	10	80	–	5	50	60	–	2	1	–	1	8	0.4
<b>TO-220 PNP Configuration</b>													
TIP30A	1	60	60	5	30	15	75	1	4	–	0.7	1	0.125
TIP30C	1	100	100	5	30	15	75	1	4	–	0.7	1	0.125
KSA940	1.5	150	150	5	25	40	140	0.5	10	–	1.5	0.5	0.05
BD240	2	45	55	5	30	15	–	1	4	–	0.7	1	0.2
BD240A	2	60	70	5	30	15	–	1	4	–	0.7	1	0.2

**Bipolar Power Transistors – General Purpose Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CE0</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE (sat)</sub>			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
BD240B	2	80	90	5	30	15	–	1	4	–	0.7	1	0.2
BD240C	2	100	115	5	30	15	–	1	4	–	0.7	1	0.2
KSB546	2	150	200	5	25	40	240	0.4	10	–	1	0.5	0.05
KSA473	3	30	30	5	10	70	240	0.5	2	0.3	0.8	2	0.2
TIP32	3	40	40	5	40	10	50	3	4	–	1.2	3	0.375
BD242	3	45	55	5	40	10	–	3	4	–	1.2	3	0.6
KSA614	3	55	80	5	25	40	240	0.5	5	0.15	0.5	1	0.1
BD242A	3	60	70	5	40	10	–	3	4	–	1.2	3	0.6
TIP32A	3	60	60	5	40	10	50	3	4	–	1.2	3	0.375
KSB834	3	60	60	7	30	60	200	0.5	5	0.5	1	3	0.3
BD242B	3	80	90	5	40	10	–	3	4	–	1.2	3	0.6
TIP32B	3	80	80	5	40	10	50	3	4	–	1.2	3	0.375
BD242C	3	100	115	5	40	10	–	3	4	–	1.2	3	0.6
TIP32C	3	100	100	5	40	10	50	3	4	–	1.2	3	0.375
KSB596	4	80	80	5	30	40	240	0.5	5	1	1.7	3	0.3
TIP42	6	40	40	5	65	15	75	3	4	–	1.5	6	0.6
BD244	6	45	45	5	65	30	–	0.3	4	–	1.5	6	1
BD244A	6	60	60	5	65	30	–	0.3	4	–	1.5	6	1
TIP42B	6	80	80	5	65	15	75	3	4	–	1.5	6	0.6
BD244B	6	80	80	5	65	30	–	0.3	4	–	1.5	6	1
TIP42C	6	100	100	5	65	15	75	3	4	–	1.5	6	0.6
BD244C	6	100	100	5	65	30	–	0.3	4	–	1.5	6	1
KSB707	7	60	80	7	40	40	200	3	1	–	0.5	5	0.5
KSB708	7	80	80	7	40	40	200	3	1	–	0.5	5	0.5
KSA1010	7	100	100	7	40	40	200	3	5	–	0.6	5	0.5
BD534	8	45	45	5	50	20	–	0.01	5	–	0.8	2	0.2
BD536	8	60	60	5	50	20	–	0.01	5	–	0.8	2	0.2
BD538	8	80	80	5	50	15	–	0.01	5	–	0.8	2	0.2
KSE2955T	10	60	70	5	75	20	100	4	4	–	1.1	4	0.4
MJE2955T	10	60	70	5	75	20	100	4	4	–	1.1	4	0.4
KSE45H	10	80	–	5	50	60	–	2	1	–	1	8	0.4
<b>TO-220F NPN Configuration</b>													
KSC3296	1.5	150	150	5	20	40	140	0.5	10	–	1.5	0.5	0.05
KSD401	2	150	200	5	25	40	400	0.4	10	–	1	0.5	0.05
KSD1406	3	60	60	7	25	60	300	0.5	5	0.4	1	3	0.3

**Bipolar Power Transistors – General Purpose Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE(sat)</sub>			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
KSD2058	3	60	60	7	25	60	300	0.5	5	–	1.5	2	0.2
KSD2012	3	60	60	7	25	100	320	0.5	5	0.4	1	2	0.2
KSD1944	3	60	80	8	30	400	2000	0.5	4	–	1	2	0.05
KSD1273	3	60	80	6	40	500	2500	0.5	4	–	1	2	0.05
KSD1408	4	80	80	5	25	40	240	0.5	5	0.45	1.5	3	0.3
KSD1362	5	70	150	8	20	20	140	5	5	–	1	5	0.5
KKSD1588	7	60	100	7	30	40	200	3	1	–	0.5	5	0.5
<b>TO-220F PNP Configuration</b>													
KSA1304	1.5	150	150	5	20	40	140	0.5	10	–	1.5	0.5	0.05
KSA1614	3	55	80	5	20	40	240	0.5	5	0.15	0.5	1	0.1
KSB1015	3	60	60	7	25	60	200	0.5	5	0.5	1	3	0.3
KSB1366	3	60	60	7	25	100	320	0.5	5	0.5	1	2	0.2
KSB1017	4	80	80	5	25	40	240	0.5	5	1	1.7	3	0.3
KSB1097	7	60	80	7	30	40	200	3	1	–	0.5	5	0.5
<b>TO-251(IPAK) NPN Configuration</b>													
KSH29	1	40	40	5	15	15	75	1	4	–	0.7	1	0.125
KSH29C	1	100	100	5	15	15	75	1	4	–	0.7	1	0.125
MJD29C	1	100	100	5	15	15	75	1	4	–	0.7	1	0.125
KSC3076	2	50	50	5	10	70	240	0.5	2	–	0.5	1	0.05
KSC3073	3	30	30	5	10	70	240	0.5	2	0.3	0.8	2	0.2
KSD1221	3	60	60	7	20	60	300	0.5	5	0.4	1	3	0.3
MJD31C	3	100	100	5	15	10	50	3	4	–	1.2	3	0.375
KSC3074	5	50	60	5	20	70	240	1	1	–	0.5	3	0.15
KSH3055I	10	60	70	5	20	20	100	4	4	–	1.1	4	0.4
<b>TO-251(IPAK) PNP Configuration</b>													
KSA1241	2	50	55	5	10	70	240	0.5	2	–	0.5	1	0.05
KSA1243	3	30	30	5	10	70	240	0.5	2	0.3	0.8	2	0.2
KSB906	3	60	60	7	20	60	200	0.5	5	1	1.7	3	0.3
KSA1242	5	20	35	8	10	100	320	0.5	2	–	1	4	0.1
KSA1244	5	50	60	5	20	70	240	1	1	–	0.5	3	0.15
KSH2955	10	60	70	5	20	20	100	4	4	–	1.1	4	0.4
<b>TO-252(DPAK) NPN Configuration</b>													
KSH340	0.5	300	300	3	15	30	240	0.05	10	0.34	1	0.3	0.06
MJD340	0.5	300	300	3	15	30	240	0.05	10	0.35	1	0.1	0.01
KSH29C	1	100	100	5	15	15	75	1	4	–	0.7	1	0.125

**Bipolar Power Transistors – General Purpose Transistors (Continued)**

Products	I <sub>C</sub> (A)	V <sub>CE0</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE(sat)</sub>			
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)
MJD29C	1	100	100	5	15	15	75	1	4	–	0.7	1	0.125
KSH47	1	250	350	5	15	30	150	0.3	10	–	1	1	0.2
MJD47	1	250	350	5	15	30	150	0.3	10	–	1	1	0.2
KSH50	1	400	500	5	15	30	150	0.3	10	–	1	1	0.2
MJD50	1	400	500	5	15	30	150	0.3	10	–	1	1	0.2
FJD3076	2	50	50	5	10	120	270	0.5	3	0.5	0.8	2	0.2
KSC3233	2	400	500	7	20	20	–	0.1	5	–	1	1	0.2
KSH31	3	40	40	5	15	10	50	3	4	–	1.2	3	0.375
KSH31C	3	100	100	5	15	10	50	3	4	–	1.2	3	0.375
MJD31C	3	100	100	5	15	10	50	3	4	–	1.2	3	0.375
KSH200	5	25	40	8	12.5	45	180	2	1	–	0.3	0.5	0.05
KSH41C	6	100	100	5	20	15	75	3	4	–	1.5	6	0.6
MJD41C	6	100	100	5	20	15	75	3	4	–	1.5	6	0.6
KSH44H11	8	80	–	5	20	60	–	2	1	–	1	8	0.4
MJD44H11	8	80	–	5	20	60	–	2	1	–	1	8	0.4
KSH3055	10	60	70	5	20	20	100	4	4	–	1.1	4	0.4
MJD3055	10	60	70	5	20	20	100	4	4	–	1.1	4	0.4
<b>TO-252(DPAK) PNP Configuration</b>													
KSH350	0.5	300	300	3	15	30	240	0.05	10	0.34	1	0.3	0.06
MJD350	0.5	300	300	3	15	30	240	0.05	10	0.35	1	0.1	0.01
KSH30	1	40	40	5	15	15	75	1	4	–	0.7	1	0.125
KSH32	3	40	40	5	15	10	50	3	4	–	1.2	3	0.375
KSH32C	3	100	100	5	15	10	50	3	4	–	1.2	3	0.375
MJD32C	3	100	100	5	15	10	50	3	4	–	1.2	3	0.375
KSH210	5	25	40	8	12.5	45	180	2	1	–	0.3	0.5	0.05
MJD210	5	25	40	8	12.5	45	180	2	1	–	0.3	0.5	0.05
KSH42C	6	100	100	5	20	15	75	3	4	–	1.5	6	0.6
KSH45H11	8	80	–	5	20	60	–	2	1	–	1	8	0.4
MJD45H11	8	80	–	5	20	60	–	2	1	–	1	8	0.4
KSH2955	10	60	70	5	20	20	100	4	4	–	1.1	4	0.4
MJD2955	10	60	70	5	20	20	100	4	4	–	1.1	4	0.4
<b>TO-263(D<sup>2</sup>PAK) PNP Configuration</b>													
KSB834W	3	60	60	7	30	60	200	0.5	–	0.5	1	3	0.3

## Bipolar Power Transistors – Horizontal Deflection Output Transistors

Products	V <sub>CBO</sub> (V)	V <sub>CEO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE (sat)</sub>				t <sub>STG</sub> (μs)	t <sub>F</sub> (μs)
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)		
<b>TO-220F NPN Configuration</b>															
FJPF6806D	1500	750	6	6	40	4	7	4	5	–	5	4	1	3	0.2
<b>TO-264 NPN Configuration</b>															
FJL6820	1500	750	6	20	200	6	9	11	5	–	3	11	2.75	3	0.2
FJL6825	1500	750	6	25	200	6	9	12	5	–	3	12	3	3	0.2
FJL6920	1700	800	6	20	200	6	9	11	5	–	3	11	2.75	3	0.2
<b>TO-3PF NPN Configuration</b>															
BU508AF	1500	700	5	5	60	2	–	4.5	5	–	1	4.5	2	–	–
FJAF6806D	1500	750	6	6	50	4	7	4	5	–	5	4	1	3	0.2
FJAF6808D	1500	750	6	8	50	5	8	5	5	–	5	5	1.2	3	0.2
FJAF6810	1500	750	6	10	60	5	8	6	5	–	3	6	1.5	3	0.2
FJAF6810D	1500	750	6	10	60	5	8	6	5	–	3	6	1.5	3	0.2
FJAF6812	1500	750	6	12	60	5	8	8	5	–	3	8	2	3	0.2
FJAF6815	1500	750	6	15	60	5	8	10	5	–	3	10	2.5	3	0.2
FJAF6820	1500	750	6	20	60	6	9	11	5	–	3	11	2.75	3	0.2
FJAF6910	1700	800	6	10	60	7	10	6	5	–	3	6	1.5	4	0.3
FJAF6916	1700	800	6	16	60	6	9	8.5	5	–	3	10	2.5	4	0.3
FJAF6920	1700	800	6	20	60	6	9	11	5	–	3	11	2.75	3	0.2

## Bipolar Power Transistors – Switching Transistors

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)				t <sub>STG</sub> (μs)	t <sub>F</sub> (μs)
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)		
<b>TO-126 NPN Configuration</b>															
KSC2752	400	500	7	0.5	10	20	80	0.05	5	–	1	0.3	0.06	2.5	1
<b>FJE3303</b>	400	700	9	1.5	20	8	21	0.5	2	–	0.5	0.5	0.1	4	0.7
KSE13003	400	700	9	1.5	20	8	40	0.5	2	–	0.5	0.5	0.1	4	0.7
<b>FJE5304D</b>	400	700	12	4	30	8	40	2	5	–	0.7	0.5	0.1	–	–
KSE5020	500	800	7	3	30	15	50	0.3	5	–	1	1.5	0.3	3	0.3
KSC5026M	800	1100	7	1.5	20	10	40	0.1	5	–	2	0.75	0.15	3	0.3
<b>TO-126 PNP Configuration</b>															
KSA1156	400	400	7	0.5	10	30	200	0.1	5	–	1	0.1	0.01	4	1
<b>TO-220 NPN Configuration</b>															
<b>FJP3835</b>	120	200	8	8	50	120	250	3	4	–	0.5	3	0.3	6.68	0.68
KSC2333	400	500	7	2	15	20	80	0.1	5	–	1	0.5	0.1	2.5	1
<b>FJP5304D</b>	400	700	12	4	70	8	40	2	5	–	0.7	0.5	0.1	0.6	0.1
KSE13005	400	700	9	4	75	10	60	1	5	–	0.5	1	0.2	4	0.9
<b>FJP3305</b>	400	700	9	4	75	19	35	1	5	–	0.5	1	0.2	0.9	4
KSC2518	400	500	7	4	40	20	80	0.3	5	–	1	1.5	0.3	2.5	0.7
BUT11	400	850	9	5	100	–	–	–	–	–	1.5	3	0.6	4	0.8
KSC5039	400	800	7	5	70	10	–	0.3	5	–	1.5	2.5	0.5	3	0.8
KSC2335	400	500	7	7	40	20	80	1	5	–	1	3	0.6	2.5	1
BUT12	400	850	–	8	100	–	–	–	–	–	1.5	6	1.2	4	0.8
<b>FJP13007</b>	400	700	9	8	80	8	60	2	5	–	1	2	0.4	3	0.7
<b>FJP13009</b>	400	700	9	12	100	8	40	5	5	–	1	5	1	3	0.7
<b>FJP5355</b>	440	900	12	5	50	15	–	0.01	2	–	0.2	0.8	0.2	1.2	0.4
BUT11A	450	1000	9	5	100	–	–	–	–	–	1.5	2.5	0.5	4	0.8
BUT12A	450	1000	–	8	100	–	–	–	–	–	1.5	6	1.2	4	0.8
KSC5020	500	800	7	3	40	15	50	0.3	5	–	1	1.5	0.3	3	0.3
<b>FJP5021</b>	500	800	7	5	50	15	50	0.6	5	–	1	3	0.6	3	0.3
KSC5321	500	800	7	5	100	15	40	0.6	5	–	1	3	0.6	3	0.3
<b>FJP5321</b>	500	800	7	5	100	15	40	0.6	5	–	1	3	0.6	6.5	0.3
<b>FJP5027</b>	800	1100	7	3	50	10	40	0.2	5	–	2	1.5	0.3	3	0.3
KSC5027	800	1100	7	3	50	10	40	0.2	5	–	2	1.5	0.3	3	0.3
<b>TO-220F NPN Configuration</b>															
<b>FJPF3835</b>	120	200	8	8	30	120	250	3	4	–	0.5	3	0.3	6.68	0.68

**Bipolar Power Transistors – Switching Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	P <sub>C</sub> (W)	h <sub>FE</sub>				V <sub>CE</sub> (sat)				t <sub>STG</sub> (μs)	t <sub>F</sub> (μs)
						Min	Max	@I <sub>C</sub> (A)	@V <sub>CE</sub> (V)	Typ (V)	Max (V)	@I <sub>C</sub> (A)	@I <sub>B</sub> (A)		
KSC3569	400	500	7	2	15	20	80	0.1	5	–	1	0.5	0.1	2.5	1
KSE13005F	400	700	9	4	30	10	60	1	5	–	0.5	1	0.2	4	0.9
<b>FJPF3305</b>	400	700	9	4	30	19	35	1	5	–	0.5	1	0.2	0.9	4
BUT11F	400	850	9	5	40	–	–	–	–	–	1.5	3	0.6	4	0.8
KSC5039F	400	800	7	5	30	10	–	0.3	5	–	1.5	2.5	0.5	3	0.8
<b>FJPF13007</b>	400	700	9	8	40	8	60	2	5	–	1	2	0.4	3	0.7
<b>FJPF13009</b>	400	700	9	12	50	8	40	5	5	–	1	5	1	3	0.7
BUT11AF	450	1000	9	5	40	–	–	–	–	–	1.5	2.5	0.5	4	0.8
<b>FJPF5021</b>	500	800	7	5	40	15	50	0.6	5	–	1	3	0.6	3	0.3
<b>FJPF5321</b>	500	800	7	5	40	15	40	0.6	5	–	1	3	0.6	6.5	0.3
<b>FJPF5027</b>	800	1100	7	3	40	10	40	0.2	5	–	2	1.5	0.3	3	0.3
KSC5027F	800	1100	7	3	40	10	40	0.2	5	–	2	1.5	0.3	3	0.3
KSC5367F	800	1600	12	3	40	12	35	0.4	3	–	2.5	0.25	0.025	2.2	0.5
<b>TO-263(D<sup>2</sup>PAK) NPN Configuration</b>															
KSC5338DW	450	1000	12	5	75	15	–	0.8	1	0.35	0.5	0.8	0.08	2.2	0.15
<b>TO-3P NPN Configuration</b>															
<b>FJPF3835</b>	120	200	8	8	30	120	250	3	4	–	0.5	3	0.3	6.68	0.68
<b>FJA13009</b>	400	700	9	12	130	8	40	5	5	–	1	5	1	3	0.7
KSC2751	400	500	7	15	120	15	80	2	5	0.3	1	10	2	2.5	0.7
KSC5024	500	800	7	10	90	15	50	0.8	5	–	1	4	0.8	3	0.3
KSC5025	500	800	7	15	100	15	50	1.2	5	–	1	6	1.2	3	0.3
KKSC3552	800	1100	7	12	150	10	40	0.8	5	–	2	6	1.2	3	0.3
<b>TO-92 NPN Configuration</b>															
<b>FJN3303</b>	400	700	9	1.5	1.1	8	21	0.5	2	–	0.5	0.5	0.1	4	0.7
FJN13003	400	700	9	1.5	1.1	9	21	0.5	2	–	0.5	0.5	0.1	4	0.7



## Small Signal Transistors – Darlington Transistors

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$	$h_{FE}$				$V_{CE(sat)}$			
				Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	Max (V)	@ $I_C$ (mA)	@ $I_B$ (mA)	
<b>SOT-223 NPN Configuration</b>												
PZTA29	–	100	12	–	10000	–	5	100	1.5	100	0.1	
PZTA27	–	60	10	0.8	10000	–	5	100	1.5	100	0.1	
NZT605	11	140	10	1.5	5000	–	5	500	1.5	1000	1	
PZTA14	30	30	10	1.2	20000	–	5	100	1.5	100	0.1	
BSP50	45	60	5	0.8	2000	–	10	500	1.3	500	50	
BSP51	60	80	5	–	2000	–	10	500	1.3	500	50	
BSP52	80	90	5	0.8	2000	–	10	500	1.3	500	50	
PZTA28	80	80	12	0.8	10000	–	5	100	1.5	100	0.1	
NZT7053	100	100	12	1.5	1000	20000	5	1000	1.5	100	0.1	
<b>SOT-223 PNP Configuration</b>												
PZTA64	30	30	10	1.2	20000	–	5	100	1.5	100	0.1	
<b>SOT-23 NPN Configuration</b>												
KST13	30	30	10	0.3	10000	–	5	100	1.5	100	0.1	
KST14	30	30	10	0.3	20000	–	5	100	1.5	100	0.1	
MMBTA13	30	30	10	1.2	10000	–	5	100	1.5	100	0.1	
BCV27	30	40	10	1.2	20000	–	5	100	1	100	0.1	
MMBTA14	30	30	10	1.2	20000	–	5	100	1.5	100	0.1	
MMBT6427	40	40	12	1.2	20000	200000	5	100	1.5	500	0.5	
<b>SOT-23 PNP Configuration</b>												
KST63	30	30	10	0.5	10000	–	5	100	1.5	100	0.1	
KST64	30	30	10	0.5	20000	–	5	100	1.5	100	0.1	
MMBTA63	30	30	10	1.2	10000	–	5	100	1.5	100	0.1	
BCV26	30	40	10	1.2	20000	–	5	100	1	100	0.1	
MMBTA64	30	30	10	1.2	20000	–	5	100	1.5	100	0.1	
<b>SuperSOT NPN Configuration</b>												
MMBTA28	80	80	12	0.8	10000	–	5	100	1.5	100	0.1	
<b>TO-226 NPN Configuration</b>												
TN6725A	50	60	12	1.2	4000	40000	5	1000	1.5	1000	2	
2N7053	100	100	12	1.5	1000	20000	5	1000	1.5	100	0.1	
<b>TO-92 NPN Configuration</b>												
KSP12	20	20	10	–	20000	–	5	10	1	10	0.01	
MPSA12	20	20	10	1.2	20000	–	5	10	1	10	0.01	
2N5306	25	25	12	1.2	7000	70000	5	2	1.4	200	0.2	
KSP13	30	30	10	0.5	10000	–	5	100	1.5	100	0.1	

**Small Signal Transistors – Darlington Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
KSP14	30	30	10	0.5	20000	–	5	100	1.5	100	0.1
MPSA13	30	30	10	1.2	10000	–	5	100	1.5	100	0.1
MPSA14	30	30	10	1.2	20000	–	5	100	1.5	100	0.1
BC517	40	30	10	–	30000	–	2	20	1	100	10
KSP25	40	40	10	0.5	10000	–	5	100	1.5	100	0.1
2N5307	40	40	12	1.2	2000	20000	5	2	1.4	200	0.2
2N5308	40	40	12	1.2	7000	70000	5	2	1.4	200	0.2
2N6427	40	40	12	1.2	20000	200000	5	100	1.5	500	0.5
2N6426	40	40	12	1.2	30000	300000	5	100	1.5	500	0.5
BSR50	45	60	5	–	1000	–	10	150	1.3	500	0.5
KSP26	50	50	10	0.5	10000	–	5	100	1.5	100	0.1
KSP27	60	60	10	0.5	10000	–	5	100	1.5	100	0.1
MPSA27	60	60	10	0.8	10000	–	5	100	1.5	100	10
MPSA28	80	80	12	0.8	10000	–	5	100	1.5	100	0.1
MPSA29	100	100	12	0.8	10000	–	5	100	1.5	100	0.1
2N7051	100	100	12	1.5	1000	20000	5	1000	1.5	100	0.1
2N7052	100	100	12	1.5	1000	20000	5	1000	1.5	100	0.1
<b>TO-92 PNP Configuration</b>											
MPSA77	–	60	10	1.2	10000	–	5	100	1.5	100	0.1
KSP62	20	20	10	0.5	20000	–	5	10	1	10	0.01
KSP63	30	30	10	0.5	10000	–	5	100	1.5	100	0.1
KSP64	30	30	10	0.5	20000	–	5	100	1.5	100	0.1
BC516	30	40	10	1	30000	–	2	20	1	100	0.1
MPSA63	30	30	10	1.2	10000	–	5	100	1.5	100	0.1
MPSA64	30	30	10	1.2	20000	–	5	100	1.5	100	0.1
MPSA65	30	30	10	1.2	20000	–	5	100	1.5	100	0.1
KSP75	40	40	10	0.5	10000	–	5	100	1.5	100	0.1
KSP76	50	50	10	0.5	10000	–	5	100	1.5	100	0.1
KSP77	60	60	10	0.5	10000	–	5	100	1.5	100	0.1

## Small Signal Transistors – Digital Transistors

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	R <sub>1</sub> (KΩ)	R <sub>2</sub> (KΩ)	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)			Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
<b>SOT-23 NPN Configuration</b>													
FJV3109R	40	40	5	0.1	4.7	–	100	600	5	1	0.3	10	1
FJV3110R	40	40	5	0.1	10	–	100	600	5	1	0.3	10	1
FJV3112R	40	40	5	0.1	47	–	100	600	5	1	0.3	10	1
FJV3101R	50	50	10	0.1	4.7	4.7	20	–	5	10	0.3	10	0.5
FJV3102R	50	50	10	0.1	10	10	30	–	5	10	0.3	10	0.5
FJV3103R	50	50	10	0.1	22	22	56	–	5	5	0.3	10	0.5
FJV3104R	50	50	10	0.1	47	47	68	–	5	5	0.3	10	0.5
FJV3105R	50	50	10	0.1	4.7	4.7	30	–	5	5	0.3	10	0.5
FJV3106R	50	50	10	0.1	10	47	68	–	5	5	0.3	10	0.5
FJV3107R	50	50	10	0.1	22	47	68	–	5	5	0.3	10	0.5
FJV3108R	50	50	10	0.1	47	22	56	–	5	5	0.3	10	0.5
FJV3113R	50	50	10	0.1	2.2	47	68	–	5	5	0.3	10	0.5
FJV3114R	50	50	10	0.1	4.7	47	68	–	5	5	0.3	10	0.5
FJV3115R	50	50	10	0.1	2.2	10	33	–	5	10	0.3	10	0.5
<b>SOT-23 PNP Configuration</b>													
FJV3111R	40	40	5	0.1	22	–	100	600	5	1	0.3	10	1
FJV4109R	40	40	5	0.1	4.7	–	100	600	5	1	0.3	10	1
FJV4110R	40	40	5	0.1	10	–	100	600	5	1	0.3	10	1
FJV4111R	40	40	5	0.1	22	–	100	600	5	1	0.3	10	10
FJV4112R	40	40	5	0.1	47	–	100	600	5	1	0.3	10	1
FJV4101R	50	50	10	0.1	4.7	4.7	20	–	5	10	0.3	10	0.5
FJV4102R	50	50	10	0.1	10	10	30	–	5	5	0.3	10	0.5
FJV4103R	50	50	10	0.1	22	22	56	–	5	5	0.3	10	0.5
FJV4104R	50	50	10	0.1	47	47	68	–	5	5	0.3	10	0.5
FJV4105R	50	50	10	0.1	4.7	10	30	–	5	5	0.3	10	0.5
FJV4106R	50	50	10	0.1	10	47	68	–	5	5	0.3	10	0.5
FJV4107R	50	50	10	0.1	22	47	68	–	5	5	0.3	10	0.5
FJV4108R	50	50	10	0.1	47	22	56	–	5	5	0.3	10	0.5
FJV4113R	50	50	10	0.1	2.2	47	68	–	5	5	0.3	10	0.5
FJV4114R	50	50	10	0.1	4.7	47	68	–	5	5	0.3	10	0.5
<b>SOT-323 NPN Configuration</b>													
FJX3009R	40	40	5	0.1	4.7	–	100	600	5	1	0.3	10	1
FJX3010R	40	40	5	0.1	10	–	100	600	5	1	0.3	10	1
FJX3011R	40	40	5	0.1	22	–	100	600	5	1	0.3	10	1

**Small Signal Transistors – Digital Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	R <sub>1</sub> (KΩ)	R <sub>2</sub> (KΩ)	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)			Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
FJX3012R	40	40	5	0.1	47	–	100	600	5	1	0.3	10	1
FJX3001R	50	50	10	0.1	4.7	4.7	20	–	5	10	0.3	10	0.5
FJX3002R	50	50	10	0.1	10	10	30	–	5	5	0.3	10	0.5
FJX3003R	50	50	10	0.1	22	22	56	–	5	5	0.3	10	0.5
FJX3004R	50	50	10	0.1	47	47	68	–	5	5	0.3	10	0.5
FJX3005R	50	50	10	0.1	4.7	10	30	–	5	5	0.3	10	0.5
FJX3006R	50	50	10	0.1	10	47	68	–	5	5	0.3	10	0.5
FJX3007R	50	50	10	0.1	22	47	68	–	5	5	0.3	10	0.5
FJX3008R	50	50	10	0.1	47	22	56	–	5	5	0.3	10	0.5
FJX3013R	50	50	10	0.1	2.2	47	68	–	5	5	0.3	10	0.5
FJX3014R	50	50	10	0.1	4.7	47	68	–	5	5	0.3	10	0.5
FJX3015R	50	50	10	0.1	2.2	10	33	–	5	10	0.3	10	0.5
<b>SOT-323 PNP Configuration</b>													
FJX4009R	40	40	5	0.1	4.7	–	100	600	5	1	0.3	10	1
FJX4010R	40	40	5	0.1	10	–	100	600	5	1	0.3	10	1
FJX4011R	40	40	5	0.1	22	–	100	600	5	1	0.3	10	1
FJX4012R	40	40	5	0.1	47	–	100	600	5	1	0.3	10	1
FJX4001R	50	50	10	0.1	4.7	4.7	20	–	5	10	0.3	10	0.5
FJX4002R	50	50	10	0.1	10	10	30	–	5	10	0.3	10	0.5
FJX4003R	50	50	10	0.1	22	22	56	–	5	5	0.3	10	0.5
FJX4004R	50	50	10	0.1	47	47	68	–	5	5	0.3	10	0.5
FJX4005R	50	50	10	0.1	4.7	10	30	–	5	5	0.3	10	0.5
FJX4006R	50	50	10	0.1	10	47	68	–	5	5	0.3	10	0.5
FJX4007R	50	50	10	0.1	22	47	68	–	5	5	0.3	10	0.5
FJX4008R	50	50	10	0.1	47	22	56	–	5	5	0.3	10	0.5
FJX4013R	50	50	10	0.1	2.2	47	68	–	5	5	0.3	10	0.5
FJX4014R	50	50	10	0.1	4.7	47	68	–	5	5	0.3	10	0.5
<b>TO-92 NPN Configuration</b>													
FJN3309R	40	40	5	0.1	4.7	–	100	600	5	1	0.3	10	1
FJN3310R	40	40	5	0.1	10	–	100	600	5	1	0.3	10	1
FJN3312R	40	40	5	0.1	47	–	100	600	5	1	0.3	10	1
FJN3301R	50	50	10	0.1	4.7	4.7	20	–	5	10	0.3	10	0.5
FJN3302R	50	50	10	0.1	10	10	30	–	5	10	0.3	10	0.5
FJN3303R	50	50	10	0.1	22	22	56	–	5	5	0.3	10	0.5
FJN3304R	50	50	10	0.1	47	47	68	–	5	5	0.3	10	0.5

**Small Signal Transistors – Digital Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	R <sub>1</sub> (KΩ)	R <sub>2</sub> (KΩ)	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
							Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
FJN3305R	50	50	10	0.1	4.7	4.7	30	–	5	5	0.3	10	0.5
FJN3306R	50	50	10	0.1	10	47	68	–	5	5	0.3	10	0.5
FJN3307R	50	50	10	0.1	22	47	68	–	5	5	0.3	10	0.5
FJN3308R	50	50	10	0.1	47	22	56	–	5	5	0.3	10	0.5
FJN3313R	50	50	10	0.1	2.2	47	68	–	5	5	0.3	10	0.5
FJN3314R	50	50	10	0.1	4.7	47	68	–	5	5	0.3	10	0.5
FJN3315R	50	50	10	0.1	2.2	10	33	–	5	10	0.3	10	0.5
<b>TO-92 PNP Configuration</b>													
FJN3311R	40	40	5	0.1	22	–	100	600	5	1	0.3	10	1
FJN4309R	40	40	5	0.1	4.7	–	100	600	5	1	0.3	10	1
FJN4310R	40	40	5	0.1	10	–	100	600	5	1	0.3	10	1
FJN4311R	40	40	5	0.1	22	–	100	600	5	1	0.3	10	10
FJN4312R	40	40	5	0.1	47	–	100	600	5	1	0.3	10	1
FJN4301R	50	50	10	0.1	4.7	4.7	20	–	5	10	0.3	10	0.5
FJN4302R	50	50	10	0.1	10	10	30	–	5	5	0.3	10	0.5
FJN4303R	50	50	10	0.1	22	22	56	–	5	5	0.3	10	0.5
FJN4304R	50	50	10	0.1	47	47	68	–	5	5	0.3	10	0.5
FJN4305R	50	50	10	0.1	4.7	10	30	–	5	5	0.3	10	0.5
FJN4306R	50	50	10	0.1	10	47	68	–	5	5	0.3	10	0.5
FJN4307R	50	50	10	0.1	22	47	68	–	5	5	0.3	10	0.5
FJN4308R	50	50	10	0.1	47	22	56	–	5	5	0.3	10	0.5
FJN4313R	50	50	10	0.1	2.2	47	68	–	5	5	0.3	10	0.5
FJN4314R	50	50	10	0.1	4.7	47	68	–	5	5	0.3	10	0.5
<b>TO-92S NPN Configuration</b>													
FJNS3209R	40	40	5	0.1	4.7	–	100	600	5	1	0.3	10	1
FJNS3210R	40	40	5	0.1	10	–	100	600	5	1	0.3	10	1
FJNS3212R	40	40	5	0.1	47	–	100	600	5	1	0.3	10	1
FJNS3201R	50	50	10	0.1	4.7	4.7	20	–	5	10	0.3	10	0.5
FJNS3202R	50	50	10	0.1	10	10	30	–	5	10	0.3	10	0.5
FJNS3203R	50	50	10	0.1	22	22	56	–	5	5	0.3	10	0.5
FJNS3204R	50	50	10	0.1	47	47	68	–	5	5	0.3	10	0.5
FJNS3205R	50	50	10	0.1	4.7	4.7	30	–	5	5	0.3	10	0.5
FJNS3206R	50	50	10	0.1	10	47	68	–	5	5	0.3	10	0.5
FJNS3207R	50	50	10	0.1	22	47	68	–	5	5	0.3	10	0.5
FJNS3208R	50	50	10	0.1	47	22	56	–	5	5	0.3	10	0.5

**Small Signal Transistors – Digital Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	R <sub>1</sub> (KΩ)	R <sub>2</sub> (KΩ)	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)			Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
FJNS3213R	50	50	10	0.1	2.2	47	68	–	5	5	0.3	10	0.5
FJNS3214R	50	50	10	0.1	4.7	47	68	–	5	5	0.3	10	0.5
FJNS3215R	50	50	10	0.1	2.2	10	33	–	5	10	0.3	10	0.5
<b>TO-92S PNP Configuration</b>													
FJNS3211R	40	40	5	0.1	22	–	100	600	5	1	0.3	10	1
FJNS4209R	40	40	5	0.1	4.7	–	100	600	5	1	0.3	10	1
FJNS4210R	40	40	5	0.1	10	–	100	600	5	1	0.3	10	1
FJNS4211R	40	40	5	0.1	22	–	100	600	5	1	0.3	10	10
FJNS4212R	40	40	5	0.1	47	–	100	600	5	1	0.3	10	1
FJNS4201R	50	50	10	0.1	4.7	4.7	20	–	5	10	0.3	10	0.5
FJNS4202R	50	50	10	0.1	10	10	30	–	5	5	0.3	10	0.5
FJNS4203R	50	50	10	0.1	22	22	56	–	5	5	0.3	10	0.5
FJNS4204R	50	50	10	0.1	47	47	68	–	5	5	0.3	10	0.5
FJNS4205R	50	50	10	0.1	4.7	10	30	–	5	5	0.3	10	0.5
FJNS4206R	50	50	10	0.1	10	47	68	–	5	5	0.3	10	0.5
FJNS4207R	50	50	10	0.1	22	47	68	–	5	5	0.3	10	0.5
FJNS4208R	50	50	10	0.1	47	22	56	–	5	5	0.3	10	0.5
FJNS4213R	50	50	10	0.1	2.2	47	68	–	5	5	0.3	10	0.5
FJNS4214R	50	50	10	0.1	4.7	47	68	–	5	5	0.3	10	0.5

## Small Signal Transistors – General Purpose Transistors

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$	$h_{FE}$				$V_{CE(sat)}$			
					Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	Max (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
<b>SOT-223 NPN Configuration</b>												
BCP68	20	30	5	1	85	375	1	500	0.5	1	100	
FZT649	25	35	5	3	100	300	2	1000	0.6	3000	300	
NZT6714	30	40	5	2	50	250	1	1000	0.5	1000	100	
PZT3904	40	60	6	0.2	100	300	1	10	0.3	50	5	
PZT2222A	40	75	6	1	100	300	10	150	1	500	50	
NZT6715	40	50	5	1.5	50	250	1	1000	0.5	1000	100	
BCP54	45	45	5	1.5	40	250	2	150	0.5	500	50	
BCP55	60	60	5	1.5	40	250	2	150	0.5	500	50	
NZT560A	60	80	5	3	250	550	2	500	0.4	3000	300	
NZT560	60	80	5	3	100	300	2	500	0.45	3000	300	
NZT651	60	80	5	4	75	–	2	500	0.5	2000	200	
NZT44H8	60	–	–	8	60	–	1	2	1	8000	400	
FZT3019	80	140	7	–	50	–	10	1	0.2	150	15	
PZTA06	80	80	4	0.5	100	–	1	100	0.25	100	10	
NZT6717	80	800	5	1.2	50	250	1	250	0.35	250	10	
BCP56	80	100	5	1.2	40	250	2	150	0.5	500	50	
PZTA42	300	300	6	0.5	40	–	10	30	0.5	20	2	
FJT44	400	500	6	0.3	50	200	10	10	0.75	50	5	
<b>SOT-223 PNP Configuration</b>												
BCP69	20	30	5	1	85	375	1	500	0.5	1	100	
FZT749	25	35	5	3	100	300	2	1000	0.6	3000	300	
NZT6726	30	40	5	1.5	50	250	1	1000	0.5	1000	100	
NZT6727	40	50	5	–	50	250	1	1000	0.5	1000	100	
PZT3906	40	40	5	0.2	100	300	1	10	0.4	50	5	
FZT790A	40	50	5	3	300	80	2	10	0.3	1000	100	
BCP51	45	45	5	–	40	250	2	150	0.5	500	50	
PZT2907A	60	60	5	0.8	100	300	10	150	1.6	500	50	
BCP52	60	60	5	1.2	40	250	2	150	0.5	500	50	
NZT6728	60	60	5	1.2	50	250	1	250	0.5	250	10	
NZT660A	60	80	5	3	250	550	2	500	0.5	3000	300	
NZT660	60	80	5	3	100	300	2	500	0.55	3000	300	
NZT749	60	80	5	4	75	–	2	500	0.5	2000	200	
NZT751	60	80	5	4	75	–	2	500	0.5	2000	200	
NZT45H8	60	–	–	8	60	–	1	2	1	8000	400	

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
PZTA56	80	80	4	0.5	100	–	1	100	0.25	100	10
NZT6729	80	80	5	1	50	250	1	250	0.5	250	10
BCP53	80	100	5	1.2	40	250	2	150	0.5	500	50
NZT753	100	120	5	–	100	300	2	500	0.3	1000	100
PZTA92	300	300	5	0.5	40	–	10	10	0.5	20	2
<b>SOT-23 NPN Configuration</b>											
BSV52	12	20	5	0.2	40	120	1	10	0.4	50	5
MMBT2369	15	40	4	–	40	120	1	10	0.25	10	1
MMBT2369A	15	40	4	0.2	40	120	1	10	0.5	100	10
MMBT3646	15	40	5	0.3	30	120	0.4	30	0.5	300	30
BCX20	20	30	5	–	100	600	1	100	0.62	500	50
MMBT6515	25	40	4	–	250	500	10	2	0.5	50	5
KST5089	25	30	4	0.05	400	1200	5	0.1	0.5	10	1
MMBT5089	25	30	4	0.1	400	1200	5	0.1	0.5	10	1
KST4124	25	30	5	0.2	120	360	1	2	0.3	50	5
MMBT4124	25	30	5	0.2	120	360	1	2	0.3	50	5
KSC3265	25	30	5	0.8	100	320	1	100	0.4	500	20
BC818	25	30	5	0.8	100	630	1	100	0.7	500	50
MMBT2222	30	60	5	–	35	–	10	0.1	0.4	150	15
BSR13	30	60	5	–	100	300	10	150	1.6	500	50
KST5088	30	35	4	0.05	300	900	5	0.1	0.5	10	1
MMBT5088	30	35	4	0.1	300	900	5	0.1	0.5	10	1
BC848	30	30	5	0.1	110	800	5	2	0.6	100	5
BC849	30	30	5	0.1	110	800	5	2	0.6	100	5
KST4123	30	40	5	0.2	50	150	1	2	0.3	50	5
KSC2859	30	35	5	0.5	70	240	1	100	0.25	100	10
BCW60A	32	32	5	0.1	120	220	5	2	0.55	50	1.25
BCW60B	32	32	5	0.1	180	310	5	2	0.55	50	1.25
BCW60C	32	32	5	0.1	250	460	5	2	0.55	50	1.25
BCW60D	32	32	5	0.1	380	630	5	2	0.55	50	1.25
BCW31	32	32	5	0.5	110	220	5	2	0.25	10	0.5
BCW32	32	32	5	0.5	200	450	5	2	0.25	10	0.5
BCW33	32	32	5	0.5	420	800	5	2	0.25	10	0.5
BCW65C	32	60	5	1	250	630	1	100	0.7	500	50
BSS79C	40	75	6	–	100	300	10	150	0.3	150	15



**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
BSR17A	40	60	6	0.2	100	300	1	10	0.3	50	5
KST3904	40	60	6	0.2	100	300	1	10	0.3	50	5
MMBT3904	40	60	6	0.2	100	300	1	10	0.3	50	5
KST4401	40	60	6	0.6	100	300	1	150	0.75	500	50
MMBT4400	40	60	6	0.6	50	150	1	150	0.75	500	50
MMBT4401	40	60	6	0.6	100	300	1	150	0.75	500	50
KST2222A	40	75	6	0.6	100	300	10	150	1	500	50
BSR14	40	75	6	0.8	100	300	10	150	1	500	50
MMBT2222A	40	75	6	1	100	300	10	150	1	500	50
MMBT5962	45	45	8	0.1	600	1400	5	10	0.2	10	0.5
BC847	45	50	6	0.1	110	800	5	2	0.6	100	5
BC850	45	50	5	0.1	110	800	5	2	0.6	100	5
BCX70G	45	45	5	0.2	120	220	5	2	0.55	50	1.25
BCX70H	45	45	5	0.2	180	310	5	2	0.55	50	1.25
BCX70J	45	45	5	0.2	250	460	5	2	0.55	50	1.25
BCX70K	45	45	5	0.2	380	630	5	2	0.55	50	1.25
BCW71	45	50	5	0.5	110	220	5	2	0.25	10	0.5
MMBT100	45	75	6	0.5	100	450	1	10	0.4	200	20
MMBT100A	45	75	6	0.5	300	600	1	10	0.4	200	20
BCX19	45	50	5	0.5	100	600	1	100	0.62	500	50
BC817	45	50	5	0.8	100	630	1	100	0.7	500	50
BCW66G	45	75	5	1	160	400	1	100	0.7	500	50
KSC1623	50	60	5	0.1	90	600	6	1	0.3	100	10
MMBT3416	50	50	5	0.5	75	225	4.5	2	0.3	50	3
MMBT6428	50	60	3	0.5	250	650	5	0.1	0.6	100	5
MMBT5210	50	50	4	0.5	200	600	5	0.1	0.7	10	1
BCV71	60	80	5	–	110	220	5	2	0.25	10	1
MMBTA05	60	60	4	–	50	–	1	10	0.25	100	10
KST2484	60	60	6	0.05	–	800	5	10	0.35	1	0.1
MMBT2484	60	60	5	0.1	100	500	5	0.01	0.35	1	0.1
KST05	60	60	4	0.5	50	–	1	100	0.25	100	10
BC846	65	80	6	0.1	110	800	5	2	0.6	100	5
KST06	80	80	4	0.5	50	–	1	100	0.25	100	10
MMBTA06	80	80	4	0.5	100	–	1	10	0.25	100	10
BSS64	80	120	5	200	20	–	1	10	0.2	50	15

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
FJV1845	120	120	5	0.05	200	1200	6	1	0.3	10	1
KST5550	140	160	6	0.6	60	250	5	10	0.25	50	5
<b>MMBT5550</b>	150	160	6	0.6	60	250	5	10	0.25	50	5
KST5551	160	180	6	0.6	80	250	5	10	0.2	50	5
MMBT5551	160	180	6	0.6	80	250	5	10	0.2	50	5
KST43	200	200	6	0.5	40	–	10	30	0.5	20	2
KST42	300	300	6	0.5	40	–	10	30	0.5	20	2
MMBTA42	300	300	6	0.5	40	–	10	30	0.5	20	2
<b>SOT-23 PNP Configuration</b>											
MMBT3640	12	12	4	0.2	30	120	0.3	10	0.6	50	5
MMBT5771	15	15	4	0.2	50	120	0.3	10	0.6	50	5
KST4126	25	25	4	0.2	120	360	1	2	0.4	50	5
MMBT4126	25	25	4	0.2	120	360	1	2	0.4	50	5
MMBT3702	25	40	5	0.8	60	300	5	50	0.25	50	5
KSA1298	25	30	5	0.8	100	320	1	100	0.4	500	20
BC808	25	30	5	0.8	100	630	1	100	0.7	500	50
BC858	30	30	5	0.1	110	800	5	2	0.65	100	5
BC859	30	30	5	0.1	110	800	5	2	0.65	100	5
KST4125	30	30	4	0.2	50	150	1	2	0.4	50	5
KSA1182	30	35	5	0.5	70	240	1	100	0.25	100	10
BCW61A	32	32	5	0.1	120	220	5	2	0.55	50	1.25
BCW61B	32	32	5	0.1	140	310	5	2	0.55	50	1.25
BCW61C	32	32	5	0.1	250	460	5	2	0.55	50	1.25
BCW61D	32	32	5	0.1	380	630	5	2	0.55	50	1.25
BCW30	32	32	5	0.5	215	500	5	2	0.3	10	0.5
BSR18A	40	40	5	0.2	100	300	1	10	0.4	50	5
KST3906	40	40	5	0.2	100	300	1	10	0.4	50	5
MMBT3906	40	40	5	0.2	100	300	1	10	0.4	50	5
BSR18B	40	40	5	0.5	110	220	1	10	0.4	50	5
KST4403	40	40	5	0.6	100	300	2	150	0.75	500	50
MMBT4403	40	40	5	0.6	100	300	2	150	0.75	500	50
BSR15	40	60	5	0.8	100	300	10	150	1.6	500	50
MMBT2907	40	60	5	0.8	100	300	10	150	1.6	500	50
BCW69	45	50	5	–	120	260	5	2	0.3	10	1
BCX71G	45	45	5	0.1	120	220	5	2	0.55	50	1.25

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
BCX71J	45	45	5	0.1	250	460	5	2	0.55	50	1.25
BC857	45	50	5	0.1	110	800	5	2	0.65	100	5
BC860	45	50	5	0.1	110	800	5	2	0.65	100	5
MMBT200	45	60	6	0.5	100	450	1	10	0.4	200	20
MMBT200A	45	60	6	0.5	300	600	1	10	0.4	200	20
BCX71K	45	45	5	0.5	380	630	5	2	0.55	50	1.25
BCX17	45	50	5	0.5	100	600	1	100	0.62	500	50
BC807	45	50	5	0.8	100	630	1	100	0.7	500	50
BCW68G	45	60	5	0.8	160	400	1	100	1.5	300	30
KST5086	50	50	3	0.05	150	500	5	0.1	0.3	10	1
KST5087	50	50	3	0.05	250	800	5	0.1	0.3	10	1
KSA812	50	60	5	0.1	90	600	6	1	0.3	100	10
MMBT5087	50	50	3	0.1	250	800	5	0.1	0.3	10	1
KST55	60	60	4	0.5	50	–	1	10	0.25	100	10
MMBTA55	60	60	4	0.5	100	–	1	10	0.25	100	10
BCW89	60	80	5	0.5	120	260	5	2	0.3	10	1
KST2907A	60	60	5	0.6	100	300	10	150	1.6	500	50
MMBT4354	60	60	5	0.8	50	500	10	100	0.15	150	15
MMBT4355	60	60	5	0.8	100	400	10	10	1	1000	100
BSR16	60	60	5	0.8	100	300	10	150	1.6	500	50
MMBT2907A	60	60	5	0.8	100	300	10	150	1.6	500	50
BC856	65	80	5	0.1	110	800	5	2	0.65	100	5
KST56	80	80	4	0.5	50	–	1	10	0.25	100	10
MMBTA56	80	80	4	0.5	100	–	1	100	0.25	100	10
MMBT4356	80	80	5	0.8	50	250	10	10	0.15	150	15
BSS63	100	110	6	0.2	30	–	1	25	0.25	25	2.5
FJV992	120	120	5	0.05	200	800	6	1	0.3	10	1
KST5401	150	160	5	0.5	60	240	5	10	0.5	50	5
MMBT5401	150	160	5	0.6	60	240	5	10	0.5	50	5
KST93	200	200	5	0.5	40	–	10	10	0.5	20	2
KST92	300	300	5	0.5	40	–	10	10	0.5	20	2
MMBTA92	300	300	5	0.5	40	–	10	10	0.5	20	2
<b>SOT-323 NPN Configuration</b>											
FJX3904	40	60	6	0.2	100	300	1	10	0.3	50	5
FJX2222A	40	75	6	0.6	100	300	10	150	1	500	50

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
FJX945	50	60	5	0.15	70	700	6	1	0.3	100	10
<b>SOT-323 PNP Configuration</b>											
FJX1182	30	35	5	0.5	70	240	1	100	0.25	100	10
FJX3906	40	40	5	0.2	100	300	1	10	0.4	50	5
DS901902	50	60	5	0.15	40	700	6	1	0.3	20	2
FJX2907A	60	60	5	0.6	100	300	10	150	1.6	500	50
<b>SOT-623F NPN Configuration</b>											
FJZ945	50	60	5	0.15	70	700	6	1	0.3	100	10
<b>SOT-623F PNP Configuration</b>											
FJZ733	50	60	5	0.15	40	700	6	1	0.3	100	10
<b>SOT-89 NPN Configuration</b>											
KSC2982	10	30	6	2	140	600	1	500	0.5	2000	50
FJC2098	20	50	6	5	120	390	2	500	1	4	100
KSD1621	25	30	6	2	100	560	2	100	0.4	1500	75
KSC2883	30	30	5	1.5	100	320	2	500	2	1500	30
FJC1963	30	50	6	3	120	560	2	500	0.45	1500	150
<b>FJC690</b>	45	45	5	2	500	–	2	100	0.08	100	0.5
KSC2881	120	120	5	0.8	80	240	5	100	1	500	50
<b>SOT-89 PNP Configuration</b>											
<b>FJC790</b>	-40	-50	-5	-2	300	800	-2	-10	-0.25	-500	-5
FJC1386	20	30	6	5	80	390	2	500	1	4	100
KSB798	25	30	5	1	90	400	1	100	0.4	1000	100
KSB1121	25	30	6	2	100	560	2	100	0.6	1500	75
KSA1203	30	30	5	1.5	100	320	2	500	2	1500	30
FJC1308	30	30	6	3	80	390	2	500	0.45	1500	150
KSA1201	120	120	5	0.8	80	240	5	100	1	500	50
<b>SuperSOT NPN Configuration</b>											
FSB649	25	35	5	3	100	300	2	1000	0.6	3000	300
FMMT449	30	50	5	1	100	300	2	500	1	2000	200
FSB619	50	50	5	2	300	–	2	200	0.32	2000	50
FSB560A	60	80	5	2	250	550	2	500	0.3	2000	200
FSB560	60	80	5	2	100	300	2	500	0.35	2000	200
<b>SuperSOT PNP Configuration</b>											
FSB749	25	35	5	3	100	300	2	1000	0.6	3000	300
FMMT549	30	35	5	1	100	300	2	500	0.75	2000	200

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
FSB6726	30	40	5	1.5	50	250	1	1000	0.5	1000	100
FSBCW30	32	32	5	0.5	215	500	5	2	0.3	10	0.5
FSB660A	60	60	5	2	250	550	2	500	0.3	2000	200
FSB660	60	60	5	2	100	300	2	500	0.35	2000	200
<b>TO-220 PNP Configuration</b>											
D45H2A	30	–	–	8	100	–	5	8000	1	8000	400
<b>TO-226 NPN Configuration</b>											
TN6714A	30	40	5	2	50	250	1	1000	0.5	1000	100
FPN530A	30	60	5	3	250	–	2	100	0.25	1000	100
FPN530	30	60	5	3	100	–	2	100	0.3	1000	100
FPN330A	30	50	5	3	250	–	2	100	0.45	1000	100
FPN330	30	50	5	3	100	–	2	100	0.5	1000	100
TN2219A	40	75	6	1	100	300	10	150	1	500	50
MPSW3725	40	60	6	1.2	60	180	1	100	0.95	1000	100
N6715A	40	50	5	1.5	50	250	1	1000	0.5	1000	100
TN6705A	45	60	5	1.5	40	250	2	250	1	1000	100
TN6716A	60	60	5	2	50	250	1	250	0.5	250	10
FPN560A	60	80	5	3	250	550	2	500	0.3	2000	200
FPN560	60	80	5	3	100	300	2	500	0.35	2000	200
TN6707A	80	100	5	–	40	250	2	250	1	1000	100
MPSW06	80	80	4	0.5	100	–	1	100	0.25	100	10
TN3019A	80	140	7	1	100	300	10	150	0.5	500	50
TN6717A	80	80	5	1.2	50	250	1	250	0.35	250	10
ZTX614	100	120	10	–	10000	–	5	500	1.25	800	8
TN6718A	100	100	5	1.2	50	250	1	250	0.5	250	10
TN3440A	250	300	7	0.1	40	160	10	20	0.5	50	4
TN6719A	300	300	7	0.2	40	200	10	30	0.75	30	3
<b>TO-226 PNP Configuration</b>											
ZTX749	25	35	5	2	100	300	2	1000	0.5	2000	200
TN6726A	30	40	5	1.5	50	250	1	1000	0.5	1000	100
FPN430A	30	35	5	2	250	–	2	100	0.45	1000	100
FPN430	30	35	5	2	100	–	2	100	0.5	1000	100
FPN630A	30	35	5	3	250	–	2	100	0.25	1000	100
FPN630	30	35	5	3	100	–	2	100	0.3	1000	100
ZTX749A	35	45	5	2	100	300	2	1000	0.5	2000	200

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
TN6727A	40	50	5	1.5	50	250	1	1000	0.5	1000	100
TN2907A	60	60	5	0.8	100	300	10	150	1.6	500	50
TN6728A	60	60	5	1.2	50	250	1	250	0.5	250	10
FPN660A	60	80	5	3	250	550	2	500	0.4	2000	100
FPN660	60	80	5	3	100	300	2	500	0.45	2000	100
MPSW56	80	80	4	1	100	–	1	50	0.5	250	10
TN4033A	80	80	5	1	100	300	5	100	0.5	500	50
TN6729A	80	80	5	1	50	250	1	250	0.5	250	10
TN5415A	200	200	4	0.1	30	150	10	50	2.5	50	5
<b>TO-92 NPN Configuration</b>											
KSC5019	10	30	6	2	140	600	1	500	0.5	2000	50
PN2369	15	40	4	–	40	120	1	10	0.25	10	1
2N5769	15	40	4	0.2	40	120	0.35	10	0.5	100	10
PN2369A	15	40	4	0.2	40	120	1	10	0.5	100	10
PN4275	15	40	4	0.2	35	120	1	10	0.5	100	10
KSD261	20	40	5	0.5	120	400	1	100	0.4	500	50
SS9013	20	40	5	0.5	64	202	1	50	0.6	500	50
BC368	20	25	5	2	85	375	1	500	0.5	1000	100
FJN5471	20	40	7	5	700	1000	2	500	0.5	3000	100
FJN965	20	40	7	5	230	600	2	500	1	3000	100
KSD5041	20	40	7	5	180	600	2	500	1	3000	100
MPS6514	25	40	4	–	90	300	10	100	0.5	50	5
MPS6515	25	40	4	–	250	500	10	2	0.5	50	5
MPS6521	25	40	4	–	300	600	10	2	0.5	50	5
KSC900	25	30	5	0.05	120	1000	3	0.5	0.2	20	2
2N5089	25	30	4	0.1	400	1200	5	0.1	0.5	10	1
KSP6520	25	40	4	0.1	200	400	10	2	0.5	50	5
KSP6521	25	40	4	0.1	300	600	10	2	0.5	50	5
BC238	25	30	5	0.1	120	800	5	2	0.6	100	5
BC239	25	30	5	0.1	120	800	5	2	0.6	100	5
2N4124	25	30	5	0.2	120	360	1	2	0.3	50	5
KSD227	25	30	5	0.3	70	400	1	50	0.4	300	30
2N3390	25	25	5	0.5	400	800	4.5	2	–	–	–
2N3391A	25	25	5	0.5	250	500	4.5	2	–	–	–
2N3392	25	25	5	0.5	150	300	4.5	2	–	–	–

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
2N3393	25	25	5	0.5	90	180	4.5	2	–	–	–
2N5172	25	25	5	0.5	100	500	10	10	0.25	10	1
2N3415	25	25	5	0.5	180	540	4.5	2	0.3	50	3
PN3565	25	30	6	0.5	150	600	10	1	0.35	1	0.1
KSC2001	25	30	5	0.7	90	400	1	100	0.6	700	70
BC338	25	30	5	0.8	100	630	1	100	0.7	500	50
SS8050	25	40	6	1.5	85	300	1	100	0.5	800	80
MPS6513	30	40	4	–	90	180	10	2	0.5	50	5
PN2222	30	60	5	–	100	300	10	150	1.6	500	50
SS9011	30	50	5	0.03	28	198	5	1	0.3	10	1
KSC839	30	35	4	0.1	40	400	12	2	0.4	10	1
2N5088	30	35	4	0.1	300	900	5	0.1	0.5	10	1
BC183	30	45	5	0.1	80	–	5	100	0.6	100	5
BC183C	30	45	6	0.1	120	800	5	2	0.6	100	5
BC183LC	30	45	5	0.1	100	850	5	2	0.6	100	5
BC548	30	30	5	0.1	110	800	5	2	0.6	100	5
BC549	30	30	5	0.1	110	800	5	2	0.6	100	5
2N4123	30	40	5	0.2	50	150	1	2	0.3	50	5
BC184LC	30	45	5	0.2	250	–	5	2	0.6	100	5
PN3643	30	60	5	0.5	100	300	10	150	0.22	150	15
2N3704	30	50	5	0.5	100	300	5	50	0.6	100	5
BC184	30	45	5	0.5	130	–	5	2	0.6	100	5
BC184C	30	45	5	0.5	250	800	5	2	0.6	10	0.5
BC184L	30	45	5	0.5	130	–	5	2	0.6	100	5
PN3566	30	40	5	0.5	150	600	10	10	1	100	10
PN4141	30	60	5	0.5	100	300	10	150	1.6	500	50
2N4953	30	60	5	1	200	600	10	150	0.3	150	15
KSD471A	30	40	5	1	120	400	1	100	0.5	1000	100
KSC2328A	30	30	5	2	100	320	2	500	2	1500	30
MPSA20	40	–	4	–	40	400	10	5	0.25	10	1
2N3903	40	60	6	0.2	50	150	1	10	0.3	50	5
2N3904	40	60	6	0.2	100	300	1	10	0.3	50	5
TIS97	40	40	6	0.5	250	700	5	0.1	–	–	–
PN3569	40	80	5	0.5	100	300	1	150	0.25	150	15
PN3567	40	80	5	0.6	40	120	1	150	0.25	150	15

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
2N4400	40	60	6	0.6	50	150	1	150	0.75	500	50
2N4401	40	60	6	0.6	100	300	1	150	0.75	500	50
KSP2222A	40	75	6	0.6	100	300	10	150	1	500	50
MPS6531	40	60	5	1	90	270	1	100	0.3	100	10
PN2222A	40	75	6	1	100	300	10	150	1	500	50
2N5962	45	45	8	0.1	600	1400	5	10	0.2	10	0.5
MPSA18	45	45	6	0.1	500	1500	5	10	0.3	50	5
SS9014	45	50	5	0.1	60	1000	5	1	0.3	100	5
BC237	45	50	6	0.1	120	800	5	2	0.6	100	5
BC547	45	50	6	0.1	110	800	5	2	0.6	100	5
BC550	45	50	5	0.1	110	800	5	2	0.6	100	5
PN930	45	45	5	0.1	100	300	5	0.01	1	10	0.5
KSC815	45	60	5	0.2	40	400	1	50	0.4	150	15
PN3642	45	60	5	0.5	40	120	10	150	0.22	150	15
PN100	45	75	6	0.5	100	450	1	10	0.4	200	20
PN100A	45	75	6	0.5	300	600	1	10	0.4	200	20
BC337	45	50	5	0.8	100	630	1	100	0.7	500	50
BC635	45	45	5	1	40	250	2	150	0.5	500	50
2N6428A	50	60	6	–	250	–	5	0.01	0.2	10	–
BC182LB	50	60	6	0.1	80	–	5	100	0.6	100	5
2N5210	50	50	4	0.1	200	600	5	0.1	0.7	10	1
KSC1815	50	60	5	0.15	70	700	6	2	0.25	100	10
KSC945	50	60	5	0.15	40	700	6	1	0.3	100	10
2N3416	50	50	5	0.5	75	225	4.5	2	0.3	50	3
2N3417	50	50	5	0.5	180	540	4.5	2	0.3	50	3
BC182	50	60	5	0.5	80	–	5	100	0.6	100	5
BC182B	50	60	5	0.5	80	–	5	100	0.6	100	5
BC182L	50	60	5	0.5	80	–	5	100	0.6	100	10
BC182LA	50	60	5	0.5	80	–	5	100	0.6	100	10
KSD1616	50	60	6	1	135	600	2	100	0.3	1000	50
MPSA05	60	60	4	–	100	–	1	100	0.25	100	10
MPS651	60	80	5	–	75	–	2	500	0.3	1000	100
<b>BC337A</b>	60	60	5	–	100	400	1	100	0.7	500	50
2N5961	60	60	8	0.1	150	700	5	10	0.2	10	1
PN2484	60	60	5	0.1	100	500	5	0.01	0.35	1	0.1



**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
2N3859A	60	60	6	0.5	100	200	1	10	–	–	–
KSP05	60	60	4	0.5	50	–	1	10	0.25	100	10
KSP8098	60	60	6	0.5	100	300	5	1	0.4	100	5
MPS8098	60	60	6	0.5	100	300	5	1	0.4	100	5
KSC1008	60	80	8	0.7	40	400	2	50	0.4	500	50
KSC2331	60	80	8	0.7	40	240	2	50	0.7	500	50
PN3568	60	80	5	1	40	120	1	150	0.25	150	15
KSD1616A	60	120	6	1	135	400	2	100	0.3	1000	50
BC637	60	60	5	1	40	160	2	150	0.5	500	50
BC546	65	80	6	0.1	110	800	5	2	0.6	100	5
BC63916	80	100	5	–	100	250	2	150	0.5	500	50
2N4410	80	120	5	0.2	60	400	1	10	0.2	1	0.1
KSP06	80	80	4	0.5	50	–	1	10	0.25	100	10
MPSA06	80	80	4	0.5	100	–	1	100	0.25	100	10
KSP8099	80	80	6	0.5	100	300	5	1	0.4	100	5
BC639	80	100	5	1	40	160	2	150	0.5	500	50
2N5830	100	120	5	0.2	80	500	5	10	0.25	50	5
KSC1845	120	120	5	0.05	200	1200	6	1	0.3	10	1
MPSL01	120	140	5	0.2	50	300	5	10	0.3	50	5
2N5550	140	160	6	0.6	60	250	5	10	0.25	50	5
KSC1009	140	160	8	0.7	40	400	2	50	0.7	200	20
2N5551	160	180	6	0.6	80	250	5	10	0.2	50	5
MPSA43	200	200	6	0.2	50	200	10	30	0.4	20	2
KSP43	200	200	6	0.5	40	–	10	30	0.5	20	2
KSP42	300	300	6	0.5	40	–	10	30	0.5	20	2
MPSA42	300	300	6	0.5	40	–	10	30	0.5	20	2
KSP45	350	400	6	0.3	50	200	10	10	0.75	50	5
2N6517	350	350	6	0.5	30	200	10	30	1	50	5
KSP44	400	500	6	0.3	50	200	10	10	0.75	50	5
<b>TO-92 PNP Configuration</b>											
PN5134	10	20	3	0.5	20	150	1	10	0.25	10	1
PN4258	12	12	4	0.2	30	120	3	10	0.5	50	5
PN3640	12	12	4	0.2	30	120	0.3	10	0.6	50	5
2N5771	15	15	4	0.2	50	120	0.3	10	0.6	50	5
ST5771-1	15	15	4	0.2	30	150	0.3	10	0.6	50	5

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE</sub> (sat)		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
KSA643	20	40	5	0.5	40	400	1	100	0.4	500	50
SS9012	20	40	5	0.5	64	202	1	50	0.6	500	50
BC369	20	25	5	1.5	85	375	1	500	0.5	1000	100
BC308	25	30	5	0.1	120	800	5	2	0.3	10	0.5
BC309	25	30	5	0.1	120	800	5	2	0.3	10	0.5
2N4126	25	25	4	0.2	120	360	1	2	0.4	50	5
KSA642	25	30	5	0.3	70	400	1	50	0.6	300	30
2N3702	25	40	5	0.5	60	300	5	50	0.25	50	5
2N6076	25	25	5	0.5	100	500	10	10	0.25	10	1
MPS6523	25	45	4	0.5	300	600	10	2	0.5	50	5
MPS3702	25	40	5	0.8	60	300	5	50	0.25	50	5
BC328	25	30	5	0.8	100	630	1	100	0.7	500	50
PN3638	25	25	4	0.8	30	–	1	50	1	300	30
PN3638A	25	25	4	0.8	100	–	1	50	1	300	30
KSB564A	25	30	5	1	70	400	1	100	0.5	1000	100
MPS6562	25	25	5	1	50	200	1	500	0.5	500	50
SS8550	25	40	6	1.5	85	300	1	100	0.5	800	80
BC558	30	30	5	0.1	110	800	5	2	0.65	100	5
BC559	30	30	5	0.1	110	800	5	2	0.65	100	5
PN4917	30	30	5	0.2	150	300	1	10	0.3	50	5
2N4125	30	30	4	0.2	50	150	1	2	0.4	50	5
2N3703	30	50	5	0.5	30	150	5	50	0.25	50	5
PN5138	30	30	5	0.5	50	800	10	0	0.3	10	0.5
MPS3703	30	50	5	0.8	30	150	5	50	0.25	50	5
BC213L	30	45	5	500	80	400	5	2	0.6	100	10
BC214L	30	45	5	500	140	400	5	2	0.6	100	10
BC214LB	30	45	5	500	200	400	5	2	0.6	100	10
BC214LC	30	45	5	500	350	600	5	2	0.6	100	10
PN4250	40	40	5	–	250	700	5	0.1	0.25	10	1
PN4122	40	40	5	0.2	150	300	1	10	0.3	50	5
2N3905	40	40	5	0.2	50	150	1	10	0.4	50	5
2N3906	40	40	5	0.2	100	300	1	10	0.4	50	5
MPS6518	40	–	4	0.2	150	300	10	2	0.5	50	5

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE(sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
2N5366	40	40	4	0.5	100	300	1	50	0.25	50	2.5
2N4402	40	40	5	0.6	50	150	2	150	0.75	500	50
2N4403	40	40	5	0.6	100	300	2	150	0.75	500	50
TIS93	40	40	5	0.8	100	300	2	50	0.25	50	5
MPS6534	40	40	4	0.8	90	270	1	100	0.3	100	10
PN2907	40	60	5	0.8	100	300	10	150	1.6	500	50
PN4143	40	60	5	0.8	100	300	10	150	1.6	500	50
BC307	45	50	5	0.1	120	800	5	2	0.3	10	0.5
BC557	45	50	5	0.1	110	800	5	2	0.65	100	5
BC560	45	50	5	0.1	110	800	5	2	0.65	100	5
SS9015	45	50	5	0.1	60	600	5	1	0.7	100	5
KSA539	45	60	5	0.2	40	240	1	50	0.5	150	15
PN200	45	60	6	0.5	100	450	1	10	0.4	200	20
PN200A	45	60	6	0.5	300	600	1	10	0.4	200	20
BCX79	45	45	5	0.5	80	1000	1	10	1	100	2.5
PN3644	45	45	5	0.8	100	300	10	150	0.4	150	15
BC327	45	50	5	0.8	100	630	1	100	0.7	500	50
BC636	45	45	5	1	40	250	2	150	0.5	500	50
2N5086	50	50	3	0.1	150	500	5	0.1	0.3	10	1
2N5087	50	50	3	0.1	250	800	5	0.1	0.3	10	1
BC212B	50	60	5	0.1	60	–	5	2	0.6	100	5
BC212LB	50	60	5	0.1	60	–	5	2	0.6	100	5
KSA1015	50	50	5	0.15	70	400	6	2	0.3	100	10
BC212	50	60	5	0.3	60	–	5	2	0.6	100	5
BC212L	50	60	5	0.3	60	300	5	2	0.6	100	5
KSB1116	50	60	6	1	135	600	2	100	0.3	1000	50
KSB1116S	50	60	6	1	135	600	2	100	0.3	1000	50
KSA733	50	60	5	150	40	700	6	1	0.3	100	10
MPS8598	60	60	5	–	100	300	5	1	0.4	100	10
<b>BC327A</b>	60	60	5	–	100	400	1	100	0.7	500	50
KSP55	60	60	4	0.5	50	–	1	10	0.25	100	10
MPSA55	60	60	4	0.5	100	–	1	10	0.25	100	10
PN4249	60	60	5	0.5	100	300	5	0.1	0.25	10	0.5
PN4250A	60	60	5	0.5	250	700	5	0.1	0.25	10	0.5
KSP8598	60	60	5	0.5	100	300	5	1	0.4	100	5

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
KSP2907A	60	60	5	0.6	100	300	10	150	1.6	500	50
KSA708	60	80	8	0.7	40	240	2	50	0.7	500	50
PN3645	60	60	5	0.8	100	300	10	150	0.4	150	15
PN4355	60	60	5	0.8	100	400	10	10	1	1000	100
PN2907A	60	60	5	0.8	100	300	10	150	1.6	500	50
KSB1116A	60	80	6	1	135	600	2	100	0.3	1000	50
BC638	60	60	5	1	40	160	2	150	0.5	500	50
MPS751	60	80	5	2	75	–	2	500	0.5	2000	200
BC556	65	80	5	0.1	110	800	5	2	0.65	100	5
KSP56	80	80	4	0.5	50	–	1	10	0.25	100	10
MPSA56	80	80	4	0.5	100	–	1	100	0.25	100	10
KSP8599	80	80	5	0.5	100	300	5	1	0.4	100	5
PN4356	80	80	5	0.8	50	250	10	10	0.5	500	50
BC640	80	100	5	1	40	160	2	150	0.5	500	50
MPSL51	100	100	4	0.2	40	250	5	50	0.3	50	5
KSA992	120	120	5	0.05	200	800	6	1	0.3	10	1
2N5400	120	130	5	0.6	40	180	5	10	0.5	50	5
KSA910	150	150	5	0.05	40	240	5	10	0.8	10	1
2N5401	150	160	5	0.6	60	240	5	10	0.5	50	5
KSA709	150	160	8	0.7	70	400	2	50	0.4	200	20
MPSA93	200	200	5	–	40	–	10	10	0.5	20	2
KSP93	200	200	5	0.5	40	–	10	10	0.5	20	2
2N6518	250	250	5	0.5	50	300	10	30	1	50	5
KSP92	300	300	5	0.5	40	–	10	10	0.5	20	2
MPSA92	300	300	5	0.5	40	–	10	10	0.5	20	2
2N6519	300	300	5	0.5	45	270	10	30	1	50	5
2N6520	350	350	5	0.5	30	200	10	30	1	50	5
KSP94	400	400	6	0.3	50	300	10	10	0.75	50	5
KSA1625	400	400	7	0.5	40	200	5	50	1	100	10
<b>TO-92L NPN Configuration</b>											
KSC2500	10	30	6	2	140	600	1	500	0.5	2000	50
KSC2328A	30	30	5	2	100	320	2	500	2	1500	30
KSC2331	60	80	8	0.7	40	240	2	50	0.7	500	50
KSC2316	120	120	5	0.8	80	240	5	100	1	500	50

**Small Signal Transistors – General Purpose Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
KSC2310	150	200	5	0.05	40	240	5	10	0.5	10	1
KSC2383	160	160	6	1	60	320	5	200	1.5	500	50
KSC2330	300	300	7	0.1	40	240	10	20	0.5	10	1
KSC2330A	400	400	7	0.1	40	80	10	20	0.5	10	1
<b>TO-92L PNP Configuration</b>											
KSA928A	30	30	5	2	100	320	2	500	2	1500	30
KSA1281	50	50	5	2	70	240	2	500	0.5	1000	0.05
KSA931	60	80	8	0.7	40	240	2	50	0.7	500	50
KSA916	120	120	5	0.8	80	240	5	100	1	500	50
KSA910	150	150	5	0.05	40	240	5	10	0.8	10	1
KSA1013	160	160	6	1	60	320	5	200	1.5	500	50
KSA1370	200	200	5	0.1	100	320	10	10	0.6	20	2
<b>TO-92S NPN Configuration</b>											
FJNS7565	10	15	7	5	450	800	2	500	0.45	3000	60
KSC2710	20	40	5	0.5	120	400	1	100	0.4	500	50
KSC3488	25	30	5	0.3	70	400	1	50	0.4	300	30
KSD1020	25	30	5	0.7	120	400	1	100	0.4	700	70
KSD1021	30	40	5	1	120	400	1	100	0.5	1000	100
KSC2785	50	60	5	0.15	70	700	6	1	0.3	100	10
KSC2784	120	120	5	0.05	200	1200	6	1	0.3	10	1
<b>TO-92S PNP Configuration</b>											
KSA1150	20	40	5	0.5	40	400	1	100	0.4	500	50
KSA1378	25	30	5	0.3	70	400	1	50	0.6	300	30
KSB810	25	30	5	0.7	70	400	1	100	0.4	700	70
KSB811	25	30	5	1	70	400	1	100	0.5	1000	100
KSA1175	50	60	5	0.15	40	700	6	1	0.3	100	10
KSA1174	120	120	5	0.05	200	800	6	1	0.3	10	1

## Small Signal Transistors – Hybrid Transistors

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE (sat)</sub>			
					Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
<b>SC70 NPN Configuration</b>												
FFB3904	40	60	6	0.2	100	300	1	10	0.3	50	5	
FFB2222A	40	75	5	0.5	100	300	10	150	1	500	50	
BC847S	45	50	6	0.2	110	630	5	2	0.65	100	5	
<b>FFB5551</b>	160	180	6	200	80	250	5	10	1	50	5	
<b>SC70 NPN/PNP Configuration</b>												
FFB2227A	30	60	5	0.5	100	–	10	150	1.4	300	30	
FFB3946	40	40	5	0.2	100	300	1	10	0.25	10	1	
<b>SC70 PNP Configuration</b>												
FFB3906	40	40	5	0.2	100	300	1	10	0.4	50	5	
BC857S	45	50	5	0.2	125	630	5	2	0.65	100	5	
FFB2907A	60	60	5	0.6	100	300	10	150	1.6	500	50	
<b>SOIC NPN Configuration</b>												
MMPQ2222	30	60	5	0.5	75	–	10	10	0.4	150	15	
MMPQ3904	40	60	6	0.2	75	–	1	10	0.3	50	5	
MMPQ2222A	40	75	5	0.5	100	300	10	150	1	500	50	
FTM3725	40	60	6	1.2	60	180	1	100	0.26	100	10	
<b>SOIC NPN/PNP Configuration</b>												
MMPQ6700	40	40	5	0.2	70	–	1	10	0.25	10	1	
<b>SOIC PNP Configuration</b>												
MMPQ3906	40	40	5	0.2	75	–	1	10	0.4	50	5	
MMPQ2907	40	60	5	0.6	100	300	10	150	1.6	300	30	
MMPQ2907A	60	60	5	0.6	100	300	10	150	1.6	500	50	
<b>SOT-563F PNP Configuration</b>												
FJYF2906	40	40	5	0.15	80	300	1	1	0.3	10	1	
<b>SuperSOT NPN Configuration</b>												
FMBA14	30	30	10	1.2	20000	–	5	100	1.5	100	0.1	
FMB3904	40	60	6	0.2	100	300	1	10	0.3	50	5	
FMB2222A	40	75	5	0.5	100	300	10	150	1	500	50	
FMB100	45	75	6	0.5	100	450	1	10	0.4	200	20	
FMBA06	80	80	4	0.5	100	–	1	100	0.25	100	10	
FMB5551	160	180	6	0.1	80	250	5	10	0.15	10	1	
<b>SuperSOT NPN/PNP Configuration</b>												
FMB2227A	30	60	5	0.5	100	–	10	150	1.4	300	30	
FMB3946	40	40	5	0.2	100	300	1	10	0.25	10	1	

**Small Signal Transistors – Hybrid Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
<b>SuperSOT PNP Configuration</b>											
FMBS549	30	35	5	1	100	300	2	500	0.75	2000	200
FMB3906	40	40	5	0.2	100	300	1	10	0.4	50	5
FMB857B	45	50	5	0.1	220	475	5	2	0.3	10	0.5
FMB200	45	60	6	0.5	100	450	1	10	0.4	200	20
FMB2907A	60	60	5	0.6	100	300	10	150	1.6	500	50
FMBA56	80	80	4	0.5	100	–	1	100	0.25	100	10

## Small Signal Transistors – RF Amplifier Transistors

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	f <sub>T</sub> (MHz)	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)		Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
<b>SOT-23 NPN Configuration</b>												
KST5179	12	20	2	0.05	900	25	–	1	3	0.4	10	1
MMBT5179	12	20	2	0.05	900	25	250	1	3	0.4	10	1
MMBT918	15	30	3	0.05	600	20	–	1	3	0.4	10	1
KSC2757	15	30	5	0.05	800	60	240	10	5	0.5	10	1
MMBT5770	15	30	4	0.09	–	50	200	10	8	0.4	10	1
KSC2223	20	30	4	0.02	400	40	180	6	1	0.3	10	1
KSC2756	20	30	4	0.03	500	60	240	10	5	0.5	10	1
KSC3123	20	30	3	0.05	900	60	240	10	5	–	–	–
KST10	25	30	3	–	650	60	–	10	4	0.5	4	0.4
<b>MMBTH10</b>	25	30	3	0.05	650	60	–	10	4	0.5	4	0.4
MMBTH11	25	30	3	0.05	650	60	–	10	4	0.5	4	0.4
KSC2755	30	30	5	0.02	400	60	240	10	3	–	–	–
KSC2715	30	35	4	0.05	100	70	240	12	2	0.4	10	1
MMBTH24	30	40	4	0.05	400	30	–	10	8	–	–	–
KST24	30	40	4	0.1	400	30	–	10	8	–	–	–
MMBTH10RG	40	40	4	0.045	450	50	120	6	1	0.2	10	5
MMBTH34	40	40	4	0.05	500	40	–	15	7	–	–	–
<b>SOT-23 PNP Configuration</b>												
MMBTH81	20	20	3	0.05	600	60	–	10	5	0.5	5	0.5
<b>TO-92 NPN Configuration</b>												
2N3663	12	30	3	0.05	700	20	–	10	8	–	–	–
KSP5179	12	20	2	0.05	900	25	250	1	3	0.4	10	1
MPS5179	12	20	2	0.05	900	25	250	1	3	0.4	10	1
PN5179	12	20	2	0.05	900	25	250	1	3	0.4	10	1
2N5770	15	30	4	0.05	–	50	200	10	8	0.4	10	1
PN3563	15	30	2	0.05	600	20	200	10	8	–	–	–
PN918	15	30	3	0.05	600	20	–	1	3	0.4	10	1
SS9018	15	30	5	0.05	700	28	198	5	1	0.5	10	1
KSC1730	15	30	5	0.05	800	40	240	10	5	0.5	10	1
BF494	20	30	5	–	–	65	220	10	1	–	–	–
KSC1674	20	30	4	0.02	400	40	240	6	1	0.3	10	1
KSC1187	20	30	4	0.03	400	40	240	10	2	–	–	–
KSP10	25	30	3	–	650	60	–	10	4	0.5	4	0.4



**Small Signal Transistors – RF Amplifier Transistors (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	f <sub>T</sub> (MHz)	h <sub>FE</sub>				V <sub>CE (sat)</sub>		
				Max (A)		Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	Max (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
KSC388	25	30	4	0.05	300	20	200	12.5	12.5	0.2	15	1.5
FPNH10	25	30	3	0.05	650	60	–	10	4	0.5	4	0.4
MPSH10	25	30	3	0.05	650	60	–	10	4	0.5	4	0.4
MPSH11	25	30	3	0.05	650	60	–	10	4	0.5	4	0.4
BF199	25	40	4	0.05	1100	38	–	10	7	0.2	10	5
KSC1393	30	30	4	0.02	400	40	180	10	2	–	–	–
KSC838	30	35	4	0.03	100	40	240	12	2	0.4	10	1
KSC1675	30	50	5	0.05	150	40	240	6	1	0.3	10	1
MPSH24	30	40	4	0.05	400	30	–	10	8	–	–	–
KSP24	30	40	4	0.1	400	30	–	10	8	–	–	–
MPSH34	40	40	4	0.05	500	40	–	15	7	–	–	–
BF240	40	40	4	0.05	1100	65	225	10	1	0.65	1	–
<b>TO-92 PNP Configuration</b>												
MPSH81	20	20	3	0.05	600	60	–	10	5	0.5	5	0.5
<b>TO-92S NPN Configuration</b>												
KSC2786	20	30	4	0.02	400	40	240	6	1	0.3	10	1
KSC2669	30	35	4	0.03	100	40	240	12	2	0.4	10	1
KSC2787	30	50	5	0.05	150	40	240	6	1	0.3	10	1

**JFETs**

Products	BV <sub>GDS</sub> (V)	P <sub>D</sub> Power Dissipation (mW)	V <sub>GS</sub> (off)					I <sub>DSS</sub>			GFS		R <sub>DS</sub> (Ω)	I <sub>D</sub> (off) (μA)
			Min (V)	Typ (V)	Max (V)	@ I <sub>D</sub> (μA)	@ V <sub>DS</sub> (V)	Min (mA)	Max (mA)	@ V <sub>DS</sub> (V)	Min (mS)	Max (mS)		
<b>SOT-223 N-Channel</b>														
JFTJ105	25	1000	4.5	–	10	1	5	500	–	15	–	–	3	0.003
<b>SOT-23 N-Channel</b>														
KSK595H	20	100	–	0.6	1.5	1	5	0.15	0.35	5	–	–	–	–
MMBF5484	25	225	0.3	–	3	0.01	15	1	5	15	3	6	–	–
MMBFJ210	25	225	1	–	3	0.001	15	2	15	15	4	12	–	–
MMBF5485	25	225	0.5	–	4	0.01	15	4	10	15	3.5	7	–	–
MMBFJ309	25	350	1	–	4	0.001	10	12	30	10	10	20	–	–
MMBFJ211	25	225	2.5	–	4.5	0.001	15	7	20	15	6	12	–	–
MMBF5457	25	350	0.5	–	6	0.01	15	1	5	15	1	5	–	–
MMBF5486	25	225	2	–	6	0.01	15	8	20	15	4	8	–	–
MMBFJ212	25	225	4	–	6	0.001	15	15	40	15	7	12	–	–
MMBFJ310	25	350	2	–	6.5	0.001	10	24	60	10	8	18	–	–
MMBF5458	25	350	1	–	7	0.01	15	2	9	15	1.5	5.5	–	–
MMBF5459	25	350	2	–	8	0.01	15	4	16	15	2	6	–	–
MMBF4393	30	350	0.5	–	3	0.001	20	5	30	20	–	–	100	0.0001
MMBF4392	30	350	2	–	5	0.001	20	25	75	20	–	–	60	0.0001
MMBF4416	30	225	2.5	–	6	0.001	15	0.005	0.015	15	–	–	–	–
MMBF4391	30	350	4	–	10	0.001	20	50	150	20	–	–	30	0.0001
MMBFJ113	35	350	0.5	–	3	1	5	2	–	15	–	–	100	0.001
MMBFJ112	35	350	1	–	5	1	5	5	–	15	–	–	50	0.001
MMBF4416A	35	225	–	–	6	0.001	15	5	15	15	4.5	7.5	–	–
MMBFJ111	35	350	3	–	10	1	5	20	–	15	–	–	30	0.001
MMBFJ201	40	350	0.3	–	1.5	0.01	20	0.2	1	20	–	–	–	–
MMBF4117	40	225	0.6	–	1.8	0.001	10	0.03	0.09	10	0.07	0.21	–	–
MMBF5103	40	350	1.2	–	2.7	0.001	15	10	40	15	7.5	15	–	–
MMBF4118	40	225	1	–	3	0.001	10	0.08	0.24	10	0.08	0.25	–	–
MMBFJ202	40	350	0.8	–	4	0.01	20	0.9	4.5	20	–	–	–	–
BSR58	40	250	0.8	–	4	0.001	15	8	80	15	–	–	60	–
MMBF4093	40	350	1	–	5	0.001	20	8	–	20	–	–	80	0.0002
MMBF4119	40	225	2	–	6	0.001	10	0.2	0.6	10	0.1	0.33	–	–
BSR57	40	250	2	–	6	500	15	20	100	15	–	–	–	–
MMBF4092	40	350	2	–	7	0.001	20	15	–	20	–	–	50	0.0002
MMBF4091	40	350	5	–	10	0.001	20	30	–	20	–	–	30	0.0002

**JFETs (Continued)**

Products	BV <sub>GDS</sub> (V)	P <sub>D</sub> Power Dissipation (mW)	V <sub>GS</sub> (off)					I <sub>DSS</sub>			GFS		R <sub>DS</sub> (Ω)	I <sub>D</sub> (off) (μA)
			Min (V)	Typ (V)	Max (V)	@ I <sub>D</sub> (μA)	@ V <sub>DS</sub> (V)	Min (mA)	Max (mA)	@ V <sub>DS</sub> (V)	Min (mS)	Max (mS)		
BSR56	40	250	4	–	10	0.001	15	50	–	15	–	–	25	–
<b>SOT-23 P-Channel</b>														
MMBFJ270	30	225	0.5	–	2	0.001	15	2	15	15	6000	15000	–	–
MMBFJ177	30	225	0.8	–	2.5	0.01	15	1.5	20	15	–	–	300	–
MMBFJ176	30	225	1	–	4	0.01	15	2	25	15	–	–	250	–
MMBFJ271	30	225	1.5	–	4.5	0.001	15	6	50	15	8000	18000	–	–
MMBFJ175	30	225	3	–	6	0.01	15	7	60	15	–	–	125	–
MMBF5460	40	225	0.75	–	6	1	15	1	5	15	1	4	–	–
MMBF5461	40	225	1	–	7.5	1	15	2	9	15	1.5	5	–	–
MMBF5462	40	225	1.8	–	9	1	15	4	16	15	2	6	–	–
<b>SOT-323 N-Channel</b>														
FJX597JH	20	100	–	0.6	1.5	1	5	0.15	0.35	5	–	–	–	–
<b>SOT-623F N-Channel</b>														
FJZ594J	20	100	–	0.6	1.5	1	5	0.15	0.35	5	–	–	–	–
<b>SuperSOT N-Channel</b>														
MMBF5434	25	350	1	–	4	0.003	5	30	–	15	–	–	–	–
MMBFJ108	25	350	3	–	10	0.01	15	80	–	15	–	–	8	–
<b>TO-92 N-Channel</b>														
FJN598J	20	150	–	0.6	1.5	1	5	0.1	0.35	5	–	–	–	–
J300	25	350	–	–	–	–	–	6	30	10	–	–	–	–
2N5555	25	350	–	–	–	–	–	15	–	15	–	–	150	0.01
2N5484	25	350	0.3	–	3	0.01	15	1	5	15	3	6	–	–
J210	25	350	1	–	3	–	–	2	15	15	4	12	–	–
2N5485	25	350	0.5	–	4	0.01	15	4	10	15	3.5	7	–	–
J110	25	625	0.5	–	4	0.01	15	10	–	15	–	–	18	–
J309	25	625	1	–	4	0.001	10	12	30	10	10	20	–	–
PN5434	25	350	1	–	4	0.003	5	30	–	15	–	–	10	0.0002
J211	25	350	2.5	–	4.5	0.001	15	7	20	15	6	12	–	–
J107	25	625	0.5	–	4.5	1	5	100	–	15	–	–	8	0.003
2N5457	25	625	0.5	–	6	0.01	15	1	5	15	1	5	–	–
2N5486	25	350	2	–	6	0.01	15	8	20	15	4	8	–	–
J212	25	350	4	–	6	0.001	15	15	40	15	7	12	–	–
J109	25	625	2	–	6	0.01	15	40	–	15	–	–	12	–
J106	25	625	2	–	6	1	5	200	–	15	–	–	6	0.003
J310	25	625	2	–	6.5	0.001	10	24	60	10	8	18	–	–

**JFETs (Continued)**

Products	BV <sub>GDS</sub> (V)	P <sub>D</sub> Power Dissipation (mW)	V <sub>GS</sub> (off)					I <sub>DSS</sub>			GFS		R <sub>DS</sub> (Ω)	I <sub>D</sub> (off) (μA)
			Min (V)	Typ (V)	Max (V)	@ I <sub>D</sub> (μA)	@ V <sub>DS</sub> (V)	Min (mA)	Max (mA)	@ V <sub>DS</sub> (V)	Min (mS)	Max (mS)		
2N5458	25	625	1	–	7	0.01	15	2	9	15	1.5	5.5	–	–
2N3819	25	350	–	–	8	0.002	15	2	20	15	–	–	–	–
MPF102	25	350	–	–	8	0.002	15	2	20	15	2	7.5	–	–
2N5459	25	625	2	–	8	0.01	15	4	16	15	2	6	–	–
J108	25	625	3	–	10	0.01	15	80	–	15	–	–	8	–
PN5432	25	350	4	–	10	0.003	5	150	–	15	–	–	5	0.0002
J105	25	625	4.5	–	10	1	5	500	–	15	–	–	3	0.003
BF246B	25	625	0.6	–	14.5	0.01	15	60	140	15	8	–	–	–
BF247A	25	625	0.6	–	14.5	0.01	15	60	140	15	8	–	–	–
PF5301-2	30	–	1.7	–	3	0.001	10	0.03	0.5	10	0.07	0.3	–	–
J305	30	350	0.5	–	3	0.001	15	1	8	15	–	–	–	–
2N5953	30	–	0.8	–	3	0.1	15	2.5	5	15	–	–	–	–
PN4393	30	625	0.5	–	3	0.001	20	5	30	20	–	–	100	0.0001
2N5952	30	350	1.3	–	3.5	0.1	15	4	8	15	2	6.5	–	–
PN4302	30	625	–	–	4	0.01	20	0.5	5	20	1	–	–	–
2N5246	30	350	0.5	–	4	0.01	15	1.5	7	15	–	–	–	–
PN4861	30	625	0.8	–	4	0.001	15	8	80	15	–	–	60	0.0003
TIS75	30	350	0.8	–	4	0.004	20	8	80	15	–	–	60	0.002
2N5951	30	350	2	–	5	0.1	15	7	13	15	–	–	–	–
PN4392	30	625	2	–	5	0.001	20	25	75	20	–	–	60	0.0001
PN4303	30	625	–	–	6	0.01	20	4	10	20	2	–	–	–
2N5245	30	350	1	–	6	0.01	15	5	15	15	4.5	11	–	–
J304	30	350	2	–	6	0.001	15	5	15	15	–	–	–	–
PN4416	30	350	2.5	–	6	0.001	15	5	15	15	–	–	–	–
2N5950	30	350	2.5	–	6	0.1	15	10	15	15	–	–	–	–
TIS74	30	350	2	–	6	0.004	15	20	100	15	–	–	40	0.002
BF256A	30	350	0.5	–	7.5	0.2	15	3	7	15	4.5	–	–	–
BF256B	30	350	0.5	–	7.5	0.2	15	6	13	15	4.5	–	–	–
BF256C	30	350	0.5	–	7.5	0.2	15	11	18	15	4.5	–	–	–
BF244A	30	350	0.5	–	8	0.01	15	2	6.5	15	–	–	–	–
BF245A	30	350	0.5	–	8	0.01	15	2	6.5	15	3	6.5	–	–
BF244B	30	350	0.5	–	8	0.01	15	6	15	15	–	–	–	–
BF245B	30	350	0.5	–	8	0.01	15	6	15	15	3	6.5	–	–
2N5247	30	350	1	–	8	0.01	15	8	24	15	–	–	–	–

**JFETs (Continued)**

Products	BV <sub>GDS</sub> (V)	P <sub>D</sub> Power Dissipation (mW)	V <sub>GS</sub> (off)					I <sub>DSS</sub>			GFS		R <sub>DS</sub> (Ω)	I <sub>D</sub> (off) (μA)
			Min (V)	Typ (V)	Max (V)	@ I <sub>D</sub> (μA)	@ V <sub>DS</sub> (V)	Min (mA)	Max (mA)	@ V <sub>DS</sub> (V)	Min (mS)	Max (mS)		
BF244C	30	350	0.5	–	8	0.01	15	12	25	15	–	–	–	–
BF245C	30	350	0.5	–	8	0.01	15	12	25	15	3	6.5	–	–
2N5639	30	625	–	–	8	–	–	25	–	20	–	–	60	0.001
PN4391	30	625	4	–	10	0.001	20	50	150	20	–	–	30	0.0001
2N5638	30	625	–	–	12	–	–	50	–	20	–	–	30	0.001
BF246A	30	625	0.6	–	14.5	0.01	15	30	80	15	8	–	–	–
J113	35	625	0.5	–	3	1	5	2	–	15	–	–	100	0.001
J112	35	625	1	–	5	1	5	5	–	15	–	–	50	0.001
J111	35	625	3	–	10	1	5	20	–	15	–	–	30	0.001
J201	40	625	0.3	–	1.5	0.01	20	0.2	1	20	–	–	–	–
PF5102	40	625	0.7	–	1.6	0.001	15	4	20	15	3.5	–	–	–
PN4117	40	350	0.6	–	1.8	0.001	10	0.03	0.09	10	0.07	0.21	–	–
PN4117A	40	350	0.6	–	1.8	0.001	10	0.03	0.09	10	0.07	0.21	–	–
PF5103	40	625	1.2	–	2.7	0.001	15	10	40	15	7.5	–	–	–
PN4118	40	350	1	–	3	0.001	10	0.08	0.24	10	0.08	0.25	–	–
J202	40	625	0.8	–	4	0.01	20	0.9	4.5	20	–	–	–	–
PN4093	40	625	1	–	5	0.001	20	8	–	20	–	–	80	0.0002
PN4119	40	350	2	–	6	0.001	10	0.2	0.6	10	0.1	0.33	–	–
PN4092	40	625	2	–	7	0.001	20	15	–	20	–	–	50	0.0002
U1898	40	625	2	–	7	0.001	20	15	–	20	–	–	50	–
PN4091	40	625	5	–	10	0.001	20	30	–	20	–	–	30	0.0002
U1897	40	625	5	–	10	0.001	20	30	–	20	–	–	30	–
KSK30	50	100	0.4	–	5	0.1	10	0.3	6.5	10	–	–	–	–
<b>TO-92 P-Channel</b>														
2N3820	20	350	–	–	8	0.01	10	0.3	15	10	0.8	5	–	–
J270	30	350	0.5	–	2	0.001	15	2	15	15	6	15	–	–
J177	30	350	0.8	–	2.5	0.01	15	1.5	20	15	–	–	300	–
J176	30	350	1	–	4	0.01	15	2	25	15	–	–	250	–
J271	30	350	1.5	–	4.5	0.001	15	6	50	15	8	18	–	–
P1087	30	350	–	–	5	1	15	5	–	20	–	–	150	0.01
J175	30	350	3	–	6	0.01	15	7	60	15	–	–	125	–
P1086	30	350	–	–	10	1	15	10	–	20	–	–	75	0.01
J174	30	350	5	–	10	0.01	15	20	100	15	–	–	85	–
2N5460	40	350	0.75	–	6	1	15	1	5	15	1	4	–	–

**JFETs (Continued)**

Products	BV <sub>GDS</sub> (V)	P <sub>D</sub> Power Dissipation (mW)	V <sub>GS</sub> (off)					I <sub>DSS</sub>			GFS		R <sub>DS</sub> (Ω)	I <sub>D</sub> (off) (μA)
			Min (V)	Typ (V)	Max (V)	@ I <sub>D</sub> (μA)	@ V <sub>DS</sub> (V)	Min (mA)	Max (mA)	@ V <sub>DS</sub> (V)	Min (mS)	Max (mS)		
2N5461	40	350	1	–	7.5	1	15	2	9	15	1.5	5	–	–
2N5462	40	350	1.8	–	9	1	15	4	16	15	2	6	–	–
<b>TO-92S N-Channel</b>														
KSK596	20	100	–	0.6	1.5	1	5	0.1	0.35	5	–	–	–	–

## Rectifiers – Fast Recovery Rectifiers

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>FM</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)
<b>DO-41</b>							
1N4933	Single	50	1	30	1.2	150	5
1N4933GP	Single	50	1	30	1.2	150	5
RGP10A	Single	50	1	30	1.3	150	5
1N4934	Single	100	1	30	1.2	150	5
1N4934GP	Single	100	1	30	1.2	150	5
RGP10B	Single	100	1	30	1.3	150	5
1N4935	Single	200	1	30	1.2	150	5
1N4935GP	Single	200	1	30	1.2	150	5
RGP10D	Single	200	1	30	1.3	150	5
1N4936	Single	400	1	30	1.2	150	5
1N4936GP	Single	400	1	30	1.2	150	5
RGP10G	Single	400	1	30	1.3	150	5
1N4937	Single	600	1	30	1.2	150	5
1N4937GP	Single	600	1	30	1.2	150	5
RGP10J	Single	600	1	30	1.3	250	5
RGP10K	Single	800	1	30	1.3	500	5
RGP10M	Single	1000	1	30	1.3	500	5
<b>SMA</b>							
RGF1A	Single	50	1	30	1.3	150	5
RS1A	Single	50	1	30	1.3	150	5
RGF1B	Single	100	1	30	1.3	150	5
RS1B	Single	100	1	30	1.3	150	5
RGF1D	Single	200	1	30	1.3	150	5
RS1D	Single	200	1	30	1.3	150	5
RGF1G	Single	400	1	30	1.3	150	5
RS1G	Single	400	1	30	1.3	150	5
RGF1J	Single	600	1	30	1.3	250	5
RS1J	Single	600	1	30	1.3	250	5
RGF1K	Single	800	1	30	1.3	500	5
RS1K	Single	800	1	30	1.3	500	5
RGF1M	Single	1000	1	30	1.3	500	5
RS1M	Single	1000	1	30	1.3	500	5
<b>TO-220F</b>							
FFPF06F20DN	Common Cathode	200	6	60	1.3	120	3
FFPF10U30DN	Common Anode	300	10	100	1.3	55	10

## Rectifiers – General Purpose Rectifiers

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F</sub> (AV) (A)	I <sub>FSM</sub> (A)	V <sub>FM</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)
<b>DO-15</b>							
1N5391	Single	50	1.5	50	1.4	–	5
1N5392	Single	100	1.5	50	1.4	–	5
1N5393	Single	200	1.5	50	1.4	–	5
1N5394	Single	300	1.5	50	1.4	–	5
1N5395	Single	400	1.5	50	1.4	–	5
1N5396	Single	500	1.5	50	1.4	–	5
1N5397	Single	600	1.5	50	1.4	–	5
1N5398	Single	800	1.5	50	1.4	–	5
1N5399	Single	1000	1.5	50	1.4	–	5
<b>DO-201AD</b>							
1N5400	Single	50	3	200	1.2	–	5
1N5401	Single	100	3	200	1.2	–	5
1N5402	Single	200	3	200	1.2	–	5
1N5403	Single	300	3	200	1.2	–	5
1N5404	Single	400	3	200	1.2	–	5
1N5405	Single	500	3	200	1.2	–	5
1N5406	Single	600	3	200	1.2	–	5
1N5407	Single	800	3	200	1.2	–	5
1N5408	Single	1000	3	200	1.2	–	5
<b>DO-41</b>							
1N4001GP	Single	50	1	30	1.1	–	5
1N4001	Single	100	1	30	1.1	–	5
1N4002GP	Single	100	1	30	1.1	–	5
1N4003GP	Single	200	1	30	1.1	–	5
1N4004	Single	400	1	30	1.1	–	5
1N4004GP	Single	400	1	30	1.1	–	5
1N4005	Single	600	1	30	1.1	–	5
1N4005GP	Single	600	1	30	1.1	–	5
1N4006	Single	800	1	30	1.1	–	5
1N4006GP	Single	800	1	30	1.1	–	5
1N4007	Single	1000	1	30	1.1	–	5
1N4007GP	Single	1000	1	30	1.1	–	5
<b>SMA</b>							
GF1A	Single	50	1	30	1	2000	5
ST1A	Single	50	1	40	1.1	1800	1



**Rectifiers – General Purpose Rectifiers (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>FM</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)
GF1B	Single	100	1	30	1	2000	5
S1B	Single	100	1	40	1.1	1800	1
GF1D	Single	200	1	30	1	2000	5
S1D	Single	200	1	40	1.1	1800	1
GF1G	Single	400	1	30	1	2000	5
S1G	Single	400	1	40	1.1	1800	1
GF1J	Single	600	1	30	1	2000	5
S1J	Single	600	1	40	1.1	1800	1
GF1K	Single	800	1	30	1.2	2000	5
S1K	Single	800	1	40	1.1	1800	1
GF1M	Single	1000	1	30	1.2	2000	5
S1M	Single	1000	1	40	1.1	1800	1
<b>SMB</b>							
S2A	Single	50	1.5	50	1.15	2000	1
S2B	Single	100	1.5	50	1.15	2000	1
S2D	Single	200	1.5	50	1.15	2000	1
S2G	Single	400	1.5	50	1.15	2000	1
S2J	Single	600	1.5	50	1.15	2000	1
S2K	Single	800	1.5	50	1.15	2000	1
S2M	Single	1000	1.5	50	1.15	2000	1
<b>SMC</b>							
S3A	Single	50	3	100	1.2	2500	5
S3B	Single	100	3	100	1.2	2500	5
S3D	Single	200	3	100	1.2	2500	5
S3G	Single	400	3	100	1.2	2500	5
S3J	Single	600	3	100	1.2	2500	5
S3K	Single	800	3	100	1.2	2500	5
S3M	Single	1000	3	100	1.2	2500	5

## Rectifiers – HyperFast Recovery Rectifiers

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	V <sub>F Max</sub> (V)	t <sub>rr Max</sub> (ns)	I <sub>RM</sub> or I <sub>R Max</sub> (μA)	t <sub>a</sub> @125°C Typ (ns)	t <sub>b</sub> @125°C Typ (ns)
<b>TO-220</b>								
RHRP860	Single	600	8	2.1	35	100	18	10
RHRP1560	Single	600	15	2.1	40	100	20	15
RHRP3060	Single	600	30	2.1	45	100	22	18
RHRP8120	Single	1200	8	3.2	70	100	30	20
RHRP15120	Single	1200	15	3.2	75	100	36	28
RHRP30120	Single	1200	30	3	75	250	35	33
<b>TO-247</b>								
RHRG1560CC	Common Cathode	600	15	1.5	60	100	30	17
RHRG3060	Single	600	30	2.1	45	100	22	18
RHRG3060CC	Common Cathode	600	30	2.1	45	100	22	18
RHRG5060	Single	600	50	2.1	50	250	25	20
RHRG30120	Single	1200	30	3.2	75	100	48	22
RHRG75120	Single	1200	75	3.2	100	250	60	25
<b>TO-252(DPAK)</b>								
RHRD660S	Single	600	6	2.1	35	100	16	8

**Rectifiers – HyperFast/UltraSoft Recovery (Stealth™ Family) Rectifiers**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F</sub> (AV) (A)	I <sub>FSM</sub> (A)	V <sub>F</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)	t <sub>a</sub> @125°C Typ (ns)	t <sub>b</sub> @125°C Typ (ns)
<b>SOT-227B</b>									
<b>FF1N30HS60DD</b>	Single	600	30	325	2.4	35	100	38	72
<b>TO-220</b>									
ISL9K460P3	Common Cathode	600	4	–	2.4	22	100	15	62
ISL9R460P2	Single	600	4	–	2.4	22	100	15	62
ISL9K860P3	Common Cathode	600	8	–	2.4	30	100	16	77
ISL9R860P2	Single	600	8	–	2.4	30	100	16	61
ISL9R1560P2	Single	600	15	–	2.2	40	100	30	60
ISL9R3060P2	Single	600	30	–	2.4	45	100	38	72
ISL9K8120P3	Common Cathode	1200	8	–	3.3	44	100	47	350
ISL9R8120P2	Single	1200	8	–	3.3	44	100	47	350
ISL9R18120P2	Single	1200	18	200	3.3	70	100	60	350
<b>TO-220F</b>									
<b>ISL9R460PF2</b>	Single	600	4	8	2.4	20	100	14	58
<b>ISL9R860PF2</b>	Single	600	8	100	2.4	25	100	73	22
<b>ISL9R1560PF2</b>	Single	600	15	200	2.2	40	100	30	62
<b>TO-247</b>									
<b>FFH30US30DN</b>	Single	300	30	325	1	50	100	23	52
ISL9K1560G3	Common Cathode	600	15	–	2.2	30	100	30	60
ISL9R1560G2	Single	600	15	–	2.2	40	100	30	60
ISL9K3060G3	Common Cathode	600	30	325	2.2	45	100	38	72
ISL9R3060G2	Single	600	30	–	2.4	45	100	38	72
ISL9K18120G3	Common Cathode	1200	18	200	3.3	70	100	60	400
ISL9R18120G2	Single	1200	18	200	3.3	70	100	60	400
ISL9K30120G3	Common Cathode	1200	30	–	3.3	100	100	65	440
ISL9R30120G2	Single	1200	30	–	3.3	100	100	70	460
<b>TO-263(D<sup>2</sup>PAK)</b>									
ISL9R460S3S	Single	600	4	–	2.4	22	100	15	62
ISL9R860S3S	Single	600	8	–	2.4	30	100	16	61
ISL9R1560S3S	Single	600	15	–	2.2	40	100	30	60
ISL9R8120S3S	Single	1200	8	–	3.3	44	100	47	350
ISL9R18120S3S	Single	1200	18	–	3.3	70	100	60	400

**Rectifiers – Ultrafast Recovery Rectifiers**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>F</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)	t <sub>a</sub> @125°C Typ (ns)	t <sub>b</sub> @125°C Typ (ns)
<b>DO-15</b>									
EGP20A	Single	50	2	75	0.95	50	5	–	–
EGP20B	Single	100	2	75	0.95	50	5	–	–
EGP20C	Single	150	2	75	0.95	50	5	–	–
EGP20D	Single	200	2	75	0.95	50	5	–	–
EGP20F	Single	300	2	75	1.25	50	5	–	–
EGP20G	Single	400	2	75	1.25	50	5	–	–
EGP20J	Single	600	2	75	1.7	75	5	–	–
EGP20K	Single	800	2	75	1.7	75	5	–	–
<b>DO-201AD</b>									
EGP30A	Single	50	3	125	0.95	50	5	–	–
EGP30B	Single	100	3	125	0.95	50	5	–	–
EGP30C	Single	150	3	125	0.95	50	5	–	–
EGP30D	Single	200	3	125	0.95	50	5	–	–
EGP30F	Single	300	3	125	1.25	50	5	–	–
EGP30G	Single	400	3	125	1.25	50	5	–	–
EGP30J	Single	600	3	125	1.7	75	5	–	–
EGP30K	Single	800	3	125	1.7	75	5	–	–
<b>DO-41</b>									
EGP10A	Single	50	1	30	1	50	5	–	–
UF4001	Single	50	1	30	1	50	10	–	–
EGP10B	Single	100	1	30	1	50	5	–	–
UF4002	Single	100	1	30	1	50	10	–	–
EGP10C	Single	150	1	30	1	50	5	–	–
EGP10D	Single	200	1	30	1	50	5	–	–
UF4003	Single	200	1	30	1	50	10	–	–
EGP10F	Single	300	1	30	1.25	50	5	–	–
UF4004	Single	400	1	30	1	50	10	–	–
EGP10G	Single	400	1	30	1.25	50	5	–	–
EGP10J	Single	600	1	30	1.7	75	5	–	–
UF4005	Single	600	1	30	1.7	75	10	–	–
EGP10K	Single	800	1	30	1.7	75	5	–	–
UF4006	Single	800	1	30	1.7	75	10	–	–
UF4007	Single	1000	1	30	1.7	75	10	–	–

**Rectifiers – Ultrafast Recovery Rectifiers (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>F</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (µA)	t <sub>a</sub> @125°C Typ (ns)	t <sub>b</sub> @125°C Typ (ns)
<b>SMA</b>									
ES1A	Single	50	1	30	0.92	15	5	–	–
EGF1A	Single	50	1	30	1	50	10	–	–
ES1B	Single	100	1	30	0.92	15	5	–	–
EGF1B	Single	100	1	30	1	50	10	–	–
ES1C	Single	150	1	30	0.92	15	5	–	–
EGF1C	Single	150	1	30	1	50	10	–	–
ES1D	Single	200	1	30	0.92	15	5	–	–
EGF1D	Single	200	1	30	1	50	10	–	–
<b>SMB</b>									
ES2A	Single	50	2	50	0.95	20	10	–	–
ES2B	Single	100	2	50	0.95	20	10	–	–
ES2C	Single	150	2	50	0.95	20	10	–	–
ES2D	Single	200	2	50	0.95	20	10	–	–
<b>SMC</b>									
ES3A	Single	50	3	100	0.95	20	10	–	–
ES3B	Single	100	3	100	0.95	20	10	–	–
ES3C	Single	150	3	100	0.95	20	10	–	–
ES3D	Single	200	3	100	0.95	20	10	–	–
<b>T0-220</b>									
FFP06U20DN	Common Cathode	200	6	60	1.2	35	6	–	–
FFP10U20DN	Common Cathode	200	10	100	1.2	35	10	–	–
<b>RURP1520</b>	Single	200	15	200	1.05	35	500	20	10
FFP15U20DN	Common Cathode	200	15	150	1.2	40	15	–	–
<b>RURP3020</b>	Single	200	30	325	1	50	250	20	15
FFP04U40DN	Common Cathode	400	4	40	1.4	45	10	–	–
FFP06U40DN	Common Cathode	400	6	60	1.4	50	20	–	–
FFP05U60DN	Common Cathode	600	5	30	2.3	80	2	–	–
RURP860	Single	600	8	100	1.5	70	100	32	21
FFP10U60DN	Common Cathode	600	10	60	2.2	90	5	–	–
RURP1560	Single	600	15	–	1.5	60	100	30	20
FFP20U60DN	Common Cathode	600	20	120	2.2	90	10	–	–
RURP3060	Single	600	30	325	1.5	60	250	30	20
FFP30U60DN	Common Cathode	600	30	180	2.3	90	15	–	–
RURP8100	Single	1000	8	100	1.8	100	100	50	30

**Rectifiers – Ultrafast Recovery Rectifiers (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F(AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>F</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)	t <sub>a</sub> @125°C Typ (ns)	t <sub>b</sub> @125°C Typ (ns)
<b>TO-220AB</b>									
FEP16AT	Common Cathode	50	16	200	0.975	35	10	–	–
FEP16ATA	Common Anode	50	16	200	0.975	35	10	–	–
FEP16ATD	Series	50	16	200	0.975	35	10	–	–
FEP16BT	Common Cathode	100	16	200	0.975	35	10	–	–
FEP16BTA	Common Anode	100	16	200	0.975	35	10	–	–
FEP16BTD	Series	100	16	200	0.975	35	10	–	–
FEP16CT	Common Cathode	150	16	200	0.975	35	10	–	–
FEP16CTA	Common Anode	150	16	200	0.975	35	10	–	–
FEP16CTD	Series	150	16	200	0.975	35	10	–	–
FEP16DT	Common Cathode	200	16	200	0.975	35	10	–	–
FEP16DTA	Common Anode	200	16	200	0.975	35	10	–	–
FEP16DTD	Series	200	16	200	0.975	35	10	–	–
FEP16FT	Common Cathode	300	16	200	1.3	50	10	–	–
FEP16FTA	Common Anode	300	16	200	1.3	50	10	–	–
FEP16FTD	Series	300	16	200	1.3	50	10	–	–
FES16FTR	Single	300	16	250	1.3	50	10	–	–
FEP16GT	Common Cathode	400	16	200	1.3	50	10	–	–
FEP16GTA	Common Anode	400	16	200	1.3	50	10	–	–
FEP16GTD	Series	400	16	200	1.3	50	10	–	–
FEP16HT	Common Cathode	500	16	200	1.5	50	10	–	–
FEP16HTA	Common Anode	500	16	200	1.5	50	10	–	–
FEP16HTD	Series	500	16	200	1.5	50	10	–	–
FEP16JT	Common Cathode	600	16	200	1.5	50	10	–	–
FEP16JTA	Common Anode	600	16	200	1.5	50	10	–	–
FEP16JTD	Series	600	16	200	1.5	50	10	–	–
<b>TO-220AC</b>									
FES16AT	Single	50	16	250	0.975	35	10	–	–
FES16ATR	Single	50	16	250	0.975	35	10	–	–
FES16BT	Single	100	16	250	0.975	35	10	–	–
FES16BTR	Single	100	16	250	0.975	35	10	–	–
FES16CT	Single	150	16	250	0.975	35	10	–	–
FES16CTR	Single	150	16	250	0.975	35	10	–	–
FES16DT	Single	200	16	250	0.975	35	10	–	–
FES16DTR	Single	200	16	250	0.975	35	10	–	–

**Rectifiers – Ultrafast Recovery Rectifiers (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>F</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)	t <sub>a</sub> @125°C Typ (ns)	t <sub>b</sub> @125°C Typ (ns)
FES16FT	Single	300	16	250	1.3	50	10	–	–
FES16GT	Single	400	16	250	1.3	50	10	–	–
FES16GTR	Single	400	16	250	1.3	50	10	–	–
FES16HT	Single	500	16	250	1.5	50	10	–	–
FES16HTR	Single	500	16	250	1.5	50	10	–	–
FES16JTR	Single	600	16	250	1.5	50	10	–	–
<b>TO-220F</b>									
<b>FFPF06UP20S</b>	Single	200	6	60	1.1	31	100	–	–
FFPF06U20DN	Common Cathode	200	6	60	1.2	35	6	–	–
FFPF06U20DP	Common Anode	200	6	60	1.2	35	6	–	–
FFPF06U20S	Single	200	6	60	1.2	35	6	–	–
<b>FFPF10UP20S</b>	Single	200	10	100	1.1	32	100	–	–
FFPF10U20DN	Common Cathode	200	10	100	1.2	35	10	–	–
FFPF10U20DP	Common Anode	200	10	100	1.2	35	10	–	–
FFPF10U20S	Single	200	10	100	1.2	35	10	–	–
FFPF15U20DN	Common Cathode	200	15	150	1.2	40	15	–	–
FFPF15U20DP	Common Anode	200	15	150	1.2	40	15	–	–
FFPF15U20S	Single	200	15	150	1.2	40	15	–	–
FFPF20U20S	Single	200	20	200	1.2	40	20	–	–
FFPF30U20S	Single	200	30	300	1.2	40	30	–	–
FFPF04U40DN	Common Cathode	400	4	40	1.4	45	10	–	–
FFPF04U40DP	Common Anode	400	4	40	1.4	45	10	–	–
FFPF04U40S	Single	400	4	40	1.4	45	10	–	–
FFPF06U40DN	Common Cathode	400	6	60	1.4	50	20	–	–
FFPF06U40DP	Common Anode	400	6	60	1.4	50	20	–	–
FFPF06U40S	Single	400	6	60	1.4	50	20	–	–
FFPF10U40S	Single	400	10	100	1.4	50	30	–	–
FFPF15U40S	Single	400	15	150	1.4	50	40	–	–
FFPF20U40S	Single	400	20	200	1.4	50	50	–	–
FFPF05U60DN	Common Cathode	600	5	30	2.3	80	2	–	–
FFPF05U60S	Single	600	5	30	2.3	80	2	–	–
FFPF10U60DN	Common Cathode	600	10	60	2.2	90	5	–	–
FFPF10U60S	Single	600	10	60	2.2	90	5	–	–
<b>FFPF10UP60S</b>	Single	600	10	50	2.2	40	100	–	–
FFPF20U60DN	Common Cathode	600	20	120	2.2	90	10	–	–

**Rectifiers – Ultrafast Recovery Rectifiers (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>F</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)	t <sub>a</sub> @125°C Typ (ns)	t <sub>b</sub> @125°C Typ (ns)
FFPF20U60S	Single	600	20	120	2.2	90	10	–	–
FFPF30U60DN	Common Cathode	600	30	180	2.3	90	15	–	–
FFPF30U60S	Single	600	30	180	2.3	90	15	–	–
FFPF40U60S	Single	600	40	240	2.1	110	20	–	–
FFPF05U120S	Single	1200	5	30	3.5	100	5	–	–
FFPF10U120S	Single	1200	10	60	3.5	100	10	–	–
FFPF15U120S	Single	1200	15	90	3.5	100	15	–	–
<b>TO-247</b>									
RURG1520CC	Common Cathode	200	15	–	1.05	35	100	20	10
RURG3020CC	Common Cathode	200	30	–	1	50	250	20	15
RURG3060	Single	600	30	–	1.5	60	250	30	20
RURG3060CC	Common Cathode	600	30	–	1.5	60	250	30	20
RURG5060	Single	600	75	–	1.6	75	250	30	20
RURG8060	Single	600	80	–	1.6	85	250	40	25
RURG80100	Single	1000	80	–	1.9	200	250	90	65
<b>TO-251(IPAK)</b>									
<b>RURD660</b>	Single	600	6	60	1.5	60	100	28	16
<b>TO-252(DPAK)</b>									
RURD420S	Single	200	4	–	1	35	100	11	9
RURD460S	Single	600	4	–	1.5	60	100	32	15
<b>RURD660S</b>	Single	600	6	–	1.5	60	100	28	16
RURD4120S	Single	1200	4	–	2.1	90	100	40	28
<b>TO-263(D<sup>2</sup>PAK)</b>									
FFB10U20S	Single	200	10	100	1.2	35	10	–	–
FFB20U20S	Single	200	20	200	1.2	40	20	–	–
FFB06U40S	Single	400	6	60	1.4	50	20	–	–
FFB20U60S	Single	600	20	120	2.2	90	20	–	–
FFB05U120S	Single	1200	5	30	3.5	100	5	–	–
FFB10U120S	Single	1200	10	60	3.5	100	10	–	–
<b>TO-264</b>									
FFL60U60DN	Common Cathode	600	60	360	2.2	90	25	–	–
FFL20U120DN	Common Cathode	1200	20	120	3.5	120	20	–	–
FFL25U120DN	Common Cathode	1200	25	150	3.5	120	25	–	–
<b>TO-3P</b>									
FFA15U20DN	Common Cathode	200	15	150	1.2	40	15	–	–
FFA20U20DN	Common Cathode	200	20	200	1.2	40	20	–	–



**Rectifiers – Ultrafast Recovery Rectifiers (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>F</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)	t <sub>a</sub> @125°C Typ (ns)	t <sub>b</sub> @125°C Typ (ns)
FFA30U20DN	Common Cathode	200	30	300	1.2	40	30	–	–
FFA10U40DN	Common Cathode	400	10	100	1.4	50	30	–	–
FFA15U40DN	Common Cathode	400	15	150	1.4	50	40	–	–
FFA20U40DN	Common Cathode	400	20	200	1.4	50	50	–	–
FFA20U60DN	Common Cathode	600	20	120	2.2	90	10	–	–
FFA30U60DN	Common Cathode	600	30	180	2.3	90	15	–	–
FFA40U60DN	Common Cathode	600	40	240	2.1	110	20	–	–
FFA60U60DN	Common Cathode	600	60	360	2.2	90	25	–	–
FFA05U120DN	Common Cathode	1200	5	30	3.5	100	5	–	–
FFA10U120DN	Common Cathode	1200	10	60	3.5	100	10	–	–
FFA15U120DN	Common Cathode	1200	15	90	3.5	100	15	–	–
FFA20U120DN	Common Cathode	1200	20	120	3.5	120	20	–	–
<b>TO-3PF</b>									
FFAF10U20DN	Common Cathode	200	10	100	1.2	35	10	–	–
FFAF15U20DN	Common Cathode	200	15	150	1.2	40	15	–	–
FFAF20U20DN	Common Cathode	200	20	200	1.2	40	20	–	–
FFAF30U20DN	Common Cathode	200	30	300	1.2	40	30	–	–
FFAF10U40DN	Common Cathode	400	10	100	1.4	50	30	–	–
FFAF20U60DN	Common Cathode	600	20	120	2.2	90	10	–	–
FFAF30U60DN	Common Cathode	600	30	180	2.3	90	15	–	–
FFAF40U60DN	Common Cathode	600	40	240	2.1	110	20	–	–
FFAF60U60DN	Common Cathode	600	60	360	2.2	90	25	–	–
FFAF05U120DN	Common Cathode	1200	5	30	3.5	100	5	–	–
FFAF10U120DN	Common Cathode	1200	10	60	3.5	100	10	–	–
FFAF15U120DN	Common Cathode	1200	15	90	3.5	100	15	–	–
FFAF20U120DN	Common Cathode	1200	20	120	3.5	120	20	–	–

## Damper/Damper+Modulation Diodes

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	I <sub>FSM</sub> (A)	V <sub>FM</sub> Max (V)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> or I <sub>R</sub> Max (μA)
<b>TO-220F</b>							
FFPF04F150S	Single	1500	4	40	1.5	170	5
FFPF04U150S	Single	1500	4	40	1.8	150	7
FFPF06F150S	Single	1500	6	60	1.6	170	7
FFPF06U150S	Single	1500	6	60	1.8	150	10
FFPF60B150DS	Series	1500/1600	6/20	60/120	1.6/2.2	170/90	7/10
FFPF10F150S	Single	1500	10	100	1.6	170	10
FFPF10U150S	Single	1500	10	100	1.8	150	15
FFPF14X150S	Single	1500	14	140	2.4	120	20
<b>TO-3PF</b>							
FFAF60A150DS	Series	1500/1600	6/20	60/120	1.6/2.2	170/90	7/10
FFAF10U170S	Single	1700	10	100	2	140	100

## Schottky Diodes and Rectifiers

Products	Function	Configuration	I <sub>FSM</sub> (A)	R <sub>θJA</sub> (°C/W)	V <sub>RRM</sub> (V)	I <sub>F(AV)</sub> (A)	V <sub>FM Max</sub> (V)	I <sub>RM Max</sub>	
								(μA)	@V <sub>R</sub> (V)
<b>DO-201AD</b>									
1N5820	Schottky Barrier Rectifier	Single	80	28	20	3	0.475	500	20
1N5821	Schottky Barrier Rectifier	Single	80	28	30	3	0.5	500	30
1N5822	Schottky Barrier Rectifier	Single	80	28	40	3	0.525	500	40
SB3100	Schottky Barrier Rectifier	Single	80	40	100	3	0.85	500	100
SB330	Schottky Barrier Rectifier	Single	80	40	30	3	0.5	500	30
SB340	Schottky Barrier Rectifier	Single	80	40	40	3	0.5	500	40
SB350	Schottky Barrier Rectifier	Single	80	40	50	3	0.5	500	50
SB360	Schottky Barrier Rectifier	Single	80	40	60	3	0.74	500	60
SB380	Schottky Barrier Rectifier	Single	80	40	80	3	0.74	500	80
SB5100	Schottky Barrier Rectifier	Single	150	25	100	5	0.85	500	100
SB520	Schottky Barrier Rectifier	Single	150	25	20	5	0.55	500	20
SB530	Schottky Barrier Rectifier	Single	150	25	30	5	0.55	500	30
SB540	Schottky Barrier Rectifier	Single	150	25	40	5	0.55	500	40
SB550	Schottky Barrier Rectifier	Single	150	25	50	5	0.67	500	50
SB560	Schottky Barrier Rectifier	Single	150	25	60	5	0.67	500	60
SB580	Schottky Barrier Rectifier	Single	150	25	80	5	0.85	500	80
<b>DO-41</b>									
1N5817	Schottky Barrier Rectifier	Single	25	80	20	1	0.45	500	20
1N5818	Schottky Barrier Rectifier	Single	25	80	30	1	0.55	500	30
1N5819	Schottky Barrier Rectifier	Single	25	80	40	1	0.6	500	40
SB1100	—	Single	30	80	100	1	0.85	500	100
SB120	Schottky Barrier Rectifier	Single	30	80	20	1	0.5	500	20
SB130	Schottky Barrier Rectifier	Single	30	80	30	1	0.5	500	30
SB140	Schottky Barrier Rectifier	Single	30	80	40	1	0.5	500	40
SB150	Schottky Barrier Rectifier	Single	30	80	50	1	0.7	500	50
SB160	Schottky Barrier Rectifier	Single	30	80	60	1	0.7	500	60
SB180	Schottky Barrier Rectifier	Single	30	80	80	1	0.85	500	80
<b>SMA</b>									
FMKA130L	Schottky Barrier Rectifier	Single	30	—	30	1	0.41	1000	30
FMKA140	Schottky Barrier Rectifier	Single	30	—	40	1	0.6	1000	40
S100	Schottky Barrier Rectifier	Single	40	88	100	1	0.85	200	100
SS12	Schottky Barrier Rectifier	Single	40	88	20	1	0.5	200	20
SS13	Schottky Barrier Rectifier	Single	40	88	30	1	0.5	200	30
SS14	Schottky Barrier Rectifier	Single	40	88	40	1	0.5	200	40

## Schottky Diodes and Rectifiers (Continued)

Products	Function	Configuration	I <sub>FSM</sub> (A)	R <sub>θJA</sub> (°C/W)	V <sub>RRM</sub> (V)	I <sub>F(AV)</sub> (A)	V <sub>FM Max</sub> (V)	I <sub>RM Max</sub>	
								(μA)	@V <sub>R</sub> (V)
SS15	Schottky Barrier Rectifier	Single	40	88	50	1	0.7	200	50
SS16	Schottky Barrier Rectifier	Single	40	88	60	1	0.7	200	60
SS18	Schottky Barrier Rectifier	Single	40	88	80	1	0.85	200	80
SS19	Schottky Barrier Rectifier	Single	40	88	90	1	0.85	200	90
<b>SMB</b>									
MBRS130L	Schottky Barrier Rectifier	Single	40	–	30	1	0.395	1000	30
MBRS140	Schottky Barrier Rectifier	Single	40	–	40	1	0.6	1000	40
S210	Schottky Barrier Rectifier	Single	50	75	100	2	0.85	400	100
SS22	Schottky Barrier Rectifier	Single	50	75	20	2	0.5	400	20
SS23	Schottky Barrier Rectifier	Single	50	75	30	2	0.5	400	30
SS24	Schottky Barrier Rectifier	Single	50	75	40	2	0.5	400	40
SS25	Schottky Barrier Rectifier	Single	50	75	50	2	0.7	400	50
SS26	Schottky Barrier Rectifier	Single	50	75	60	2	0.7	400	60
SS28	Schottky Barrier Rectifier	Single	50	75	80	2	0.85	400	80
SS29	Schottky Barrier Rectifier	Single	50	75	90	2	0.85	400	90
<b>SMC</b>									
MBRS320	Schottky Barrier Rectifier	Single	80	–	20	3	0.5	2000	20
MBRS340	Schottky Barrier Rectifier	Single	80	–	40	3	0.525	2000	40
S310	Schottky Barrier Rectifier	Single	100	55	100	3	0.85	500	100
SS32	Schottky Barrier Rectifier	Single	100	55	20	3	0.5	500	20
SS33	Schottky Barrier Rectifier	Single	100	55	30	3	0.5	500	30
SS34	Schottky Barrier Rectifier	Single	100	55	40	3	0.5	500	40
SS35	Schottky Barrier Rectifier	Single	100	55	50	3	0.75	500	50
SS36	Schottky Barrier Rectifier	Single	100	55	60	3	0.75	500	60
SS38	Schottky Barrier Rectifier	Single	100	55	80	3	0.85	500	80
SS39	Schottky Barrier Rectifier	Single	100	55	90	3	0.85	500	90
<b>SOD-123</b>									
MBR0520L	Schottky Barrier Rectifier	Single	5.5	340	20	0.5	0.385	250	20
MBR0540	Schottky Barrier Rectifier	Single	5.5	206	40	0.5	0.51	20	40
<b>SOT-23</b>									
BAR43	Schottky Diode	Single	0.75	430	30	0.2	1	0.5	25
BAR43C	Schottky Diode	Dual & Common Cathode	0.75	430	30	0.2	1	0.5	25
BAR43S	Schottky Diode	Dual Series	0.75	430	30	0.2	1	0.5	25
BAT54	Schottky Diode	Single	0.6	430	30	0.3	1	2	25

**Schottky Diodes and Rectifiers (Continued)**

Products	Function	Configuration	I <sub>FSM</sub> (A)	R <sub>θJA</sub> (°C/W)	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	V <sub>FM Max</sub> (V)	I <sub>RM Max</sub>	
								(μA)	@V <sub>R</sub> (V)
BAT54A	Schottky Diode	Dual & Common Anode	0.6	430	30	0.3	1	2	25
BAT54C	Schottky Diode	Dual & Common Cathode	0.6	430	30	0.3	1	2	25
BAT54S	Schottky Diode	Dual Series	0.6	430	30	0.3	1	2	25
<b>SuperSOT-3/SOT-23</b>									
FYV0203DN	Schottky Diode	Dual & Common Cathode	0.6	430	30	0.2	1	2	30
FYV0203DP	Schottky Diode	Dual & Common Anode	0.6	430	30	0.2	1	2	30
FYV0203DS	Schottky Diode	Dual Series	0.6	430	30	0.2	1	2	30
FYV0203S	Schottky Diode	Single	0.6	430	30	0.2	1	2	30
FYV0704S	Schottky Barrier Rectifier	Single	8	250	40	0.75	0.48	100	40
<b>TO-220</b>									
FYP1004DN	Schottky Barrier Rectifier	Dual & Common Cathode	80	–	40	10	0.55	1000	40
FYP1010DN	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	100	10	0.75	1000	100
FYP1045DN	Schottky Barrier Rectifier	Dual & Common Cathode	80	–	45	10	0.55	1000	45
FYP1504DN	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	40	15	0.55	1000	40
FYP1545DN	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	45	15	0.55	1000	45
FYP2004DN	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	40	20	0.55	1000	40
FYP2006DN	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	60	20	0.58	1000	60
FYP2010DN	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	100	20	0.77	100	100
FYP2045DN	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	45	20	0.55	1000	45
<b>MBRP1545N</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	45	15	0.8	1000	45
<b>MBRP2045N</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	45	20	0.8	1000	45
<b>MBRP3010N</b>	Schottky Barrier Rectifier	Dual & Common Cathode	250	–	100	30	1.05	1000	100
<b>MBRP3045N</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	45	30	0.8	1000	45
<b>MBRP745</b>	Schottky Barrier Rectifier	Single	150	–	45	7.5	0.65	1000	45

**Schottky Diodes and Rectifiers (Continued)**

Products	Function	Configuration	I <sub>FSM</sub> (A)	R <sub>θJA</sub> (°C/W)	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	V <sub>FM Max</sub> (V)	I <sub>RM Max</sub>	
								(μA)	@V <sub>R</sub> (V)
<b>TO-220AB</b>									
MBR1535CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	35	15	0.84	100	35
MBR1545CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	45	15	0.84	100	45
MBR1550CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	50	15	0.75	1000	50
MBR1560CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	60	15	0.75	1000	60
MBR2035CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	35	20	0.84	100	35
MBR2045CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	45	20	0.84	100	45
MBR2050CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	50	20	0.95	150	50
MBR2060CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	60	20	0.95	150	60
MBR2535CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	35	30	0.82	200	35
MBR2545CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	45	30	0.82	200	45
MBR2550CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	50	30	0.75	1000	50
MBR2560CT	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	60	30	0.75	1000	60
<b>TO-220AC</b>									
MBR1035	Schottky Barrier Rectifier	Single	150	60	35	10	0.84	100	35
MBR1045	Schottky Barrier Rectifier	Single	150	60	45	10	0.84	100	45
MBR1050	Schottky Barrier Rectifier	Single	150	60	50	10	0.8	100	50
MBR1060	Schottky Barrier Rectifier	Single	150	60	60	10	0.8	100	60
MBR1635	Schottky Barrier Rectifier	Single	150	60	35	16	0.63	200	35
MBR1645	Schottky Barrier Rectifier	Single	150	60	45	16	0.63	200	45
MBR1650	Schottky Barrier Rectifier	Single	150	60	50	16	0.75	1000	50
MBR1660	Schottky Barrier Rectifier	Single	150	60	60	16	0.75	1000	60
MBR735	Schottky Barrier Rectifier	Single	150	60	35	7.5	0.84	100	35
MBR745	Schottky Barrier Rectifier	Single	150	60	45	7.5	0.84	100	45
MBR750	Schottky Barrier Rectifier	Single	150	60	50	7.5	0.75	500	50
MBR760	Schottky Barrier Rectifier	Single	150	60	60	7.5	0.75	500	60

**Schottky Diodes and Rectifiers (Continued)**

Products	Function	Configuration	I <sub>FSM</sub> (A)	R <sub>θJA</sub> (°C/W)	V <sub>RRM</sub> (V)	I <sub>F(AV)</sub> (A)	V <sub>FM Max</sub> (V)	I <sub>RM Max</sub>	
								(μA)	@V <sub>R</sub> (V)
<b>TO-220F</b>									
FYPF0545S	Schottky Barrier Rectifier	Single	80	–	45	5	0.55	1000	45
FYPF1004DN	Schottky Barrier Rectifier	Dual & Common Cathode	80	–	40	10	0.55	1000	40
FYPF1010DN	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	100	10	0.75	1000	100
FYPF1045DN	Schottky Barrier Rectifier	Dual & Common Cathode	80	–	45	10	0.55	1000	45
FYPF1504DN	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	40	15	0.55	1000	40
FYPF1545DN	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	45	15	0.55	1000	45
FYPF2004DN	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	40	20	0.55	1000	40
FYPF2006DN	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	60	20	0.58	1000	60
FYPF2010DN	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	100	20	0.77	100	100
FYPF2045DN	Schottky Barrier Rectifier	Dual & Common Cathode	80	–	45	10	0.55	1000	45
<b>TO-247</b>									
MBR3035PT	Schottky Barrier Rectifier	Dual & Common Cathode	200	60	35	30	0.76	1000	35
MBR3045PT	Schottky Barrier Rectifier	Dual & Common Cathode	200	60	45	30	0.76	1000	45
MBR3050PT	Schottky Barrier Rectifier	Dual & Common Cathode	200	60	50	30	0.75	5000	50
MBR3060PT	Schottky Barrier Rectifier	Dual & Common Cathode	200	60	60	30	0.75	5000	60
MBR4035PT	Schottky Barrier Rectifier	Dual & Common Cathode	400	60	35	40	0.7	1000	35
MBR4045PT	Schottky Barrier Rectifier	Dual & Common Cathode	400	60	45	40	0.7	1000	45
MBR4050PT	Schottky Barrier Rectifier	Dual & Common Cathode	400	60	50	40	0.72	1000	50
MBR4060PT	Schottky Barrier Rectifier	Dual & Common Cathode	400	60	60	40	0.72	1000	60
<b>TO-252(DPAK)</b>									
FYD0504SA	Schottky Barrier Rectifier	Single	80	–	40	5	0.55	1000	40
<b>TO-3P</b>									
<b>MBRA3045N</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	45	30	0.8	1000	45

## Schottky Diodes and Rectifiers (Continued)

Products	Function	Configuration	I <sub>FSM</sub> (A)	R <sub>θJA</sub> (°C/W)	V <sub>RRM</sub> (V)	I <sub>F (AV)</sub> (A)	V <sub>FM Max</sub> (V)	I <sub>RM Max</sub>	
								(μA)	@V <sub>R</sub> (V)
<b>TO-3PF</b>									
FYAF3004DN	Schottky Barrier Rectifier	Dual & Common Cathode	300	–	40	30	0.55	1000	40
FYAF3045DN	Schottky Barrier Rectifier	Dual & Common Cathode	300	–	45	30	0.55	1000	45



## Bridge Rectifiers

Products	$V_{RRM}$ (V)	$I_{F(AV)}$ (A)	$V_{FM}$ Max (V)
<b>DIP</b>			
DF005M	50	1.5	1.1
DF005S	50	1.5	1.1
DF01M	100	1.5	1.1
DF01S	100	1.5	1.1
DF02M	200	1.5	1.1
DF02S	200	1.5	1.1
DF04M	400	1.5	1.1
DF04S	400	1.5	1.1
DF06M	600	1.5	1.1
DF06S	600	1.5	1.1
DF08M	800	1.5	1.1
DF08S	800	1.5	1.1
DF10M	1000	1.5	1.1
DF10S	1000	1.5	1.1
<b>GBPC GBPC-W</b>			
GBPC12005	50	12	1.1
GBPC1201	100	12	1.1
GBPC1202	200	12	1.1
GBPC1204	400	12	1.1
GBPC1206	600	12	1.1
GBPC1208	800	12	1.1
GBPC1210	1000	12	1.1
GBPC15005	50	15	1.1
GBPC1501	100	15	1.1
GBPC1502	200	15	1.1
GBPC1504	400	15	1.1
GBPC1506	600	15	1.1
GBPC1508	800	15	1.1
GBPC1510	1000	15	1.1
GBPC25005	50	25	1.1
GBPC2501	100	25	1.1
GBPC2502	200	25	1.1
GBPC2504	400	25	1.1
GBPC2506	600	25	1.1
GBPC2508	800	25	1.1

**Bridge Rectifiers (Continued)**

Products	$V_{RRM}$ (V)	$I_{F(AV)}$ (A)	$V_{FM}$ Max (V)
GBPC2510	1000	25	1.1
GBPC35005	50	35	1.1
GBPC3501	100	35	1.1
GBPC3502	200	35	1.1
GBPC3504	400	35	1.1
GBPC3506	600	35	1.1
GBPC3508	800	35	1.1
GBPC3510	1000	35	1.1
<b>GBU</b>			
GGBU4A	50	4	1
GBU4B	100	4	1
GBU4D	200	4	1
GBU4G	400	4	1
GBU4J	600	4	1
GBU4K	800	4	1
GBU4M	1000	4	1
GBU6A	50	6	1
GBU6B	100	6	1
GBU6D	200	6	1
GBU6G	400	6	1
GBU6J	600	6	1
GBU6K	800	6	1
GBU6M	1000	6	1
GBU8A	50	8	1
GBU8B	100	8	1
GBU8D	200	8	1
GBU8G	400	8	1
GBU8J	600	8	1
GBU8K	800	8	1
<b>KBL</b>			
KBL005	50	4	1.1
KBL01	100	4	1.1
KBL02	200	4	1.1
KBL04	400	4	1.1
KBL06	600	4	1.1

**Bridge Rectifiers (Continued)**

Products	$V_{RRM}$ (V)	$I_{F(AV)}$ (A)	$V_{FM}$ Max (V)
KBL08	800	4	1.1
KBL10	1000	4	1.1
<b>KBPM</b>			
2KBP005M	50	2	1.1
2KBP01M	100	2	1.1
2KBP02M	200	2	1.1
2KBP04M	400	2	1.1
2KBP06M	600	2	1.1
2KBP08M	800	2	1.1
2KBP10M	1000	2	1.1
3N246	50	1.5	1.3
3N247	100	1.5	1.3
3N248	200	1.5	1.3
3N249	400	1.5	1.3
3N250	600	1.5	1.3
3N251	800	1.5	1.3
3N252	1000	1.5	1.3
3N253	50	2	1.1
3N254	100	2	1.1
3N255	200	2	1.1
3N256	400	2	1.1
3N257	600	2	1.1
3N258	800	2	1.1
3N259	1000	2	1.1
KBPO05M	50	1.5	1.3
KBPO1M	100	1.5	1.3
KBPO2M	200	1.5	1.3
KBPO4M	400	1.5	1.3
KBPO6M	600	1.5	1.3
KBPO8M	800	1.5	1.3
KBPT0M	1000	1.5	1.3
<b>KBU</b>			
KBU4A	50	4	1
KBU4B	100	4	1
KBU4D	200	4	1
KBU4G	400	4	1

**Bridge Rectifiers (Continued)**

Products	$V_{RRM}$ (V)	$I_{F(AV)}$ (A)	$V_{FM}$ Max (V)
KBU4J	600	4	1
KBU4K	800	4	1
KBU4M	1000	4	1
KBU6A	50	6	1
KBU6B	100	6	1
KBU6D	200	6	1
KBU6G	400	6	1
KBU6J	600	6	1
KBU6K	800	6	1
KBU6M	1000	6	1
KBU8A	50	8	1
KBU8B	100	8	1
KBU8D	200	8	1
KBU8G	400	8	1
KBU8J	600	8	1
KBU8K	800	8	1
KBU8M	1000	8	1
<b>SOIC</b>			
MB1S	100	0.5	1
MB2S	200	0.5	1
MB4S	400	0.5	1
MB6S	600	0.5	1
MB8S	800	0.5	1
<b>WOB</b>			
2W005G	50	2	1.1
2W01G	100	2	1.1
2W02G	200	2	1.1
2W04G	400	2	1.1
2W06G	600	2	1.1
2W08G	800	2	1.1
2W10G	1000	2	1.1
W005G	50	1.5	1
W01G	100	1.5	1
W02G	200	1.5	1
W04G	400	1.5	1
W06G	600	1.5	1

**Bridge Rectifiers (Continued)**

Products	$V_{RRM}$ (V)	$I_{F(AV)}$ (A)	$V_{FM}$ Max (V)
W08G	800	1.5	1
W10G	1000	1.5	1

## Transient Voltage Suppressors

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max	I <sub>T</sub> (mA)					
<b>DO-15</b>									
SA5V0A	5	6.4	7	10	9.2	54.3	600	500	Unidirectional
SA5V0CA	5	6.4	7	10	9.2	54.3	1200	500	Bidirectional
P6KE6V8A	5.8	6.45	7.14	10	10.5	57.1	1000	600	Unidirectional
P6KE6V8CA	5.8	6.45	7.14	10	10.5	57.1	2000	600	Bidirectional
SA6V0A	6	6.67	7.37	10	10.3	48.5	600	500	Unidirectional
SA6V0CA	6	6.67	7.37	10	10.3	48.5	1200	500	Bidirectional
P6KE7V5A	6.4	7.13	7.88	1	11.3	53.1	500	600	Unidirectional
P6KE7V5CA	6.4	7.13	7.88	1	11.3	53.1	1000	600	Bidirectional
SA6V5A	6.5	7.22	7.98	10	11.2	44.7	400	500	Unidirectional
SA6V5CA	6.5	7.22	7.98	10	11.2	44.7	800	500	Bidirectional
SA7V0A	7	7.78	8.6	10	12	41.7	150	500	Unidirectional
SA7V0CA	7	7.78	8.6	10	12	41.7	300	500	Bidirectional
P6KE8V2A	7.02	7.79	8.61	1	12.1	50	200	600	Unidirectional
P6KE8V2CA	7.02	7.79	8.61	1	12.1	50	400	600	Bidirectional
SA7V5A	7.5	8.33	9.21	1	12.9	38.8	50	500	Unidirectional
SA7V5CA	7.5	8.33	9.21	1	12.9	38.8	100	500	Bidirectional
P6KE9V1A	7.78	8.65	9.55	1	13.4	45	50	600	Unidirectional
P6KE9V1CA	7.78	8.65	9.55	1	13.4	45	100	600	Bidirectional
SA8V0A	8	8.89	9.83	1	13.6	36.7	25	500	Unidirectional
SA8V0CA	8	8.89	9.83	1	13.6	36.7	50	500	Bidirectional
SA8V5A	8.5	9.44	10.4	1	14.4	34.7	10	500	Unidirectional
SA8V5CA	8.5	9.44	10.4	1	14.4	34.7	20	500	Bidirectional
P6KE10A	8.55	9.5	10.5	1	14.5	41	10	600	Unidirectional
P6KE10CA	8.55	9.5	10.5	1	14.5	41	20	600	Bidirectional
SA9V0A	9	10	11.1	1	15.4	32.5	5	500	Unidirectional
SA9V0CA	9	10	11.1	1	15.4	32.5	10	500	Bidirectional
P6KE11A	9.4	10.5	11.6	1	15.6	38	5	600	Unidirectional
P6KE11CA	9.4	10.5	11.6	1	15.6	38	10	600	Bidirectional
SA10A	10	11.1	12.3	1	17	29.4	1	500	Unidirectional
SA10CA	10	11.1	12.3	1	17	29.4	1	500	Bidirectional
P6KE12A	10.2	11.4	12.6	1	16.7	36	5	600	Unidirectional
P6KE12CA	10.2	11.4	12.6	1	16.7	36	5	600	Bidirectional
SA11A	11	12.2	13.5	1	18.2	27.4	1	500	Unidirectional
SA11CA	11	12.2	13.5	1	18.2	27.4	1	500	Bidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition  I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
P6KE13A	11.1	12.4	13.7	1	18.2	33	5	600	Unidirectional
P6KE13CA	11.1	12.4	13.7	1	18.2	33	5	600	Bidirectional
SA12A	12	13.3	14.7	1	19.9	25.1	1	500	Unidirectional
SA12CA	12	13.3	14.7	1	19.9	25.1	1	500	Bidirectional
P6KE15A	12.8	14.3	15.8	1	21.2	28	5	600	Unidirectional
P6KE15CA	12.8	14.3	15.8	1	21.2	28	5	600	Bidirectional
SA13A	13	14.4	15.9	1	21.5	23.2	1	500	Unidirectional
SA13CA	13	14.4	15.9	1	21.5	23.2	1	500	Bidirectional
P6KE16A	13.6	15.2	16.8	1	22.5	27	5	600	Unidirectional
P6KE16CA	13.6	15.2	16.8	1	22.5	27	5	600	Bidirectional
SA14A	14	15.6	17.2	1	23.2	21.5	1	500	Unidirectional
SA14CA	14	15.6	17.2	1	23.2	21.5	1	500	Bidirectional
SA15A	15	16.7	18.5	1	24.4	20.6	1	500	Unidirectional
SA15CA	15	16.7	18.5	1	24.4	20.6	1	500	Bidirectional
P6KE18A	15.3	17.1	18.9	1	25.2	24	5	600	Unidirectional
P6KE18CA	15.3	17.1	18.9	1	25.2	24	5	600	Bidirectional
SA16A	16	17.8	19.7	1	26	19.2	1	500	Unidirectional
SA16CA	16	17.8	19.7	1	26	19.2	1	500	Bidirectional
SA17A	17	18.9	20.9	1	27.6	18.1	1	500	Unidirectional
SA17CA	17	18.9	20.9	1	27.6	18.1	1	500	Bidirectional
P6KE20A	17.1	19	21	1	27.7	22	5	600	Unidirectional
P6KE20CA	17.1	19	21	1	27.7	22	5	600	Bidirectional
SA18A	18	20	22.1	1	29.2	17.2	1	500	Unidirectional
SA18CA	18	20	22.1	1	29.2	17.2	1	500	Bidirectional
P6KE22A	18.8	20.9	23.1	1	30.6	20	5	600	Unidirectional
P6KE22CA	18.8	20.9	23.1	1	30.6	20	5	600	Bidirectional
SA20A	20	22.2	24.5	1	32.4	15.4	1	500	Unidirectional
SA20CA	20	22.2	24.5	1	32.4	15.4	1	500	Bidirectional
P6KE24A	20.5	22.8	25.2	1	33.2	18.1	5	600	Unidirectional
P6KE24CA	20.5	22.8	25.2	1	33.2	18.1	5	600	Bidirectional
SA22A	22	24.4	26.9	1	35.5	14.1	1	500	Unidirectional
SA22CA	22	24.4	26.9	1	35.5	14.1	1	500	Bidirectional
P6KE27A	23.1	25.7	28.4	1	37.5	16	5	600	Unidirectional
P6KE27CA	23.1	25.7	28.4	1	37.5	16	5	600	Bidirectional
SA24A	24	26.7	29.5	1	38.9	12.8	1	500	Unidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SA24CA	24	26.7	29.5	1	38.9	12.8	1	500	Bidirectional
P6KE30A	25.6	28.5	31.5	1	41.4	14.5	5	600	Unidirectional
P6KE30CA	25.6	28.5	31.5	1	41.4	14.5	5	600	Bidirectional
SA26A	26	28.9	31.9	1	42.1	11.9	1	500	Unidirectional
SA26CA	26	28.9	31.9	1	42.1	11.9	1	500	Bidirectional
SA28A	28	31.1	34.4	1	45.4	11	1	500	Unidirectional
SA28CA	28	31.1	34.4	1	45.4	11	1	500	Bidirectional
P6KE33A	28.2	31.4	34.7	1	45.7	13.2	5	600	Unidirectional
P6KE33CA	28.2	31.4	34.7	1	45.7	13.2	5	600	Bidirectional
SA30A	30	33.3	36.8	1	48.4	10.3	1	500	Unidirectional
SA30CA	30	33.3	36.8	1	48.4	10.3	1	500	Bidirectional
P6KE36A	30.8	34.2	37.8	1	49.9	12	5	600	Unidirectional
P6KE36CA	30.8	34.2	37.8	1	49.9	12	5	600	Bidirectional
SA33A	33	36.7	40.6	1	53.3	9.4	1	500	Unidirectional
SA33CA	33	36.7	40.6	1	53.3	9.4	1	500	Bidirectional
P6KE39A	33.3	37.1	41	1	53.9	11.2	5	600	Unidirectional
P6KE39CA	33.3	37.1	41	1	53.9	11.2	5	600	Bidirectional
SA36A	36	10	44.2	1	58.1	8.6	1	500	Unidirectional
SA36CA	36	40	44.2	1	58.1	8.6	1	500	Bidirectional
P6KE43A	36.8	40.9	45.2	1	59.3	10.1	5	600	Unidirectional
P6KE43CA	36.8	40.9	45.2	1	59.3	10.1	5	600	Bidirectional
SA40A	40	44.4	49.1	1	64.5	7.8	1	500	Unidirectional
SA40CA	40	44.4	49.1	1	64.5	7.8	1	500	Bidirectional
P6KE47A	40.2	44.7	49.4	1	64.8	9.3	5	600	Unidirectional
P6KE47CA	40.2	44.7	49.4	1	64.8	9.3	5	600	Bidirectional
SA43A	43	47.8	52.8	1	69.4	7.2	1	500	Unidirectional
SA43CA	43	47.8	52.8	1	69.4	7.2	1	500	Bidirectional
P6KE51A	43.6	48.5	53.6	1	70.1	8.6	5	600	Unidirectional
P6KE51CA	43.6	48.5	53.6	1	70.1	8.6	5	600	Bidirectional
SA45A	45	50	55.3	1	72.7	6.9	1	500	Unidirectional
SA45CA	45	50	55.3	1	72.7	6.9	1	500	Bidirectional
P6KE56A	47.8	53.2	58.8	1	77	7.8	5	600	Unidirectional
P6KE56CA	47.8	53.2	58.8	1	77	7.8	5	600	Bidirectional
SA48A	48	53.3	58.9	1	77.4	6.5	1	500	Unidirectional
SA48CA	48	53.3	58.9	1	77.4	6.5	1	500	Bidirectional



**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SA51A	51	56.7	62.7	1	82.4	6.1	1	500	Unidirectional
SA51CA	51	56.7	62.7	1	82.4	6.1	1	500	Bidirectional
P6KE62A	53	58.9	65.1	1	85	7.1	5	600	Unidirectional
P6KE62CA	53	58.9	65.1	1	85	7.1	5	600	Bidirectional
SA54A	54	60	66.3	1	87.1	5.7	1	500	Unidirectional
SA54CA	54	60	66.3	1	87.1	5.7	1	500	Bidirectional
SA58A	58	64.4	71.2	1	93.6	5.3	1	500	Unidirectional
SA58CA	58	64.4	71.2	1	93.6	5.3	1	500	Bidirectional
P6KE68A	58.1	64.6	71.4	1	92	6.5	5	600	Unidirectional
P6KE68CA	58.1	64.6	71.4	1	92	6.5	5	600	Bidirectional
SA60A	60	66.7	73.7	1	96.8	5.2	1	500	Unidirectional
SA60CA	60	66.7	73.7	1	96.8	5.2	1	500	Bidirectional
SA64A	64	71.1	78.6	1	103	4.9	1	500	Unidirectional
SA64CA	64	71.1	78.6	1	103	4.9	1	500	Bidirectional
P6KE75A	64.1	71.3	78.8	1	103	5.8	5	600	Unidirectional
P6KE75CA	64.1	71.3	78.8	1	103	5.8	5	600	Bidirectional
SA70A	70	77.8	86	1	113	4.4	1	500	Unidirectional
SA70CA	70	77.8	86	1	113	4.4	1	500	Bidirectional
P6KE82A	70.1	77.9	86.1	1	113	5.3	5	600	Unidirectional
P6KE82CA	70.1	77.9	86.1	1	113	5.3	5	600	Bidirectional
SA75A	75	83.3	92.1	1	121	4.1	1	500	Unidirectional
SA75CA	75	83.3	92.1	1	121	4.1	1	500	Bidirectional
P6KE91A	77.8	86.5	95.5	1	125	4.8	5	600	Unidirectional
P6KE91CA	77.8	86.5	95.5	1	125	4.8	5	600	Bidirectional
SA78A	78	86.7	95.8	1	126	4	1	500	Unidirectional
SA78CA	78	86.7	95.8	1	126	4	1	500	Bidirectional
SA85A	85	94.4	104	1	137	3.6	1	500	Unidirectional
SA85CA	85	94.4	104	1	137	3.6	1	500	Bidirectional
P6KE100A	85.5	95	105	1	137	4.4	5	600	Unidirectional
P6KE100CA	85.5	95	105	1	137	4.4	5	600	Bidirectional
SA90A	90	100	111	1	146	3.4	1	500	Unidirectional
SA90CA	90	100	111	1	146	3.4	1	500	Bidirectional
P6KE110A	94	105	116	1	152	4	5	600	Unidirectional
P6KE110CA	94	105	116	1	152	4	5	600	Bidirectional
SA100A	100	111	123	1	162	3.1	1	500	Unidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SA100CA	100	111	123	1	162	3.1	1	500	Bidirectional
P6KE120A	102	114	126	1	165	3.6	5	600	Unidirectional
P6KE120CA	102	114	126	1	165	3.6	5	600	Bidirectional
SA110A	110	122	135	1	177	2.8	1	500	Unidirectional
SA110CA	110	122	135	1	177	2.8	1	500	Bidirectional
P6KE130A	111	124	137	1	179	3.4	5	600	Unidirectional
P6KE130CA	111	124	137	1	179	3.4	5	600	Bidirectional
SA120A	120	133	147	1	193	2.7	1	500	Unidirectional
SA120CA	120	133	147	1	193	2.7	1	500	Bidirectional
P6KE150A	128	143	158	1	207	2.9	5	600	Unidirectional
P6KE150CA	128	143	158	1	207	2.9	5	600	Bidirectional
SA130A	130	144	159	1	209	2.4	1	500	Unidirectional
SA130CA	130	144	159	1	209	2.4	1	500	Bidirectional
P6KE160A	136	152	168	1	219	2.7	5	600	Unidirectional
P6KE160CA	136	152	168	1	219	2.7	5	600	Bidirectional
P6KE170A	145	162	179	1	234	2.6	5	600	Unidirectional
P6KE170CA	145	162	179	1	234	2.6	5	600	Bidirectional
SA150A	150	167	185	1	243	2.1	1	500	Unidirectional
SA150CA	150	167	185	1	243	2.1	1	500	Bidirectional
P6KE180A	154	171	189	1	246	2.4	5	600	Unidirectional
P6KE180CA	154	171	189	1	246	2.4	5	600	Bidirectional
SA160A	160	178	197	1	259	1.9	1	500	Unidirectional
SA160CA	160	178	197	1	259	1.9	1	500	Bidirectional
SA170A	170	189	209	1	275	1.8	1	500	Unidirectional
SA170CA	170	189	209	1	275	1.8	1	500	Bidirectional
P6KE200A	171	190	210	1	274	2.2	5	600	Unidirectional
P6KE200CA	171	190	210	1	274	2.2	5	600	Bidirectional
P6KE220A	185	209	231	1	328	1.9	5	600	Unidirectional
P6KE220CA	185	209	231	1	328	1.9	5	600	Bidirectional
P6KE250A	214	237	263	1	344	1.8	5	600	Unidirectional
P6KE250CA	214	237	263	1	344	1.8	5	600	Bidirectional
P6KE300A	256	285	315	1	414	1.5	5	600	Unidirectional
P6KE300CA	256	285	315	1	414	1.5	5	600	Bidirectional
P6KE350A	300	332	368	1	482	1.3	5	600	Unidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
P6KE350CA	300	332	368	1	482	1.3	5	600	Bidirectional
P6KE400A	342	380	420	1	548	1.1	5	600	Unidirectional
P6KE400CA	342	380	420	1	548	1.1	5	600	Bidirectional
P6KE440A	376	418	462	1	602	1	5	600	Unidirectional
P6KE440CA	376	418	462	1	602	1	5	600	Bidirectional
<b>DO-201AE</b>									
1V5KE6V8A	5.8	6.45	7.14	10	10.5	142	1000	1500	Unidirectional
1V5KE6V8CA	5.8	6.45	7.14	10	10.5	143	2000	1500	Bidirectional
1V5KE7V5A	6.4	7.13	7.88	10	11.3	133	500	1500	Unidirectional
1V5KE7V5CA	6.4	7.13	7.88	10	11.3	133	1000	1500	Bidirectional
1V5KE8V2A	7.02	7.79	8.61	10	12.1	124	200	1500	Unidirectional
1V5KE8V2CA	7.02	7.79	8.61	10	12.1	124	400	1500	Bidirectional
1V5KE9V1A	7.78	8.65	9.55	1	13.4	112	50	1500	Unidirectional
1V5KE9V1CA	7.78	8.65	9.55	1	13.4	112	100	1500	Bidirectional
1V5KE10A	8.55	9.5	10.5	1	14.5	103	10	1500	Unidirectional
1V5KE10CA	8.55	9.5	10.5	1	14.5	103	20	1500	Bidirectional
1V5KE11A	9.4	10.5	11.6	1	15.6	96.2	5	1500	Unidirectional
1V5KE11CA	9.4	10.5	11.6	1	15.6	96.2	10	1500	Bidirectional
1V5KE12A	10.2	11.4	12.6	1	16.7	90	5	1500	Unidirectional
1V5KE12CA	10.2	11.4	12.6	1	16.7	90	5	1500	Bidirectional
1V5KE13A	11.1	12.4	13.7	1	18.2	82	5	1500	Unidirectional
1V5KE13CA	11.1	12.4	13.7	1	18.2	82	5	1500	Bidirectional
1V5KE15A	12.8	14.3	15.8	1	21.2	71	5	1500	Unidirectional
1V5KE15CA	12.8	14.3	15.8	1	21.2	71	5	1500	Bidirectional
1V5KE16A	13.6	15.2	16.8	1	22.5	67	5	1500	Unidirectional
1V5KE16CA	13.6	15.2	16.8	1	22.5	67	5	1500	Bidirectional
1V5KE18A	15.3	17.1	18.9	1	26.2	59.5	5	1500	Unidirectional
1V5KE18CA	15.3	17.1	18.9	1	26.2	59.5	5	1500	Bidirectional
1V5KE20A	17.1	19	21	1	27.7	54.2	5	1500	Unidirectional
1V5KE20CA	17.1	19	21	1	27.7	54.2	5	1500	Bidirectional
1V5KE22A	18.8	20.9	23.1	1	30.6	49	5	1500	Unidirectional
1V5KE22CA	18.8	20.9	23.1	1	30.6	49	5	1500	Bidirectional
1V5KE24A	20.5	22.8	25.2	1	33.2	45.2	5	1500	Unidirectional
1V5KE24CA	20.5	22.8	25.2	1	33.2	45.2	5	1500	Bidirectional
1V5KE27A	23.1	25.7	28.4	1	37.5	40	5	1500	Unidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
1V5KE27CA	23.1	25.7	28.4	1	37.5	40	5	1500	Bidirectional
1V5KE30A	25.6	28.5	31.5	1	41.4	36.2	5	1500	Unidirectional
1V5KE30CA	25.6	28.5	31.5	1	41.4	36.2	5	1500	Bidirectional
1V5KE33A	28.2	31.4	34.7	1	45.7	33	5	1500	Unidirectional
1V5KE33CA	28.2	31.4	34.7	1	45.7	33	5	1500	Bidirectional
1V5KE36A	30.8	34.2	37.8	1	49.9	30.1	5	1500	Unidirectional
1V5KE36CA	30.8	34.2	37.8	1	49.9	30.1	5	1500	Bidirectional
1V5KE39A	33.3	37.1	41	1	53.9	28	5	1500	Unidirectional
1V5KE39CA	33.3	37.1	41	1	53.9	28	5	1500	Bidirectional
1V5KE43A	36.8	40.9	45.2	1	59.3	25.3	5	1500	Unidirectional
1V5KE43CA	36.8	40.9	45.2	1	59.3	25.3	5	1500	Bidirectional
1V5KE47A	40.2	44.7	49.4	1	64.8	23.2	5	1500	Unidirectional
1V5KE47CA	40.2	44.7	49.4	1	64.8	23.2	5	1500	Bidirectional
1V5KE51A	43.6	48.5	53.6	1	70.1	21.4	5	1500	Unidirectional
1V5KE51CA	43.6	48.5	53.6	1	70.1	21.4	5	1500	Bidirectional
1V5KE56A	47.8	53.2	58.8	1	77	19.5	5	1500	Unidirectional
1V5KE56CA	47.8	53.2	58.8	1	77	19.5	5	1500	Bidirectional
1V5KE62A	53	58.9	65.1	1	85	17.7	5	1500	Unidirectional
1V5KE62CA	53	58.9	65.1	1	85	17.7	5	1500	Bidirectional
1V5KE68A	58.1	64.6	71.4	1	92	16.3	5	1500	Unidirectional
1V5KE68CA	58.1	64.6	71.4	1	92	16.3	5	1500	Bidirectional
1V5KE75A	64.1	71.3	78.8	1	104	14.6	5	1500	Unidirectional
1V5KE75CA	64.1	71.3	78.8	1	104	14.6	5	1500	Bidirectional
1V5KE82A	70.1	77.9	86.1	1	113	13.3	5	1500	Unidirectional
1V5KE82CA	70.1	77.9	86.1	1	113	13.3	5	1500	Bidirectional
1V5KE91A	77.8	86.5	95.5	1	125	12	5	1500	Unidirectional
1V5KE91CA	77.8	86.5	95.5	1	125	12	5	1500	Bidirectional
1V5KE100A	85.5	95	105	1	137	11	5	1500	Unidirectional
1V5KE100CA	85.5	95	105	1	137	11	5	1500	Bidirectional
1V5KE110A	94	106	116	1	152	9.9	5	1500	Unidirectional
1V5KE110CA	94	106	116	1	152	9.9	5	1500	Bidirectional
1V5KE120A	102	114	126	1	165	9.1	5	1500	Unidirectional
1V5KE120CA	102	114	126	1	165	9.1	5	1500	Bidirectional
1V5KE130A	111	124	137	1	179	8.4	5	1500	Unidirectional
1V5KE130CA	111	124	137	1	179	8.4	5	1500	Bidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
1V5KE150A	128	143	158	1	207	7.2	5	1500	Unidirectional
1V5KE150CA	128	143	158	1	207	7.2	5	1500	Bidirectional
1V5KE160A	136	152	168	1	219	6.8	5	1500	Unidirectional
1V5KE160CA	136	152	168	1	219	6.8	5	1500	Bidirectional
1V5KE170A	145	162	179	1	234	6.4	5	1500	Unidirectional
1V5KE170CA	145	162	179	1	234	6.4	5	1500	Bidirectional
1V5KE180A	154	171	189	1	246	6.1	5	1500	Unidirectional
1V5KE180CA	154	171	189	1	246	6.1	5	1500	Bidirectional
1V5KE200A	171	190	210	1	274	5.5	5	1500	Unidirectional
1V5KE200CA	171	190	210	1	274	5.5	5	1500	Bidirectional
1V5KE220A	185	209	231	1	328	4.6	5	1500	Unidirectional
1V5KE220CA	185	209	231	1	328	4.6	5	1500	Bidirectional
1V5KE250A	214	237	263	1	344	4.5	5	1500	Unidirectional
1V5KE250CA	214	237	263	1	344	4.5	5	1500	Bidirectional
1V5KE300A	256	285	315	1	414	3.8	5	1500	Unidirectional
1V5KE300CA	256	285	315	1	414	3.8	5	1500	Bidirectional
1V5KE350A	300	333	368	1	482	3.2	5	1500	Unidirectional
1V5KE350CA	300	333	368	1	482	3.2	5	1500	Bidirectional
1V5KE400A	342	380	420	1	548	2.8	5	1500	Unidirectional
1V5KE400CA	342	380	420	1	548	2.8	5	1500	Bidirectional
1V5KE440A	376	418	462	1	602	2.6	5	1500	Unidirectional
1V5KE440CA	376	418	462	1	602	2.6	5	1500	Bidirectional
<b>SMB</b>									
SMBJ5VOA	5	6.4	7	10	9.2	65.2	800	600	Unidirectional
SMBJ5VOCA	5	6.4	7	10	9.2	65.2	1600	600	Bidirectional
SMBJ6VOA	6	6.67	7.37	10	10.3	58.3	800	600	Unidirectional
SMBJ6VOCA	6	6.67	7.37	10	10.3	58.3	1600	600	Bidirectional
SMBJ6V5A	6.5	7.22	7.98	10	11.2	53.6	500	600	Unidirectional
SMBJ6V5CA	6.5	7.22	7.98	10	11.2	53.6	1000	600	Bidirectional
SMBJ7VOA	7	7.78	8.6	10	12	50	200	600	Unidirectional
SMBJ7VOCA	7	7.78	8.6	10	12	50	400	600	Bidirectional
SMBJ7V5A	7.5	8.33	9.21	1	12.9	46.5	100	600	Unidirectional
SMBJ7V5CA	7.5	8.33	9.21	1	12.9	46.5	200	600	Bidirectional
SMBJ8VOA	8	8.89	9.83	1	13.6	44.1	50	600	Unidirectional
SMBJ8VOCA	8	8.89	9.83	1	13.6	44.1	100	600	Bidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SMBJ8V5A	8.5	9.44	10.4	1	14.4	41.7	20	600	Unidirectional
SMBJ8V5CA	8.5	9.44	10.4	1	14.4	41.7	40	600	Bidirectional
SMBJ9V0A	9	10	11.1	1	15.4	39	10	600	Unidirectional
SMBJ9V0CA	9	10	11.1	1	15.4	39	20	600	Bidirectional
SMBJ10A	10	11.1	12.8	1	17	35.3	5	600	Unidirectional
SMBJ10CA	10	11.1	12.8	1	17	35.3	5	600	Bidirectional
SMBJ11A	11	12.2	13.5	1	18.2	33	5	600	Unidirectional
SMBJ11CA	11	12.2	13.5	1	18.2	33	5	600	Bidirectional
<b>SMBJ12A822</b>	12	13.2	14.3	1	15.6	17.5	5	600	Unidirectional
SMBJ12A933	12	13.2	13.8	1	15.6	17.5	5	600	Unidirectional
SMBJ12A	12	13.3	14.7	1	19.9	30.2	5	600	Unidirectional
SMBJ12CA	12	13.3	14.7	1	19.9	30.2	5	600	Bidirectional
SMBJ13A	13	14.4	15.9	1	21.5	27.9	5	600	Unidirectional
SMBJ13A100	13	14.4	15.9	1	21.5	27.9	0	600	Unidirectional
SMBJ13CA	13	14.4	15.9	1	21.5	27.9	5	600	Bidirectional
SMBJ14A	14	15.6	17.2	1	23.2	25.9	5	600	Unidirectional
SMBJ14CA	14	15.6	17.2	1	23.2	25.9	5	600	Bidirectional
SMBJ15A	15	16.7	18.5	1	24.4	24.6	5	600	Unidirectional
SMBJ15CA	15	16.7	18.5	1	24.4	24.6	5	600	Bidirectional
SMBJ16A	16	17.8	19.7	1	26	23.1	5	600	Unidirectional
SMBJ16CA	16	17.8	19.7	1	26	23.1	5	600	Bidirectional
SMBJ17A	17	18.9	20.9	1	27.6	21.7	5	600	Unidirectional
SMBJ17CA	17	18.9	20.9	1	27.6	21.7	5	600	Bidirectional
SMBJ18A	18	20	22.1	1	29.2	20.5	5	600	Unidirectional
SMBJ18CA	18	20	22.1	1	29.2	20.5	5	600	Bidirectional
SMBJ20A	20	22.2	24.5	1	32.4	18.5	5	600	Unidirectional
SMBJ20CA	20	22.2	24.5	1	32.4	18.5	5	600	Bidirectional
SMBJ22A	22	24.4	26.9	1	35.5	16.9	5	600	Unidirectional
SMBJ22CA	22	24.4	26.9	1	35.5	16.9	5	600	Bidirectional
SMBJ24A	24	26.7	29.5	1	38.9	15.4	5	600	Unidirectional
SMBJ24CA	24	26.7	29.5	1	38.9	15.4	5	600	Bidirectional
SMBJ26A	26	28.9	31.9	1	42.1	14.3	5	600	Unidirectional
SMBJ26CA	26	28.9	31.9	1	42.1	14.3	5	600	Bidirectional
SMBJ28A	28	31.1	34.4	1	45.4	13.2	5	600	Unidirectional
SMBJ28CA	28	31.1	34.4	1	45.4	13.2	5	600	Bidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SMBJ30A	30	33.3	36.8	1	48.4	12.4	5	600	Unidirectional
SMBJ30CA	30	33.3	36.8	1	48.4	12.4	5	600	Bidirectional
SMBJ33A	33	36.7	40.6	1	53.3	11.3	5	600	Unidirectional
SMBJ33CA	33	36.7	40.6	1	53.3	11.3	5	600	Bidirectional
SMBJ36A	36	40	44.2	1	58.1	10.3	5	600	Unidirectional
SMBJ36CA	36	40	44.2	1	58.1	10.3	5	600	Bidirectional
SMBJ40A	40	44.4	49.1	1	64.5	9.3	5	600	Unidirectional
SMBJ40CA	40	44.4	49.1	1	64.5	9.3	5	600	Bidirectional
SMBJ43A	43	47.8	52.8	1	69.4	8.6	5	600	Unidirectional
SMBJ43CA	43	47.8	52.8	1	69.4	8.6	5	600	Bidirectional
SMBJ45A	45	50	55.3	1	72.7	8.3	5	600	Unidirectional
SMBJ45CA	45	50	55.3	1	72.7	8.3	5	600	Bidirectional
SMBJ48A	48	53.3	58.9	1	77.4	7.8	5	600	Unidirectional
SMBJ48CA	48	53.3	58.9	1	77.4	7.8	5	600	Bidirectional
SMBJ51A	51	56.7	62.7	1	82.4	7.3	5	600	Unidirectional
SMBJ51CA	51	56.7	62.7	1	82.4	7.3	5	600	Bidirectional
SMBJ54A	54	60	66.3	1	87.1	6.9	5	600	Unidirectional
SMBJ54CA	54	60	66.3	1	87.1	6.9	5	600	Bidirectional
SMBJ58A	58	64.4	71.2	1	93.6	6.4	5	600	Unidirectional
SMBJ58CA	58	64.4	71.2	1	93.6	6.4	5	600	Bidirectional
SMBJ60A	60	66.7	73.7	1	96.8	6.2	5	600	Unidirectional
SMBJ60CA	60	66.7	73.7	1	96.8	6.2	5	600	Bidirectional
SMBJ64A	64	71.1	78.6	1	103	5.8	5	600	Unidirectional
SMBJ64CA	64	71.1	78.6	1	103	5.8	5	600	Bidirectional
SMBJ70A	70	77.8	86	1	113	5.3	5	600	Unidirectional
SMBJ70CA	70	77.8	86	1	113	5.3	5	600	Bidirectional
SMBJ75A	75	83.3	92.1	1	121	5	5	600	Unidirectional
SMBJ75CA	75	83.3	92.1	1	121	5	5	600	Bidirectional
SMBJ78A	78	86.7	95.8	1	126	4.8	5	600	Unidirectional
SMBJ78CA	78	86.7	95.8	1	126	4.8	5	600	Bidirectional
SMBJ85A	85	94.4	104	1	137	4.4	5	600	Unidirectional
SMBJ85CA	85	94.4	104	1	137	4.4	5	600	Bidirectional
SMBJ90A	90	100	111	1	146	4.1	5	600	Unidirectional
SMBJ90CA	90	100	111	1	146	4.1	5	600	Bidirectional
SMBJ100A	100	111	123	1	162	3.7	5	600	Unidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SMBJ100CA	100	111	123	1	162	3.7	5	600	Bidirectional
SMBJ110A	110	122	135	1	177	3.4	5	600	Unidirectional
SMBJ110CA	110	122	135	1	177	3.4	5	600	Bidirectional
SMBJ120A	120	133	147	1	193	3.1	5	600	Unidirectional
SMBJ120CA	120	133	147	1	193	3.1	5	600	Bidirectional
SMBJ130A	130	144	159	1	209	2.9	5	600	Unidirectional
SMBJ130CA	130	144	159	1	209	2.9	5	600	Bidirectional
SMBJ150A	150	167	185	1	243	2.5	5	600	Unidirectional
SMBJ150CA	150	167	185	1	243	2.5	5	600	Bidirectional
SMBJ160A	160	178	197	1	259	2.3	5	600	Unidirectional
SMBJ160CA	160	178	197	1	259	2.3	5	600	Bidirectional
SMBJ170A	170	189	209	1	275	2.2	5	600	Unidirectional
SMBJ170CA	170	189	209	1	275	2.2	5	600	Bidirectional
<b>SMC</b>									
SMCJ5V0A	5	6.4	7	10	9.2	163	1000	1500	Unidirectional
SMCJ5V0CA	5	6.4	7	10	9.2	163	2000	1500	Bidirectional
SMCJ6V0A	6	6.67	7.37	10	10.3	145.6	1000	1500	Unidirectional
SMCJ6V0CA	6	6.67	7.37	10	10.3	145.6	2000	1500	Bidirectional
SMCJ6V5A	6.5	7.22	7.98	10	11.2	133.9	500	1500	Unidirectional
SMCJ6V5CA	6.5	7.22	7.98	10	11.2	133.9	1000	1500	Bidirectional
SMCJ7V0A	7	7.78	8.6	10	12	125	200	1500	Unidirectional
SMCJ7V0CA	7	7.78	8.6	10	12	125	400	1500	Bidirectional
SMCJ7V5A	7.5	8.33	9.21	1	12.9	116.3	100	1500	Unidirectional
SMCJ7V5CA	7.5	8.33	9.21	1	12.9	116.3	200	1500	Bidirectional
SMCJ8V0A	8	8.89	9.83	1	13.6	110.3	50	1500	Unidirectional
SMCJ8V0CA	8	8.89	9.83	1	13.6	110.3	100	1500	Bidirectional
SMCJ8V5A	8.5	9.44	10.4	1	14.4	104.2	20	1500	Unidirectional
SMCJ8V5CA	8.5	9.44	10.4	1	14.4	104.2	40	1500	Bidirectional
SMCJ9V0A	9	10	11.1	1	15.4	97.4	10	1500	Unidirectional
SMCJ9V0CA	9	10	11.1	1	15.4	97.4	20	1500	Bidirectional
SMCJ10A	10	11.1	12.3	1	17	88.2	5	1500	Unidirectional
SMCJ10CA	10	11.1	12.3	1	17	88.2	5	1500	Bidirectional
SMCJ11A	11	12.2	13.5	1	18.2	82.4	5	1500	Unidirectional
SMCJ11CA	11	12.2	13.5	1	18.2	82.4	5	1500	Bidirectional
SMCJ12A	12	13.3	14.7	1	19.9	75.3	5	1500	Unidirectional



**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SMCJ12CA	12	13.3	14.7	1	19.9	75.3	5	1500	Bidirectional
SMCJ13A	13	14.4	15.9	1	21.5	69.8	5	1500	Unidirectional
SMCJ13CA	13	14.4	15.9	1	21.5	69.8	5	1500	Bidirectional
SMCJ14A	14	15.6	17.2	1	23.2	64.7	5	1500	Unidirectional
SMCJ14CA	14	15.6	17.2	1	23.2	64.7	5	1500	Bidirectional
SMCJ15A	15	16.7	18.5	1	24.4	61.5	5	1500	Unidirectional
SMCJ15CA	15	16.7	18.5	1	24.4	61.5	5	1500	Bidirectional
SMCJ16A	16	17.8	19.7	1	26	57.7	5	1500	Unidirectional
SMCJ16CA	16	17.8	19.7	1	26	57.7	5	1500	Bidirectional
SMCJ17A	17	18.9	20.9	1	27.6	54.3	5	1500	Unidirectional
SMCJ17CA	17	18.9	20.9	1	27.6	54.3	5	1500	Bidirectional
SMCJ18A	18	20	22.1	1	29.2	51.4	5	1500	Unidirectional
SMCJ18CA	18	20	22.1	1	29.2	51.4	5	1500	Bidirectional
SMCJ20A	20	22.2	24.5	1	32.4	46.3	5	1500	Unidirectional
SMCJ20CA	20	22.2	24.5	1	32.4	46.3	5	1500	Bidirectional
SMCJ22A	22	24.4	26.9	1	35.5	42.3	5	1500	Unidirectional
SMCJ22CA	22	24.4	26.9	1	35.5	42.3	5	1500	Bidirectional
SMCJ24A	24	26.7	29.5	1	38.9	38.6	5	1500	Unidirectional
SMCJ24CA	24	26.7	29.5	1	38.9	38.6	5	1500	Bidirectional
SMCJ26A	26	28.9	31.9	1	42.1	35.6	5	1500	Unidirectional
SMCJ26CA	26	28.9	31.9	1	42.1	35.6	5	1500	Bidirectional
SMCJ28A	28	31.1	34.4	1	45.4	33	5	1500	Unidirectional
SMCJ28CA	28	31.1	34.4	1	45.4	33	5	1500	Bidirectional
SMCJ30A	30	33.3	36.8	1	48.4	31	5	1500	Unidirectional
SMCJ30CA	30	33.3	36.8	1	48.4	31	5	1500	Bidirectional
SMCJ33A	33	36.7	40.6	1	53.3	28.1	5	1500	Unidirectional
SMCJ33CA	33	36.7	40.6	1	53.3	28.1	5	1500	Bidirectional
SMCJ36A	36	40	44.2	1	58.1	25.8	5	1500	Unidirectional
SMCJ36CA	36	40	44.2	1	58.1	25.8	5	1500	Bidirectional
SMCJ40A	40	44.4	49.1	1	64.5	23.3	5	1500	Unidirectional
SMCJ40CA	40	44.4	49.1	1	64.5	23.3	5	1500	Bidirectional
SMCJ43A	43	47.8	52.8	1	69.4	21.6	5	1500	Unidirectional
SMCJ43CA	43	47.8	52.8	1	69.4	21.6	5	1500	Bidirectional
SMCJ45A	45	50	55.3	1	72.7	20.6	5	1500	Unidirectional
SMCJ45CA	45	50	55.3	1	72.7	20.6	5	1500	Bidirectional

**Transient Voltage Suppressors (Continued)**

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition I <sub>T</sub> (mA)	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SMCJ48A	48	53.3	58.9	1	77.4	19.4	5	1500	Unidirectional
SMCJ48CA	48	53.3	58.9	1	77.4	19.4	5	1500	Bidirectional
SMCJ51A	51	56.7	62.7	1	82.4	18.2	5	1500	Unidirectional
SMCJ51CA	51	56.7	62.7	1	82.4	18.2	5	1500	Bidirectional
SMCJ54A	54	60	66.3	1	87.1	17.2	5	1500	Unidirectional
SMCJ54CA	54	60	66.3	1	87.1	17.2	5	1500	Bidirectional
SMCJ58A	58	64.4	71.2	1	93.6	16	5	1500	Unidirectional
SMCJ58CA	58	64.4	71.2	1	93.6	16	5	1500	Bidirectional
SMCJ60A	60	66.7	73.7	1	96.8	15.5	5	1500	Unidirectional
SMCJ60CA	60	66.7	73.7	1	96.8	15.5	5	1500	Bidirectional
SMCJ64A	64	71.1	78.6	1	103	14.6	5	1500	Unidirectional
SMCJ64CA	64	71.1	78.6	1	103	14.6	5	1500	Bidirectional
SMCJ70A	70	77.8	86	1	113	13.3	5	1500	Unidirectional
SMCJ70CA	70	77.8	86	1	113	13.3	5	1500	Bidirectional
SMCJ75A	75	83.3	92.1	1	121	12.4	5	1500	Unidirectional
SMCJ75CA	75	83.3	92.1	1	121	12.4	5	1500	Bidirectional
SMCJ78A	78	86.7	95.8	1	126	11.9	5	1500	Unidirectional
SMCJ78CA	78	86.7	95.8	1	126	11.9	5	1500	Bidirectional
SMCJ85A	85	94.4	104	1	137	10.9	5	1500	Unidirectional
SMCJ85CA	85	94.4	104	1	137	10.9	5	1500	Bidirectional
SMCJ90A	90	100	111.1	1	146	10.3	5	1500	Unidirectional
SMCJ90CA	90	100	111.1	1	146	10.3	5	1500	Bidirectional
SMCJ100A	100	111	123	1	162	9.3	5	1500	Unidirectional
SMCJ100CA	100	111	123	1	162	9.3	5	1500	Bidirectional
SMCJ110A	110	122	135	1	177	8.5	5	1500	Unidirectional
SMCJ110CA	110	122	135	1	177	8.5	5	1500	Bidirectional
SMCJ120A	120	133	147	1	193	7.8	5	1500	Unidirectional
SMCJ120CA	120	133	147	1	193	7.8	5	1500	Bidirectional
SMCJ130A	130	144	159	1	209	7.2	5	1500	Unidirectional
SMCJ130CA	130	144	159	1	209	7.2	5	1500	Bidirectional
SMCJ150A	150	167	185	1	243	6.2	5	1500	Unidirectional
SMCJ150CA	150	167	185	1	243	6.2	5	1500	Bidirectional
SMCJ160A	160	178	197	1	259	5.8	5	1500	Unidirectional
SMCJ160CA	160	178	197	1	259	5.8	5	1500	Bidirectional
SMCJ170A	170	189	209	1	275	5.5	5	1500	Unidirectional

## Transient Voltage Suppressors (Continued)

Products	V <sub>RWM</sub> Reverse Stand-off Voltage (V)	V <sub>BR</sub> Breakdown Voltage (V)		Test Condition	V <sub>C</sub> Max Clamping Voltage @ I <sub>PPM</sub> (V)	I <sub>PPM</sub> Max Peak Pulse Surge Current (A)	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max	I <sub>T</sub> (mA)					
SMCJ170CA	170	189	209	1	275	5.5	5	1500	Bidirectional

## Zener Diodes

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>DO-35</b>			
<b>1N4678</b>	1.8	0.5	–
<b>1N4679</b>	2	0.5	–
<b>1N4680</b>	2.2	0.5	–
<b>1N4370A</b>	2.4	0.5	30
<b>1N4681</b>	2.4	0.5	–
1N5221B	2.4	0.5	30
<b>1N5985B</b>	2.4	0.5	100
<b>BZX79C2V4</b>	2.4	0.5	100
<b>BZX55C2V4</b>	2.42	0.5	85
<b>1N5222B</b>	2.5	0.5	30
<b>1N4682</b>	2.57	0.5	–
<b>1N4371A</b>	2.7	0.5	30
1N5223B	2.7	0.5	30
<b>1N5986B</b>	2.7	0.5	100
<b>BZX55C2V7</b>	2.7	0.5	85
<b>BZX79C2V7</b>	2.7	0.5	100
<b>1N5224B</b>	2.8	0.5	30
<b>1N4372A</b>	3	0.5	29
<b>1N5225B</b>	3	0.5	29
<b>1N5987B</b>	3	0.5	95
<b>BZX55C3V0</b>	3	0.5	85
<b>BZX79C3V0</b>	3	0.5	95
1N5226B	3.3	0.5	28
<b>1N5988B</b>	3.3	0.5	95
1N746A	3.3	0.5	28
BZX55C3V3	3.3	0.5	85
BZX79C3V3	3.3	0.5	85
<b>1N4683</b>	3.6	0.5	–
1N5227B	3.6	0.5	24
<b>1N5989B</b>	3.6	0.5	90
1N747A	3.6	0.5	24
BZX55C3V6	3.6	0.5	85
BZX79C3V6	3.6	0.5	85
1N5228B	3.9	0.5	23

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>1N5990B</b>	3.9	0.5	90
1N748A	3.9	0.5	23
BZX55C3V9	3.9	0.5	85
BZX79C3V9	3.9	0.5	85
<b>1N4687</b>	4.09	0.5	–
1N5229B	4.3	0.5	22
<b>1N5991B</b>	4.3	0.5	88
1N749A	4.3	0.5	22
BZX55C4V3	4.3	0.5	75
BZX79C4V3	4.3	0.5	75
1N5230B	4.7	0.5	19
<b>1N5992B</b>	4.7	0.5	70
1N750A	4.7	0.5	19
BZX55C4V7	4.7	0.5	60
BZX79C4V7	4.7	0.5	60
1N5231B	5.1	0.5	17
<b>1N5993B</b>	5.1	0.5	50
1N751A	5.1	0.5	17
BZX55C5V1	5.1	0.5	35
BZX79C5V1	5.1	0.5	35
1N5231C	5.2	0.5	17
1N5232B	5.6	0.5	11
<b>1N5994B</b>	5.6	0.5	25
1N752A	5.6	0.5	11
BZX55C5V6	5.6	0.5	25
BZX79C5V6	5.6	0.5	25
1N5233B	6	0.5	7
1N5234B	6.2	0.5	7
<b>1N5995B</b>	6.2	0.5	10
1N753A	6.2	0.5	7
BZX55C6V2	6.2	0.5	10
BZX79C6V2	6.2	0.5	10
1N5235B	6.8	0.5	5
<b>1N5996B</b>	6.8	0.5	8
1N754A	6.8	0.5	5

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
1N957B	6.8	0.5	4.5
BZX55C6V8	6.8	0.5	8
BZX79C6V8	6.8	0.5	8
1N5236B	7.5	0.5	6
<b>1N5997B</b>	7.5	0.5	7
1N755A	7.5	0.5	6
1N958B	7.5	0.5	5.5
BZX55C7V5	7.5	0.5	7
BZX79C7V5	7.5	0.5	7
1N5237B	8.2	0.5	8
<b>1N5998B</b>	8.2	0.5	7
1N756A	8.2	0.5	8
1N959B	8.2	0.5	6.5
BZX55C8V2	8.2	0.5	7
BZX79C8V2	8.2	0.5	7
1N5238B	8.7	0.5	8
1N5239B	9.1	0.5	10
<b>1N5999B</b>	9.1	0.5	10
1N757A	9.1	0.5	10
1N960B	9.1	0.5	7.5
BZX55C9V1	9.1	0.5	10
BZX79C9V1	9.1	0.5	10
1N5240B	10	0.5	17
<b>1N6000B</b>	10	0.5	15
1N758A	10	0.5	17
1N961B	10	0.5	8.5
BZX55C10	10	0.5	15
BZX79C10	10	0.5	15
<b>1N4698</b>	10.45	0.5	–
1N5241B	11	0.5	22
<b>1N6001B</b>	11	0.5	18
1N962B	11	0.5	9.5
BZX55C11	11	0.5	20
BZX79C11	11	0.5	20
1N5242B	12	0.5	30

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>1N6002B</b>	12	0.5	22
1N759A	12	0.5	30
1N963B	12	0.5	11.5
BZX55C12	12	0.5	20
BZX79C12	12	0.5	20
1N5243B	13	0.5	13
<b>1N6003B</b>	13	0.5	25
1N964B	13	0.5	13
BZX55C13	13	0.5	26
BZX79C13	13	0.5	26
<b>1N4701</b>	13.3	0.5	–
1N5244B	14	0.5	15
1N5245B	15	0.5	16
<b>1N6004B</b>	15	0.5	32
1N965B	15	0.5	16
BZX55C15	15	0.5	30
BZX79C15	15	0.5	30
1N5246B	16	0.5	17
<b>1N6005B</b>	16	0.5	36
1N966B	16	0.5	17
BZX55C16	16	0.5	40
BZX79C16	16	0.5	40
1N5247B	17	0.5	19
1N5248B	18	0.5	21
<b>1N6006B</b>	18	0.5	42
1N967B	18	0.5	21
BZX55C18	18	0.5	50
BZX79C18	18	0.5	50
1N5249B	19	0.5	23
1N5250B	20	0.5	25
<b>1N6007B</b>	20	0.5	48
1N968B	20	0.5	25
BZX55C20	20	0.5	55
BZX79C20	20	0.5	55
1N5251B	22	0.5	29

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>1N6008B</b>	22	0.5	55
1N969B	22	0.5	29
BZX55C22	22	0.5	55
BZX79C22	22	0.5	55
1N5252B	24	0.5	33
<b>1N6009B</b>	24	0.5	62
1N970B	24	0.5	33
BZX55C24	24	0.5	80
BZX79C24	24	0.5	80
1N5253B	25	0.5	35
1N5254B	27	0.5	41
<b>1N6010B</b>	27	0.5	70
1N971B	27	0.5	41
BZX55C27	27	0.5	80
BZX79C27	27	0.5	80
1N5255B	28	0.5	44
1N5256B	30	0.5	49
<b>1N6011B</b>	30	0.5	70
1N972B	30	0.5	49
BZX55C30	30	0.5	80
BZX79C30	30	0.5	80
1N5257B	33	0.5	58
<b>1N6012B</b>	33	0.5	88
1N973B	33	0.5	58
BZX55C33	33	0.5	80
BZX79C33	33	0.5	80
<b>1N5258B</b>	36	0.5	70
<b>1N6013B</b>	36	0.5	95
<b>1N974B</b>	36	0.5	70
<b>BZX55C36</b>	36	0.5	80
<b>BZX79C36</b>	36	0.5	90
<b>1N5259B</b>	39	0.5	80
<b>1N6014B</b>	39	0.5	130
<b>1N975B</b>	39	0.5	80
<b>BZX55C39</b>	39	0.5	90



**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>BZX79C39</b>	39	0.5	130
<b>1N5260B</b>	43	0.5	93
<b>1N6015B</b>	43	0.5	150
<b>1N976B</b>	43	0.5	93
<b>BZX55C43</b>	43	0.5	90
<b>BZX79C43</b>	43	0.5	150
<b>1N5261B</b>	47	0.5	105
<b>1N6016B</b>	47	0.5	170
<b>1N977B</b>	47	0.5	105
<b>BZX55C47</b>	47	0.5	110
<b>BZX79C47</b>	47	0.5	150
<b>1N5262B</b>	51	0.5	125
<b>1N6017B</b>	51	0.5	180
<b>1N978B</b>	51	0.5	125
<b>BZX55C51</b>	51	0.5	54
<b>BZX79C51</b>	51	0.5	180
<b>1N5263B</b>	56	0.5	150
<b>1N6018B</b>	56	0.5	200
<b>BZX55C56</b>	56	0.5	60
<b>BZX79C56</b>	56	0.5	200
<b>1N979B</b>	62	0.5	185
<b>1N5271B</b>	100	0.5	500
<b>1N6024B</b>	100	0.5	500
<b>1N985B</b>	100	0.5	500
<b>1N5273B</b>	120	0.5	900
<b>DO-41</b>			
1N4728A	3.3	1	10
BZX85C3V3	3.3	1	20
1N4729A	3.6	1	10
BZX85C3V6	3.6	1	15
1N4730A	3.9	1	9
BZX85C3V9	3.9	1	15
1N4731A	4.3	1	9
BZX85C4V3	4.3	1	13
1N4732A	4.7	1	8

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
BZX85C4V7	4.7	1	13
1N4733A	5.1	1	7
BZX85C5V1	5.1	1	10
1N4734A	5.6	1	5
BZX85C5V6	5.6	1	7
1N4735A	6.2	1	2
BZX85C6V2	6.2	1	4
1N4736A	6.8	1	3.5
BZX85C6V8	6.8	1	3
1N4737A	7.5	1	4
BZX85C7V5	7.5	1	3
1N4738A	8.2	1	4.5
BZX85C8V2	8.2	1	5
1N4739A	9.1	1	5
BZX85C9V1	9.1	1	5
1N4740A	10	1	7
BZX85C10	10	1	7
1N4741A	11	1	8
BZX85C11	11	1	8
1N4742A	12	1	9
BZX85C12	12	1	9
1N4743A	13	1	10
BZX85C13	13	1	10
1N4744A	15	1	14
BZX85C15	15	1	15
1N4745A	16	1	16
BZX85C16	16	1	15
1N4746A	18	1	20
BZX85C18	18	1	20
1N4747A	20	1	22
BZX85C20	20	1	24
1N4748A	22	1	23
BZX85C22	22	1	25
1N4749A	24	1	25
BZX85C24	24	1	25

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
1N4750A	27	1	35
BZX85C27	27	1	30
1N4751A	30	1	40
BZX85C30	30	1	30
1N4752A	33	1	45
BZX85C33	33	1	35
<b>1N4753A</b>	36	1	50
<b>BZX85C36</b>	36	1	40
<b>1N4754A</b>	39	1	60
<b>BZX85C39</b>	39	1	45
<b>1N4755A</b>	43	1	70
<b>BZX85C43</b>	43	1	50
<b>1N4756A</b>	47	1	80
<b>BZX85C47</b>	47	1	90
<b>1N4757A</b>	51	1	95
<b>BZX85C51</b>	51	1	115
<b>1N4758A</b>	56	1	110
<b>BZX85C56</b>	56	1	120
<b>1N4760A</b>	68	1	150
<b>1N4764A</b>	100	1	350
<b>BZX85C100</b>	100	1	350
<b>SOD-123</b>			
MMSZ4684	3.3	0.5	–
MMSZ5226B	3.3	0.5	28
MMSZ5227B	3.6	0.5	24
MMSZ4686	3.9	0.5	–
MMSZ5228B	3.9	0.5	23
MMSZ5229B	4.3	0.5	22
MMSZ4688	4.7	0.5	–
MMSZ5230B	4.7	0.5	19
MMSZ4689	5.1	0.5	–
MMSZ5231B	5.1	0.5	17
MMSZ5232B	5.6	0.5	11
MMSZ5233B	6	0.5	7
MMSZ5234B	6.2	0.5	7

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
MMSZ4692	6.8	0.5	–
MMSZ5235B	6.8	0.5	5
MMSZ5236B	7.5	0.5	6
MMSZ5237B	8.2	0.5	8
MMSZ5238B	8.7	0.5	8
MMSZ5239B	9.1	0.5	10
MMSZ4697	10	0.5	–
MMSZ5240B	10	0.5	17
MMSZ5241B	11	0.5	22
MMSZ5242B	12	0.5	30
MMSZ5243B	13	0.5	13
MMSZ5244B	14	0.5	15
MMSZ4702	15	0.5	–
MMSZ5245B	15	0.5	16
MMSZ4703	16	0.5	–
MMSZ5246B	16	0.5	17
MMSZ5247B	17	0.5	19
MMSZ5248B	18	0.5	21
MMSZ4706	19	0.5	–
MMSZ5249B	19	0.5	23
MMSZ5250B	20	0.5	25
MMSZ5251B	22	0.5	29
MMSZ5252B	24	0.5	33
MMSZ5253B	25	0.5	35
MMSZ5254B	27	0.5	41
MMSZ5255B	28	0.5	44
MMSZ5256B	30	0.5	49
MMSZ5257B	33	0.5	58
<b>SOT-23</b>			
MMBZ5221B	2.4	0.35	–
MMBZ5223B	2.7	0.35	–
BZX84C3V3	3.3	0.35	85
MMBZ5226B	3.3	0.35	28
BZX84C3V6	3.6	0.35	85
MMBZ5227B	3.6	0.35	24

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
BZX84C3V9	3.9	0.35	85
MMBZ5228B	3.9	0.35	23
BZX84C4V3	4.3	0.35	75
MMBZ5229B	4.3	0.35	22
BZX84C4V7	4.7	0.35	60
MMBZ5230B	4.7	0.35	19
BZX84C5V1	5.1	0.35	35
MMBZ5231B	5.1	0.35	17
BZX84C5V6	5.6	0.35	25
MMBZ5232B	5.6	0.35	11
MMBZ5233B	6	0.35	7
BZX84C6V2	6.2	0.35	10
MMBZ5234B	6.2	0.35	7
BZX84C6V8	6.8	0.35	8
MMBZ5235B	6.8	0.35	5
BZX84C7V5	7.5	0.35	7
MMBZ5236B	7.5	0.35	6
BZX84C8V2	8.2	0.35	7
MMBZ5237B	8.2	0.35	8
MMBZ5238B	8.7	0.35	8
BZX84C9V1	9.1	0.35	10
MMBZ5239B	9.1	0.35	10
BZX84C10	10	0.35	15
MMBZ5240B	10	0.35	17
BZX84C11	11	0.35	20
MMBZ5241B	11	0.35	22
BZX84C12	12	0.35	20
MMBZ5242B	12	0.35	30
BZX84C13	13	0.35	26
MMBZ5243B	13	0.35	13
MMBZ5244B	14	0.35	15
BZX84C15	15	0.35	30
MMBZ5245B	15	0.35	16
BZX84C16	16	0.35	40
MMBZ5246B	16	0.35	17

**Zener Diodes (Continued)**

Products	V <sub>Z</sub> Nominal Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
MMBZ5247B	17	0.35	19
BZX84C18	18	0.35	50
MMBZ5248B	18	0.35	21
MMBZ5249B	19	0.35	23
BZX84C20	20	0.35	55
MMBZ5250B	20	0.35	25
BZX84C22	22	0.35	55
MMBZ5251B	22	0.35	29
BZX84C24	24	0.35	80
MMBZ5252B	24	0.35	33
MMBZ5253B	25	0.35	35
BZX84C27	27	0.35	80
MMBZ5254B	27	0.35	41
MMBZ5255B	28	0.35	44
BZX84C30	30	0.35	80
MMBZ5256B	30	0.35	49
BZX84C33	33	0.35	80
MMBZ5257B	33	0.35	58

## Small Signal Diodes

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F</sub> (AV) (A)	I <sub>FSM</sub> (A)	V <sub>FM</sub> Max (V)	R <sub>θJA</sub> (°C/W)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> Max (μA)
<b>DO-35</b>								
FJH1101	Single	20	0.15	1	1.1	300	–	0
1N456A	Single	30	0.5	1	1	300	–	0.025
FJH1100	Single	30	0.15	1	1.05	300	–	0
FJH1102	Single	30	0.15	1	1.1	300	–	0
FDH700	Single	30	0.15	1	1.25	300	9	0.05
1N4154	Single	35	0.3	1	1	300	2	0.1
1N4152	Single	40	0.2	4	1	300	4	0.05
BAY71	Single	50	0.3	4	1	300	2	0.1
1N457	Single	70	0.5	1	1	300	–	0.025
1N457A	Single	70	0.5	1	1	300	–	0.025
1N4305	Single	75	0.3	4	0.85	300	2	0.1
FDH600	Single	75	0.2	1	1	300	4	0.1
1N3064	Single	75	0.3	4	1	300	4	0.1
1N4151	Single	75	0.3	4	1	300	2	0.05
BAW62	Single	75	0.3	4	1	300	40	0.025
1N4150	Single	75	0.4	1	1	300	4	0.1
1N4454	Single	75	0.4	1	1	300	4	0.1
BAW76	Single	85	0.3	4	1	300	2	0.1
1N4148	Single	100	0.2	1	1	300	4	0.025
1N4446	Single	100	0.2	1	1	300	4	0.025
1N4448	Single	100	0.2	1	1	300	4	0.025
1N914	Single	100	0.2	1	1	300	4	0.025
1N914A	Single	100	0.2	1	1	300	4	0.025
1N914B	Single	100	0.2	1	1	300	4	0.025
1N916	Single	100	0.2	1	1	300	4	0.025
1N916A	Single	100	0.2	1	1	300	4	0.025
1N916B	Single	100	0.2	1	1	300	4	0.025
1N4149	Single	100	0.3	1	1	300	4	0.025
BAV19	Single	120	0.5	1	1	300	50	0.1
BAY72	Single	125	0.5	4	1	350	50	0.1
BAY73	Single	125	0.5	1	1	300	1000	0.005
1N3595	Single	150	0.2	2	1	300	3000	0.1
1N458A	Single	150	0.5	1	1	300	–	0.025
FDH300	Single	150	0.5	1	1	300	–	0.001
FDH300A	Single	150	0.5	1	1	300	–	0.001

**Small Signal Diodes (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F</sub> (AV) (A)	I <sub>FSM</sub> (A)	V <sub>FM</sub> Max (V)	R <sub>θJA</sub> (°C/W)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> Max (μA)
FDH3595	Single	150	0.5	1	1	300	3000	0.001
FDH333	Single	150	0.5	1	1.05	300	–	0.003
1S922	Single	150	0.2	4	1.2	300	–	0.1
1N3070	Single	200	0.5	4	1	300	50	0.1
1N459	Single	200	0.5	1	1	300	–	0.025
1N459A	Single	200	0.5	1	1	300	–	0.025
1N485B	Single	200	0.5	4	1	300	–	0.025
1N4938	Single	200	0.5	4	1	300	50	0.1
BAV20	Single	200	0.5	1	1	300	50	0.1
FDH400	Single	200	0.5	1	1	300	50	0.1
1S923	Single	200	0.2	4	1.2	300	–	0.1
1N486B	Single	250	0.5	4	1	300	–	0.05
BAV21	Single	250	0.5	1	1	300	50	0.1
<b>LL-34</b>								
FDLL457A	Single	70	0.2	1	–	–	–	–
FDLL4150	Single	75	0.4	1	1	300	4	0.1
FDLL4448	Single	100	0.2	1	1	300	4	0.025
FDLL914A	Single	100	0.2	1	1	300	4	0.025
FDLL914B	Single	100	0.2	1	1	300	4	0.025
FDLL4148	Single	100	0.3	1	1	300	4	0.025
FDLL914	Single	100	0.3	1	1	300	4	0.025
FDLL300	Single	150	0.5	1	1	300	–	0.001
FDLL300A	Single	150	0.5	1	1	300	–	0.001
FDLL3595	Single	150	0.5	4	1	350	3000	0.001
FDLL333	Single	150	0.5	1	1.05	300	–	0.003
FDLL400	Single	200	0.5	1	1	300	50	0.1
FDLL485B	Single	200	0.5	1	1	300	–	0.025
BAV102	Single	200	0.6	4	1	350	50	0.1
BAV103	Single	250	0.6	4	1	350	50	0.1
<b>SOD-123</b>								
MMSD4148	Single	100	0.6	2	1	312	4	0.025
MMSD914	Single	100	0.6	2	1	312	4	0.025
MMSD3070	Single	200	0.2	2	1	312	50	0.1
<b>SOT-23</b>								
MMBD1705	Dual & Common Anode	30	0.15	0.25	1.1	357	0.7	0.05
BAW74	Dual & Common Anode	50	0.6	1	1	357	4	0.1



**Small Signal Diodes (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F</sub> (AV) (A)	I <sub>FSM</sub> (A)	V <sub>FM</sub> Max (V)	R <sub>θJA</sub> (°C/W)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> Max (μA)
BAW56	Dual & Common Anode	85	0.6	1	1	357	6	2.5
MMBD1205	Dual & Common Anode	100	0.6	1	1	357	4	0.05
MMBD4148CA	Dual & Common Anode	100	0.6	1	1	357	4	0.025
BAS35	Dual & Common Anode	125	0.6	1	1	357	50	0.1
MMBD1405	Dual & Common Anode	200	0.6	1	1	357	50	0.1
MMBD1505A	Dual & Common Anode	200	0.6	1	1.1	357	—	0.001
MMBD1405A	Dual & Common Anode	250	0.6	1	1	357	50	0.1
MMBD1704A	Dual & Common Cathode	30	0.15	0.25	1.1	357	1	0.05
BAV74	Dual & Common Cathode	50	0.6	1	1	357	4	0.1
BAV70	Dual & Common Cathode	70	0.6	1	1	357	6	5
MMBD2838	Dual & Common Cathode	75	0.6	1	1.2	357	4	0.1
MMBD1204	Dual & Common Cathode	100	0.6	1	1	357	4	0.05
MMBD4148CC	Dual & Common Cathode	100	0.6	1	1	357	4	0.025
MMBD1404	Dual & Common Cathode	200	0.6	1	1	357	50	0.1
MMBD1504A	Dual & Common Cathode	200	0.6	1	1.1	357	—	0.001
MMBD1404A	Dual & Common Cathode	250	0.6	1	1	357	50	0.1
MMBD1703	Dual Series	30	0.15	0.25	1.1	357	0.7	0.05
BAV99	Dual Series	70	0.6	1	1	357	6	2.5
MMBD1203	Dual Series	100	0.6	1	1	357	4	0.05
MMBD4148SE	Dual Series	100	0.6	1	1	357	4	0.025
MMBD7000	Dual Series	100	0.6	1	1.1	357	4	0.3
BAS31	Dual Series	125	0.6	1	1	357	50	0.1
MMBD1403	Dual Series	200	0.6	1	1	357	50	0.1
MMBD1503A	Dual Series	200	0.6	1	1.1	357	—	0.001
FLLD261	Dual Series	200	0.6	3	1.4	357	400	0.005
BAV23S	Dual Series	250	0.4	9	1	357	50	0.1
MMBD1403A	Dual Series	250	0.6	1	1	357	50	0.1
MMBD1701	Single	30	0.15	0.25	1.1	357	0.7	0.05
BAS16	Single	85	0.6	1	1	357	6	1
MMBD1201	Single	100	0.6	1	1	357	4	0.05
MMBD4148	Single	100	0.6	1	1	357	4	0.025
MMBD4448	Single	100	0.6	1	1	357	4	0.025
MMBD914	Single	100	0.6	1	1	357	4	0.025
BAS19	Single	120	0.6	2	1	357	50	0.1
BAS29	Single	120	0.6	2	1	357	50	0.1
BAS20	Single	200	0.6	2	1	357	50	0.1

**Small Signal Diodes (Continued)**

Products	Configuration	V <sub>RRM</sub> (V)	I <sub>F</sub> (AV) (A)	I <sub>FSM</sub> (A)	V <sub>FM</sub> Max (V)	R <sub>θJA</sub> (°C/W)	t <sub>rr</sub> Max (ns)	I <sub>RM</sub> Max (μA)
MMBD1401	Single	200	0.6	1	1	357	50	0.1
MMBD1501A	Single	200	0.6	1	1.1	357	–	0.001
BAS21	Single	250	0.6	1	1	357	50	0.1
MMBD1401A	Single	250	0.6	1	1	357	50	0.1

**TRIACs**

Products	V <sub>DRM</sub> (V)	I <sub>T(RMS)</sub> (A)	I <sub>TSM</sub> (A)	di/dt (A/μs)	V <sub>TM</sub> @ I <sub>TM</sub>		V <sub>GT</sub> (V)	dv/dt (V/μs)	(dv/dt) <sub>c</sub> (V)	I <sub>GT</sub> (mA)
					V <sub>TM</sub> (V)	I <sub>TM</sub> (A)				
<b>TO-92</b>										
<b>FKN2L60</b>	600	1.5	9	50	1.6	3	1.5	500	5	5
<b>TO-220F</b>										
FKPF10N80	800	10	100	50	1.5	15	1.5	300	10	30
FKPF12N80	800	12	120	50	1.5	17	1.5	300	10	30
<b>FKPF2N80</b>	800	2	9	50	1.6	3	1.5	500	5	10
<b>FKPF3N80</b>	800	3	30	50	1.5	4.5	1.5	300	10	20
<b>FKPF5N80</b>	800	5	50	50	1.5	7.5	1.5	300	10	20
FKPF8N80	800	8	80	50	1.5	12	1.5	300	10	30

**Discrete IGBTs**

Products	$BV_{CES}$ Min (V)	$I_C@100^\circ C$	$V_{CE(sat)}$ Typ (V)	$t_f$ Typ (ns)	Short Circuit Rated	Built in Diode	Primary Applications
<b>S0-8</b>							
FGS15N40L	400	130	4.5	1500	No	No	Camera Strobe
<b>SOT-223</b>							
SGM2N60UF	600	2	1.2	–	No	No	Induction Heating, Motor, Power Conversion
<b>SOT-227B</b>							
<b>HGT1N30N60A4D</b>	600	60	1.8	70	No	Yes	Power Conversion
HGT1N40N60A4D	600	63	1.7	55	No	Yes	Power Conversion
<b>Stretch-247</b>							
FGK60N6S2D	600	75	1.9	90	No	Yes	Motor, Power Conversion
<b>TO-220</b>							
SGP6N60UFD	600	3	2.1	70	No	Yes	Motor, Power Conversion
SGP5N60RUF	600	5	2.2	136	Yes	Yes	Motor, Power Conversion
SGP13N60UF	600	6	2.1	97	No	No	Motor, Power Conversion
SGP13N60UFD	600	6	2.1	97	No	Yes	Motor, Power Conversion
HGTP7N60C3D	600	7	1.6	275	Yes	Yes	Motor
<b>HGTP7N60B3D</b>	600	7	1.8	60	Yes	Yes	Motor, Power Conversion
HGTP3N60A4	600	8	2	47	No	No	Power Conversion
HGTP3N60A4D	600	8	2	47	No	Yes	Power Conversion
SGP10N60RUF	600	10	2.2	158	Yes	Yes	Motor, Power Conversion
HGTP12N60C3	600	12	1.65	275	Yes	No	Motor
HGTP12N60C3D	600	12	1.65	275	Yes	Yes	Motor
SGP23N60UF	600	12	2.1	70	No	No	Motor, Power Conversion
SGP23N60UFD	600	12	2.1	70	No	Yes	Motor, Power Conversion
FGP20N6S2	600	13	2.2	50	No	No	Power Conversion
FGP20N6S2D	600	13	2.2	50	No	Yes	Power Conversion
HGTP7N60A4D	600	14	1.9	75	No	Yes	Power Conversion
HGTP7N60A4	600	14	2.7	45	No	No	Power Conversion
SGP15N60RUF	600	15	2.2	118	Yes	No	Motor, Power Conversion
FGP30N6S2	600	20	2	53	No	No	Motor, Power Conversion
FGP30N6S2D	600	20	2	90	No	Yes	Motor, Power Conversion
SGP40N60UF	600	20	2.1	50	No	No	Induction Heating, Motor, Power Conversion
HGTP12N60A4	600	23	2	18	No	No	Power Conversion
HGTP12N60A4D	600	23	2	18	No	Yes	Power Conversion
FGP40N6S2	600	35	1.9	55	No	No	Motor, Power Conversion

**Discrete IGBTs (Continued)**

Products	BV <sub>CEs</sub> Min (V)	I <sub>c</sub> @100°C	V <sub>CE(sat)</sub> Typ (V)	t <sub>f</sub> Typ (ns)	Short Circuit Rated	Built in Diode	Primary Applications
HGTP20N60A4	600	40	1.8	32	No	No	Power Conversion
HGTP2N120CN	1200	7	2.05	260	Yes	No	Motor
<b>HGTP5N120BND</b>	1200	10	2.45	160	Yes	Yes	Motor, Power Conversion
HGTP10N120BN	1200	17	2.45	200	Yes	No	Motor, Power Conversion
<b>TO-220F</b>							
SGS6N60UF	600	3	2.1	70	No	No	Induction Heating, Motor, Power Conversion
SGS6N60UFD	600	3	2.1	70	No	Yes	Induction Heating, Motor, Power Conversion
SGS5N60RUF	600	5	2.2	136	Yes	Yes	Motor, Power Conversion
SGS13N60UFD	600	6	2.1	97	No	Yes	Induction Heating, Motor, Power Conversion
SGS10N60RUF	600	10	2.2	158	Yes	No	Motor
DS900365	600	10	2.2	158	Yes	Yes	Motor, Power Conversion
SGS23N60UFD	600	12	2.1	70	No	Yes	Induction Heating, Motor, Power Conversion
SGS5N150UF	1500	5	4.7	70	No	No	Power Conversion
<b>TO-247</b>							
FGH50N3	300	75	1.3	12	–	No	Power Conversion
HGTG12N60B3	600	12	1.6	62	Yes	No	Motor, Power Conversion
HGTG12N60C3D	600	12	1.65	275	Yes	Yes	Motor
FGH20N6S2	600	13	2.2	50	No	No	Power Conversion
FGH20N6S2D	600	13	2.2	50	No	Yes	Power Conversion
HGTG7N60A4	600	14	1.9	45	No	No	Power Conversion
HGTG7N60A4D	600	14	1.9	45	No	Yes	Power Conversion
HGTG20N60C3D	600	20	1.4	98	Yes	Yes	Motor
HGTG20N60B3	600	20	1.8	70	Yes	No	Motor, Power Conversion
HGTG20N60B3D	600	20	1.8	70	Yes	Yes	Motor, Power Conversion
FGH30N6S2D	600	20	1.95	90	No	Yes	Motor, Power Conversion
FGH30N6S2	600	20	2	53	No	No	Motor, Power Conversion
HGTG12N60A4	600	23	2	18	No	No	Power Conversion
HGTG12N60A4D	600	23	2	18	No	Yes	Power Conversion
HGTG30N60B3	600	30	1.45	58	Yes	No	Motor, Power Conversion
HGTG30N60B3D	600	30	1.45	58	Yes	Yes	Motor, Power Conversion
HGTG30N60C3D	600	30	1.5	275	Yes	Yes	Motor
FGH40N6S2	600	35	1.9	55	No	No	Motor, Power Conversion
FGH40N6S2D	600	35	1.9	85	No	Yes	Motor, Power Conversion

**Discrete IGBTs (Continued)**

Products	$BV_{CES}$ Min (V)	$I_C@100^\circ\text{C}$	$V_{CE(sat)}$ Typ (V)	$t_f$ Typ (ns)	Short Circuit Rated	Built in Diode	Primary Applications
HGTG40N60B3	600	40	1.4	50	Yes	No	Motor, Power Conversion
HGTG20N60A4	600	40	1.8	32	No	No	Power Conversion
HGTG20N60A4D	600	40	1.8	73	No	Yes	Power Conversion
HGTG30N60A4	600	60	1.8	38	No	No	Power Conversion
HGTG30N60A4D	600	60	1.8	38	No	Yes	Power Conversion
FGH50N6S2	600	60	1.9	50	No	No	Motor, Power Conversion
FGH50N6S2D	600	60	1.9	90	No	Yes	Motor, Power Conversion
HGTG40N60A4	600	63	1.7	35	No	No	Power Conversion
FGH60N6S2	600	75	1.9	50	No	No	Motor, Power Conversion
<b>HGTG5N120BND</b>	1200	10	2.45	160	Yes	Yes	Motor, Power Conversion
HGTG10N120BND	1200	17	2.45	140	Yes	Yes	Motor, Power Conversion
HGTG11N120CN	1200	22	2.1	400	Yes	No	Motor
HGTG11N120CND	1200	22	2.1	400	Yes	Yes	Motor
HGTG18N120BN	1200	26	2.45	140	Yes	No	Motor, Power Conversion
HGTG18N120BND	1200	26	2.45	140	Yes	Yes	Motor, Power Conversion
<b>HGTG27N120BN</b>	1200	34	2.45	120	Yes	No	Motor, Power Conversion
<b>TO-251 (IPAK)</b>							
SGU15N40L	400	130	4.5	1100	No	No	Camera Strobe
SGU20N40L	400	150	4.5	1500	No	No	Camera Strobe
<b>TO-252 (DPAK)</b>							
SGR15N40L	400	130	4.5	1100	No	No	Camera Strobe
SGR20N40L	400	150	4.5	1500	No	No	Camera Strobe
SGR2N60UFD	600	1	2.1	95	No	Yes	Power Conversion
<b>HGTD3N60C3S9A</b>	600	3	1.65	275	–	–	Motor
SGR6N60UF	600	3	2.1	70	No	No	Motor, Power Conversion
HGTD7N60C3S	600	7	1.6	275	Yes	No	Motor
<b>HGTD3N60A4S</b>	600	8	2	47	No	No	Power Conversion
HGTD1N120BNS	1200	2	2.5	370	Yes	No	Motor, Power Conversion
<b>TO-262 (I<sup>2</sup>PAK)</b>							
HGT1S2N120CN	1200	7	2.05	360	Yes	Yes	Motor
<b>TO-263 (D<sup>2</sup>PAK)</b>							
SGW5N60RUF	600	5	2.2	136	Yes	Yes	Motor, Power Conversion
SGW13N60UFD	600	6	2.1	97	No	Yes	Motor, Power Conversion
HGT1S7N60C3DS	600	7	1.6	275	Yes	Yes	Motor

**Discrete IGBTs (Continued)**

Products	BV <sub>CEs</sub> Min (V)	I <sub>c</sub> @100°C	V <sub>CE(sat)</sub> Typ (V)	t <sub>f</sub> Typ (ns)	Short Circuit Rated	Built in Diode	Primary Applications
SGW10N60RUFD	600	10	2.2	158	Yes	Yes	Motor, Power Conversion
SGW23N60UFD	600	12	2.1	70	No	Yes	Motor, Power Conversion
FGB20N6S2	600	13	2.2	50	No	No	Power Conversion
FGB20N6S2D	600	13	2.2	50	No	Yes	Power Conversion
HGT1S7N60A4DS	600	14	1.9	45	No	Yes	Power Conversion
<b>HGT1S7N60A4S</b>	600	14	1.9	45	No	No	Power Conversion
<b>HGT1S20N60C3S</b>	600	20	1.4	55	Yes	No	Motor
FGB30N6S2D	600	20	1.95	90	No	Yes	Motor, Power Conversion
FGB30N6S2	600	20	2	53	No	No	Motor, Power Conversion
HGT1S12N60A4DS	600	23	2	18	No	Yes	Power Conversion
<b>HGT1S12N60A4S9A</b>	600	23	2	18	No	No	Power Conversion
FGB40N6S2	600	35	1.9	55	No	No	Motor, Power Conversion
HGT1S10N120BNS	1200	17	2.45	200	Yes	No	Motor, Power Conversion
<b>TO-264</b>							
SGL50N60RUF	600	50	2.2	118	Yes	No	Motor
SGL50N60RUFD	600	50	2.2	118	Yes	Yes	Motor, Power Conversion
SGL160N60UF	600	80	2.1	75	No	No	Power Conversion
SGL160N60UFD	600	80	2.1	75	No	Yes	Power Conversion
SGL60N90DG3	900	42	2	250	No	Yes	Induction Heating
<b>FGL60N100BNTD</b>	1000	42	2.5	130	No	Yes	Induction Heating
FGL60N100D	1000	42	2.5	240	No	Yes	Induction Heating
SGL25N120RUF	1200	25	2.3	150	Yes	No	Motor, Power Conversion
SGL25N120RUFD	1200	25	2.3	150	Yes	Yes	Motor, Power Conversion
SGL5N150UF	1500	5	4.7	70	No	No	Power Conversion
FGL40N150D	1500	20	3.5	100	No	Yes	Induction Heating
SGL40N150	1500	20	3.7	180	No	No	Induction Heating
SGL40N150D	1500	20	3.7	180	No	Yes	Induction Heating
FGL60N170D	1700	30	5	100	No	Yes	Induction Heating
<b>TO-3P</b>							
SGH10N60RUFD	600	10	2.2	158	Yes	Yes	Motor, Power Conversion
SGH23N60UFD	600	12	2.1	70	No	Yes	Motor, Power Conversion
SGH15N60RUF	600	15	2.2	118	Yes	No	Motor, Power Conversion
SGH15N60RUFD	600	15	2.2	118	Yes	Yes	Motor, Power Conversion
SGH40N60UF	600	20	2.1	50	No	No	Induction Heating, Motor, Power Conversion

**Discrete IGBTs (Continued)**

Products	BV <sub>CE5</sub> Min (V)	I <sub>C</sub> @100°C	V <sub>CE(sat)</sub> Typ (V)	t <sub>f</sub> Typ (ns)	Short Circuit Rated	Built in Diode	Primary Applications
SGH40N60UFD	600	20	2.1	50	No	Yes	Induction Heating, Motor, Power Conversion
SGH20N60RUFD	600	20	2.2	152	Yes	Yes	Motor, Power Conversion
<b>FGA40N60UFD</b>	600	20	2.3	–	No	Yes	Motor
SGH30N60RUF	600	30	2.2	138	Yes	No	Motor, Power Conversion
SGH30N60RUFD	600	30	2.2	138	Yes	Yes	Motor, Power Conversion
SGH80N60UF	600	40	2.1	50	No	No	Induction Heating, Motor, Power Conversion
SGH80N60UFD	600	40	2.1	50	No	Yes	Induction Heating, Motor, Power Conversion
<b>FGA50N60LS</b>	600	50	1.6	–	No	No	Switched Reluctance Motor
SGH10N120RUF	1200	10	2.3	150	Yes	No	Motor, Power Conversion
SGH10N120RUFD	1200	10	2.3	150	Yes	Yes	Motor, Power Conversion
SGH15N120RUF	1200	15	2.3	150	Yes	No	Induction Heating, Motor, Power Conversion
SGH15N120RUFD	1200	15	2.3	150	Yes	Yes	Induction Heating, Motor, Power Conversion
<b>FGA15N120AN</b>	1200	15	2.4	60	No	No	Induction Heating
<b>FGA15N120AND</b>	1200	15	2.4	60	No	Yes	Induction Heating
SGH20N120RUFD	1200	20	2.3	150	Yes	Yes	Motor, Power Conversion
SGH25N120RUF	1200	25	2.3	150	Yes	No	Motor, Power Conversion
<b>FGA25N120AN</b>	1200	25	2.5	45	No	No	Induction Heating
<b>FGA25N120AND</b>	1200	25	2.5	45	No	Yes	Induction Heating
<b>TO-3PF</b>							
SGF23N60UF	600	12	2.1	70	No	No	Motor, Power Conversion
SGF23N60UFD	600	12	2.1	70	No	Yes	Motor, Power Conversion
SGF15N60RUFD	600	15	2.2	118	Yes	Yes	Motor, Power Conversion
SGF40N60UF	600	20	2.1	50	No	No	Induction Heating, Motor, Power Conversion
<b>FGAF40N60UF</b>	600	20	2.3	35	No	No	Induction Heating
<b>FGAF40N60UFD</b>	600	20	2.3	35	No	Yes	Induction Heating
SGF15N90D	900	12	2	200	No	Yes	Induction Heating
SGF5N150UF	1500	5	4.7	70	No	No	Power Conversion



## Ignition IGBTs

Products	BV <sub>CES</sub> Min (V)	I <sub>C</sub> @ 100°C	V <sub>CE(sat)</sub> Typ (V)		t <sub>f</sub> Typ (μs)	Clamping Voltage Typ (V)
			Typ (V)	Test Condition		
<b>TO-220</b>						
ISL9V2040P3	390	10	1.45	6A, 4.5V	2360	420
HGTP14N36G3VL	330	14	1.6	14A, 5V	–	380
HGTP14N40F3VL	350	14	2	10A, 4.5V	–	385
ISL9V3036P3	330	17	1.6	6A, 4V	2800	360
ISL9V3040P3	390	17	1.6	6A, 4V	2800	400
HGTP14N37G3VL	320	18	1.6	14A, 5V	–	350
HGTP20N35G3VL	320	20	1.6	20A, 5V	–	350
ISL9V5036P3	360	31	1.6	10A, 4V	2800	360
<b>TO-252(DPAK)</b>						
ISL9V2040D3S	390	10	1.45	6A, 4.5V	2360	420
ISL9V3036D3S	330	17	1.6	6A, 4V	2800	360
ISL9V3040D3S	390	17	1.6	6A, 4V	2800	400
<b>TO-262(I<sup>2</sup>PAK)</b>						
ISL9V5036S3	360	31	1.6	10A, 4V	2800	360
<b>TO-263(D<sup>2</sup>PAK)</b>						
ISL9V2040S3S	390	10	1.45	6A, 4.5V	2360	420
HGT1S14N36G3VLS	330	14	1.6	14A, 5V	–	380
HGTP14N40F3VL	350	14	2	10A, 4.5V	–	385
ISL9V3036S3S	330	17	1.6	6A, 4V	2800	360
ISL9V3040S3S	390	17	1.6	6A, 4V	2800	400
HGT1S14N37G3VLS	320	18	1.6	14A, 5V	–	350
HGT1S20N35G3VLS	320	20	1.6	20A, 5V	–	350
HGT1S20N36G3VLS	345	26	1.3	10A, 4.5V	–	360
ISL9V5036S3S	360	31	1.6	10A, 4V	2800	360

**IGBT Modules**

Products	$V_{CES}$ Min (V)	$I_C@100^\circ C$	$V_{CE(sat)}$ Typ (V)	$t_f$ Typ (ns)	Short Circuit Rated	Built in Diode	Primary Applications
<b>24PM-AA</b>							
<b>FMM6G20US60</b>	600	20	2.1	140	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM6G20US60S</b>	600	20	2.1	140	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G20US60I</b>	600	20	2.1	140	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G20US60N</b>	600	20	2.1	140	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G20US60SI</b>	600	20	2.1	140	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G20US60SN</b>	600	20	2.1	140	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM6G30US60</b>	600	30	2.1	130	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM6G30US60S</b>	600	30	2.1	130	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G30US60I</b>	600	30	2.1	130	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G30US60N</b>	600	30	2.1	130	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G30US60SI</b>	600	30	2.1	130	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G30US60SN</b>	600	30	2.1	130	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM6G50US60</b>	600	50	2.1	120	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G50US60I</b>	600	50	2.1	120	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMM7G50US60N</b>	600	50	2.1	120	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>25PM-AA</b>							
<b>FMS6G10US60</b>	600	10	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS6G10US60S</b>	600	10	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS7G10US60</b>	600	10	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS7G10US60S</b>	600	10	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS6G15US60</b>	600	15	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS6G15US60S</b>	600	15	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS7G15US60</b>	600	15	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS7G15US60S</b>	600	15	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS6G20US60</b>	600	20	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS6G20US60S</b>	600	20	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS7G20US60</b>	600	20	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>FMS7G20US60S</b>	600	20	2.1	100	Yes	Yes	Rectifier (3-Phase), Brake, Inverter (3-Phase)
<b>7PM-GA</b>							
<b>FMG1G50US60H</b>	600	50	2.2	110	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG1G50US60L</b>	600	50	2.2	110	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG2G50US60</b>	600	50	2.2	110	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls

**IGBT Modules (Continued)**

Products	$V_{CES}$ Min (V)	$I_C@100^\circ C$	$V_{CE(sat)}$ Typ (V)	$t_f$ Typ (ns)	Short Circuit Rated	Built in Diode	Primary Applications
FMG1G75US60H	600	75	2.2	110	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
FMG1G75US60L	600	75	2.2	110	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
FMG2G75US60	600	75	2.2	110	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
FMG1G100US60H	600	100	2.2	110	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
FMG1G100US60L	600	100	2.2	110	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
FMG2G100US60	600	100	2.2	110	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>FMG1G150US60HE</b>	600	150	2.2	110	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG1G150US60LE</b>	600	150	2.2	110	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
FMG2G150US60E	600	150	2.2	110	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>FMG2G50US120</b>	1200	50	2.6	65	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>FMG2G75US120</b>	1200	75	2.6	50	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>7PM-HA</b>							
<b>FMG1G150US60H</b>	600	150	2.1	130	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG1G150US60L</b>	600	150	2.1	130	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
FMG2G150US60	600	150	2.1	130	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>FMG1G200US60H</b>	600	200	2.1	130	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG1G200US60L</b>	600	200	2.1	130	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG2G200US60</b>	600	200	2.1	130	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>FMG1G300US60HE</b>	600	300	2.1	140	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG1G300US60LE</b>	600	300	2.1	140	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG2G300LS60E</b>	600	300	1.4	2430	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>FMG2G300US60E</b>	600	300	2.1	140	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls

**IGBT Modules (Continued)**

Products	$BV_{CES}$ Min (V)	$I_C@100^\circ C$	$V_{CE(sat)}$ Typ (V)	$t_f$ Typ (ns)	Short Circuit Rated	Built in Diode	Primary Applications
<b>7PM-IA</b>							
<b>FMG1G300US60H</b>	600	300	2.1	140	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG1G300US60L</b>	600	300	2.1	140	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG2G300US60</b>	600	300	2.1	140	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>FMG1G400US60H</b>	600	400	2.1	150	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG1G400US60L</b>	600	400	2.1	150	Yes	Yes	Inverters, Welding Machine, CVCF, Robotics, Servo Controls
<b>FMG2G400LS60</b>	600	400	1.4	2300	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls
<b>FMG2G400US60</b>	600	400	2.1	150	Yes	Yes	Inverters, Welding Machine, UPS, CVCF, Robotics, Servo Controls

**SPM™ (Smart Power Module)**

Products	BV <sub>CES</sub> Min (V)	Current Rating (T <sub>C</sub> = 100°C) (A)	Frequency Typ (kHz)	Motor Rating		Output Current (A)		Built in Thermistor?
				(kW)	(V <sub>AC</sub> )	100% Load	150% Load	
<b>SPM32-AA</b>								
FSAM10SM60A	600	10	5	0.4	220	3.3	5	Yes
FSBM10SM60A	600	10	5	0.4	220	3.3	5	No
FSAM10SH60A	600	10	15	0.4	220	3.3	5	Yes
FSBM10SH60A	600	10	15	0.4	220	3.3	5	No
FSAM15SM60A	600	15	5	0.75	220	5	7.5	Yes
FSBM15SM60A	600	15	5	0.75	220	5	7.5	No
FSAM15SH60A	600	15	15	0.75	220	5	7.5	Yes
FSBM15SH60A	600	15	15	0.75	220	5	7.5	No
FSAM20SM60A	600	20	5	1.5	220	8	12	Yes
FSBM20SM60A	600	20	5	1.5	220	8	12	No
FSAM20SH60A	600	20	15	1.5	220	8	12	Yes
FSBM20SH60A	600	20	15	1.5	220	8	12	No
FSAM30SM60A	600	30	5	2.2	220	11	16.5	Yes
FSBM30SM60A	600	30	5	2.2	220	11	16.5	No
FSAM30SH60A	600	30	15	2.2	220	11	16.5	Yes
FSBM30SH60A	600	30	15	2.2	220	11	16.5	No

**Discrete**

PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>

**BGA MOSFET**

Package Name	Products					Packaging Standard			
	MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
1.5x1.5mm	X					Tape & Reel	3K	7	8
2x2mm	X					Tape & Reel	3K	7	8
2x2.5mm	X					Tape & Reel	3K	7	8
2.5x4mm	X					Tape & Reel	3K	7	12
4x3.5mm	X					Tape & Reel	3K	13	12
5.5x5mm	X					Tape & Reel	3K	13	12

**Note:** Refer to individual product datasheet for specific product package dimensions

**Surface Mount**

Package Name	Prefixes	Suffixes	Products					Packaging Standard				
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)	
DIP-8	FQG		X						Tube	3K	n/a	n/a
DPAK (TO-252-2L)	RHRD RURD Any	S S DS2			X				Tape & Reel	2.5K	13	16
DPAK (TO-252-3L)	IRFR RFD RLD FDD Any HPLR MTD RURD RHRD HGTD	SM SM  D3S  CCS CCS S	X	X				X	Tape & Reel	2.5K	13	16
DPAK (TO-252-3L)	FQD MJD KSH IRFR IRLR SFR SSR	A, B, C	X	X	X	X	X	X	Tape & Reel (TM/XM)	2.5K	13	16 ± 0.2
DPAK (TO-252-3L)	FQD MJD KSH IRFR IRLR SFR SSR	A, B, C	X	X	X	X	X	X	Tape & Reel (TF/X)	2K	13	16

**Note:** Refer to individual product datasheet for specific product package dimensions

**Discrete** (Continued)

 PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>
**Surface Mount** (Continued)

Package Name	Prefixes	Suffixes	Products					Packaging Standard			
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
LL-34					X			Tape & Reel	2.5K	7	8
LL-34					X			Bulk	1K	13	8
MicroFET 3x2	FDM		X					Tape & Reel	3K	7	8
MicroFET 3x3	FDM		X					Tape & Reel	3K	7	12
SC70-5			X					Tape & Reel	3K	7	8
SC70-5			X					Tape & Reel	10K	13	8
SC70-6			X	X				Tape & Reel	10K	13	8
SC70-6			X	X				Tape & Reel	3K	7	8
SC75-6 FLMP			X					Tape & Reel	3K	7	8
SDIP				X	X			Tape & Reel	1.5K	13	16
DO-214AC (SMA)					X			Tape & Reel	5K	13	12
DO-214AA (SMB)					X			Tape & Reel	3K	13	12
DO-214AB (SMC)					X			Tape & Reel	3K	13	16
SOD-123					X			Tape & Reel	10K	13	8
SOD-123					X			Tape & Reel	3K	7	8
SOIC-4			X		X			Tape & Reel	2.5K	13	12
SOIC-8			X					Tape & Reel	2.5K	13	12
SOIC-8			X					Tape & Reel	500	7	12
SOIC-8			X					Rail/Tube	95	n/a	n/a
SOIC-8 FLMP			X					Tape & Reel	2.5K	13	12
SOIC-14			X	X				Tape & Reel	2.5K	13	16
SOIC-16			X					Tape & Reel	2.5K	13	16
SOIC-16			X					Rail/Tube	45	n/a	n/a
SOP-8			X				X	Tape & Reel (TF)	3K	13	12
SOP-8			X				X	Tape & Reel (STF)	2K	13	12
SOP-8			X				X	Rail/Tube	90		

**Note:** Refer to individual product datasheet for specific product package dimensions

**Discrete** (Continued)

PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>

**Surface Mount** (Continued)

Package Name	Prefixes	Suffixes	Products					Packaging Standard			
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
SOT-23 (TO-236AB)	2N BA BC BCV BCW BCX BSR BSS FDV MMBF MMBFJ MMBT MMBTA MMBTH NDS		X	X	X	X		Tape & Reel	10K	13	8
SOT-23 (TO-236AB)	2N BA BC BCV BCW BCX BSR BSS FDV MMBF MMBFJ MMBT MMBTA MMBTH NDS		X	X	X	X		Tape & Reel	3K	7	8
SOT-23	BC KST KSC KSA KSR KSK			X	X			<b>Tape &amp; Reel (MTF)</b>	3K	13	8 ± 0.3
SOT-89				X	X			Tape & Reel	4K	13	12
SOT-223	BCP BSP FDT FZT NDT NZT PZT PZTA		X	X		X		Tape & Reel	2.5K	13	12

**Note:** Refer to individual product datasheet for specific product package dimensions  
**Bold =** preferred package



**Discrete** (Continued)

 PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>
**Surface Mount** (Continued)

Package Name	Prefixes	Suffixes	Products					Packaging Standard			
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
SOT-223	BCP BSP FDT FZT NDT NZT PZT PZTA		X	X		X		Tape & Reel	500	7	12
SOT-223	FQT IRF SFM		X	X	X			<b>Tape &amp; Reel</b>	4K	13	12
SOT-227 (ISOTOP)			X		X		X	Tube	10		
SOT-323				X				Tape & Reel	3K	7	8
SOT-563F				X				Tape & Reel	3K	7	8
SOT-623F				X				Tape & Reel	3K	7	8
SuperSOT-3			X	X				Tape & Reel	10K	13	8
SuperSOT-3			X	X				Tape & Reel	3K	7	8
SuperSOT-6			X	X				Tape & Reel	10K	13	8
SuperSOT-6			X	X				Tape & Reel	3K	7	8
SuperSOT-6 FLMP			X	X				Tape & Reel	3K	7	8
SuperSOT-8			X					Tape & Reel	3K	13	12
SuperSOT-8			X					Tape & Reel	500	7	12
TO-263/D <sup>2</sup> PAK -2L	RUR1S RHR1S Any	S S S2S			X			Tape & Reel	800	13	24
TO-263/D <sup>2</sup> PAK	FDB FGB NDB RF1S HGT1S Any RUR1S RHR1S MUR1S	SM S S3S S S S	X	X				Tape & Reel	800	13	24
TO-263/D <sup>2</sup> PAK	FQB IRF SSW SFW		X	X	X	X	X	Tape & Reel (TM)	800	13	24 ± 0.3
TSOP-6			X					Tape & Reel	3000	13	12
TSSOP-8			X	X				Tape & Reel	2.5K	13	16

**Note:** Refer to individual product datasheet for specific product package dimensions

**Bold =** preferred package

**Discrete** (Continued)

 PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>
**Through-Hole**

Package Name	Prefixes	Suffixes	Products					Packagig Standard			
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
DO-15					X			Tape & Reel	4K	13	64
DO-35					X			Tape & Reel	10K	13	64
DO-35					X			Ammo Box	5K	n/a	64
DO-35					X			Bulk	1K	n/a	n/a
DO-41 Glass								Tape & Reel	3K	10.5	64
DO-41 Glass								Ammo Box	3K	n/a	64
DO-41 Plastic					X			Tape & Reel	5K	13	64
DO-201AD					X			Tape & Reel	1.25K	13	64
DO-201AE					X			Tape & Reel	1.25K	13	64
DIP			X	X	X			Tube	5K	n/a	n/a
GBU			X	X	X			Tube	800	n/a	n/a
GBPC				X	X			Box	500	n/a	n/a
GBPC-W				X	X			Box	500	n/a	n/a
HEXDIP			X					Tube	100		
I <sup>2</sup> PAK (TO-251-2L)	RURD RHRD Any	CC CC D2			X			Tube	75	n/a	n/a
I <sup>2</sup> PAK (TO-251-3L)	IRFU RFD RLD FDU Any HPLU RURD RHRD HGTD	D3 CC CC	X		X		X	Tube	75	n/a	n/a
I <sup>2</sup> PAK (TO-251-3L)	FQU SSU IRFU SGU	I	X	X			X	Bulk	4K	n/a	n/a
I <sup>2</sup> PAK (TO-251-3L)	FQU SSU IRFU SGU	I	X	X			X	Tube	70	n/a	n/a
I <sup>2</sup> PAK			X	X	X	X	X	Tube	50	n/a	n/a
KBL				X	X			Box	2K	n/a	n/a

**Note:** Refer to individual product datasheet for specific product package dimensions

**Discrete** (Continued)

PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>

**Through-Hole** (Continued)

Package Name	Prefixes	Suffixes	Products					Packagig Standard			
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
KBU				X	X			Box	2K	n/a	n/a
KBPM				X	X			Tube	1.2K	n/a	n/a
Stretch-247			X				X	Tube	30		
TO-205AF/TO-39			X					Tray	100		
TO-3P/TO-247AD				X	X			Tube	1.5K	n/a	n/a
TO-3P			X	X	X	X	X	Tube	30	n/a	n/a
TO-3PF			X	X	X	X	X	Tube	30	n/a	n/a
TO-92L			X	X				Bulk	6K	n/a	n/a
TO-92L			X	X				<b>Ammo</b>	2K	14	41
TO-92S				X	X			Bulk	10K	n/a	n/a
TO-92S				X				<b>Ammo</b>	3K	14	35
TO-92	2N J P U BC BCX BF BS BSS MPF MPS MPSA MPSH MPSL NDF PF PN SS TIS		X	X		X		Tape & Reel	2K	14	18

**Note:** Refer to individual product datasheet for specific product package dimensions

**Bold =** preferred package

**Discrete** (Continued)

PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>

**Through-Hole** (Continued)

Package Name	Prefixes	Suffixes	Products					Packagig Standard			
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
T0-92	2N J P U BC BCX BF BS BSS MPF MPS MPSA MPSH MPSL NDF PF PN SS TIS		X	X		X		Ammo Box	2K	n/a	18
T0-92		J61Z		X				Bulk	1.5K	n/a	n/a
T0-92	2N J P U BC BCX BF BS BSS MPF MPS MPSA MPSH MPSL NDF PF PN SS TIS		X	X		X		Bulk	1.5K-3.5K	n/a	n/a
T0-92	KSC KSP KSA SS KSD KSB			X	X	X		Bulk (BU)	10K	n/a	n/a

**Note:** Refer to individual product datasheet for specific product package dimensions

**Discrete** (Continued)

 PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>
**Through-Hole** (Continued)

Package Name	Prefixes	Suffixes	Products					Packagig Standard			
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
TO-92	KSC KSP KSA SS KSD KSB			X	X			Tape & Reel (TF/TFR)	2K	14	36
TO-92	KSC KSP KSA SS KSD KSB			X	X			Tape & Ammo (TA/TAR)	2K	n/a	n/a
TO-92; TO-18 Lead Form STD				X	X	X		Bulk	2K	n/a	n/a
TO-92; TO-18 Reverse Lead Form				X	X	X		Bulk	2K	n/a	n/a
TO-92; TO-5 Standard Lead Form				X	X	X		Bulk	1.5K	n/a	n/a
TO-126				X	X			Bulk	2K	n/a	n/a
TO-126				X	X			Tube (TU)	60	n/a	n/a
TO-218-1L					X			Tube	30		
TO-218AC					X			Tube	30		
TO-220	FDP NDP		X	X				Bulk	300	n/a	n/a
TO-220	FDP NDP		X	X				Rail/Tube	45	n/a	n/a
TO-220	FQP SSP IRF SFP SFH		X	X	X	X	X	Bulk	1.2K	n/a	n/a
TO-220	FQP SSP IRF SFP SFH		X	X	X	X	X	Tube	50	n/a	n/a
TO-220 (Short Lead)		TSTU	X	X				Tube	50	n/a	n/a
TO-220AB				X	X			Tube	2K	n/a	n/a
TO-220AC					X			Tube	2K	n/a	n/a
TO-220F				X	X			Bulk	1.2K	n/a	n/a

**Note:** Refer to individual product datasheet for specific product package dimensions

**Discrete** (Continued)

 PDF links for all the packaging information is at: <http://www.fairchildsemi.com/products/discrete/packaging/pkg.html>
**Through-Hole** (Continued)

Package Name	Prefixes	Suffixes	Products					Packaging Standard				
			MOSFET	Bipolar	Diode	JFETs	IGBT	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)	
TO-220F				X	X				<b>Tube</b>	50	n/a	n/a
TO-220F-2L			X	X	X	X	X		Tube	50	n/a	n/a
TO-226AE			X	X					Tape & Reel	2K	13	0.708
TO-226AE			X	X					Ammo Box	2K	n/a	0.2 ± 0.19
TO-247-2L					X				Tube	30		
TO-247-3L			X		X			X	Tube	30		
TO-264			X	X	X	X	X		Tube	25	n/a	n/a
TO-264 (P Option)		P		X					Tube	25	n/a	n/a
WOB					X				Box	1K	n/a	n/a

**Note:** Refer to individual product datasheet for specific product package dimensions

**Bold** = preferred package

**Module**

Package name	Products						Packaging Standard			
	MOSFET	Bipolar	Diode	JFETs	IGBT	SPM	Pkg Method	Qty (pcs)	Reel Dia (inch)	Tape Width (mm)
7PM-GA (Molding)					X		Bulk	48	n/a	n/a
7PM-HA					X		Bulk	40	n/a	n/a
7PM-IA					X		Bulk	40	n/a	n/a
24PM-AA					X		Bulk	40	n/a	n/a
25PM-AA					X		Bulk	120	n/a	n/a
SPM32-AA						X	Tube	384	n/a	n/a

**Note:** Refer to individual product datasheet for specific product package dimensions

**Discrete**

**MOSFET: DMOS**

FD S 6680 S

**Additional Information**

- C: Complementary N & P
  - N: N-Channel
  - P: P-Channel
  - S: SyncFET
  - Z: Zener gate protection
  - N3: FLMP (3 source leads)
  - N7: FLMP (7 source leads)
  - F: Fast Body Diode
- } Only on packages small than SO-8

**DIE Number**

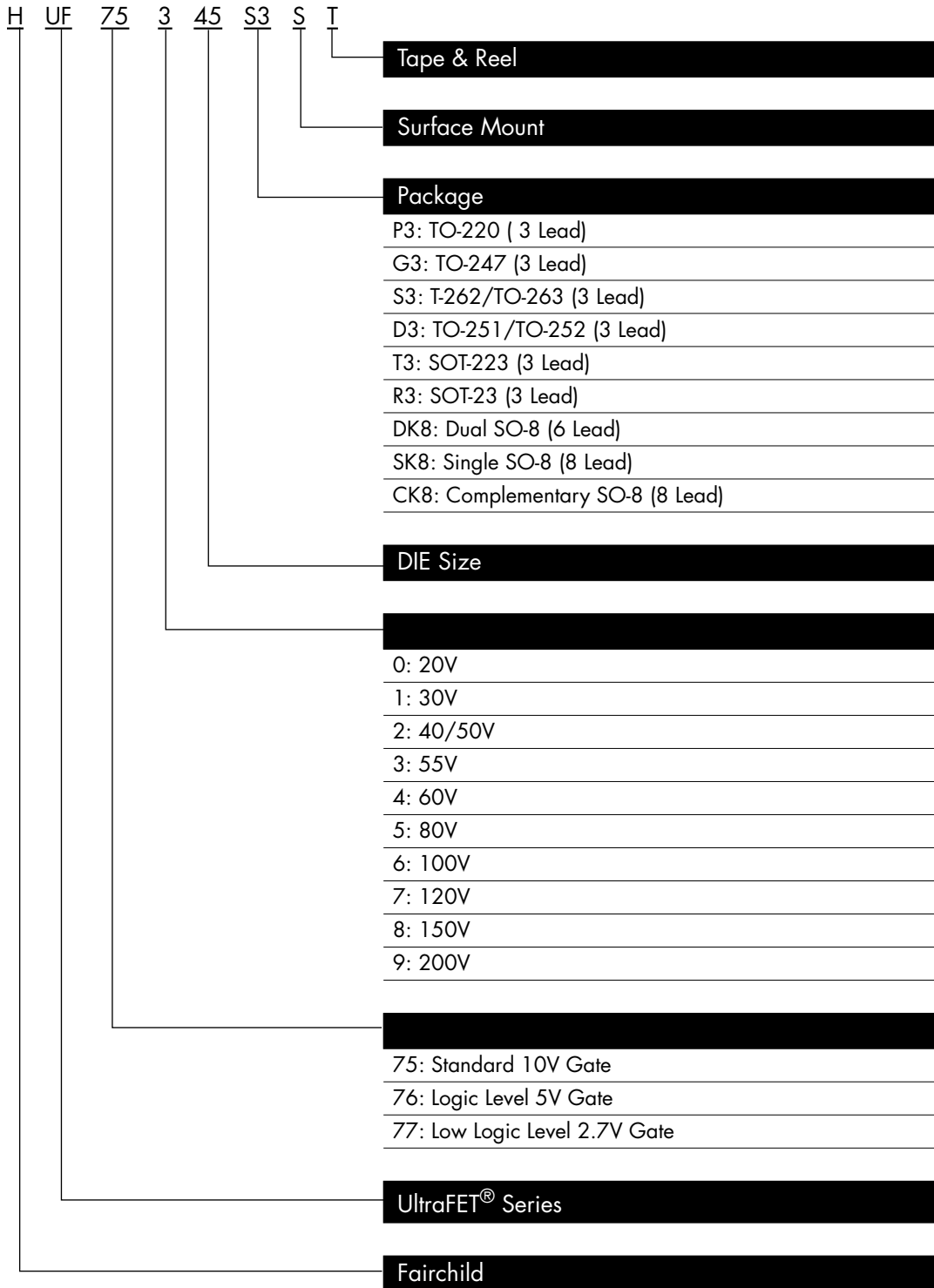
**Package**

B: TO-263	P: TO-220
C: SuperSOT-6	Q: SO-14
D: TO-252	R: SuperSOT-8
G: SC70-6	S: SO-8
H: TO-247	T: SOT-223
I: TO-262	U: TO-251
M: MicroFET	W: TSSOP-8
N: SuperSOT-3	Z: BGA

**Fairchild DMOS**

**Discrete** (Continued)

**MOSFET: UltraFET®**

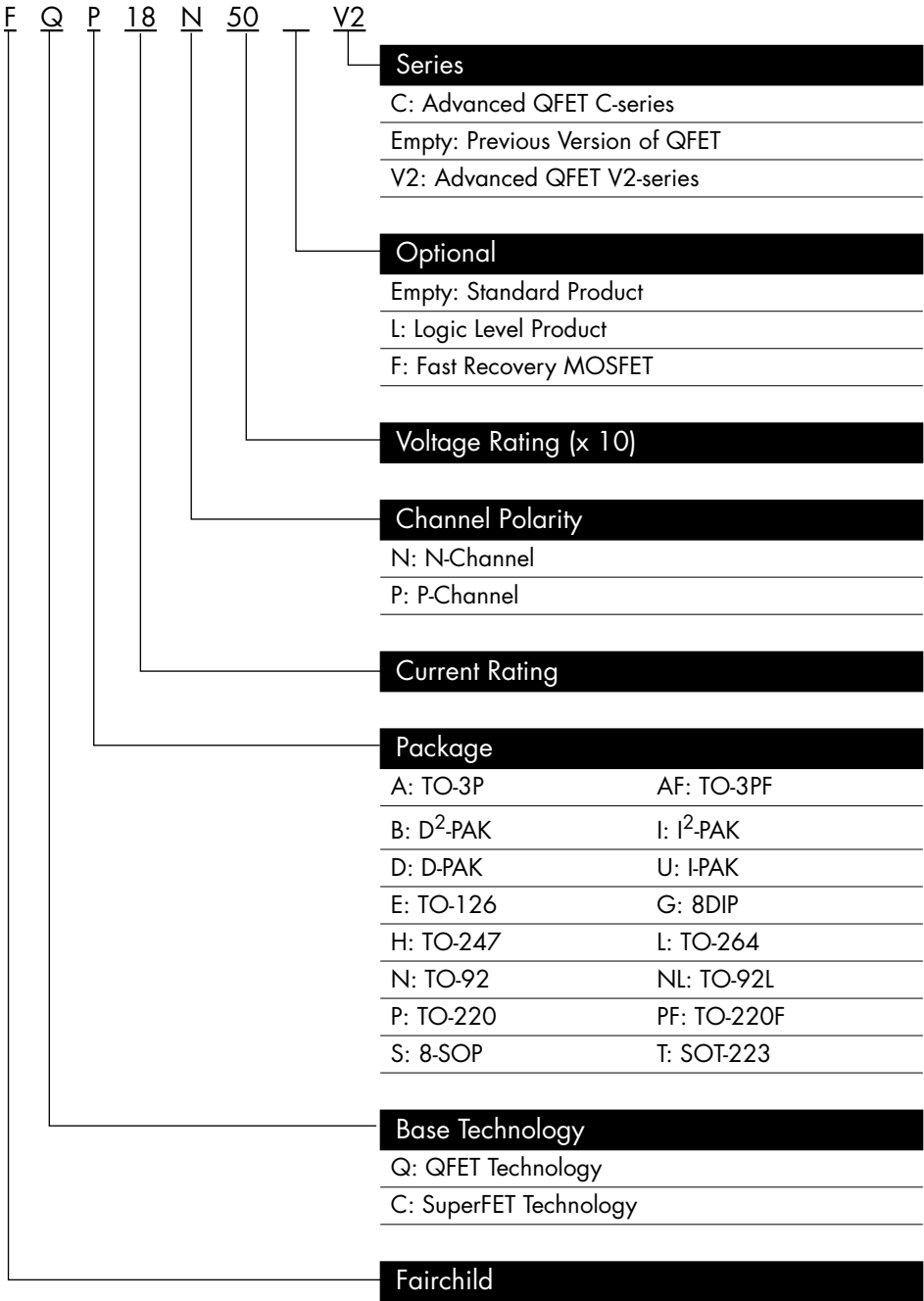


ORDERING GUIDES



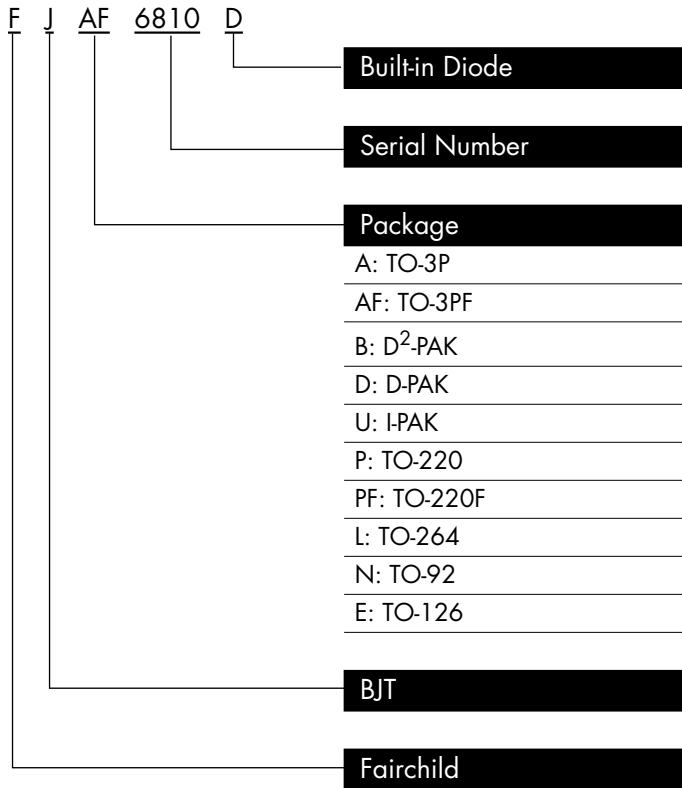
**Discrete** (Continued)

**MOSFET: QFET®**

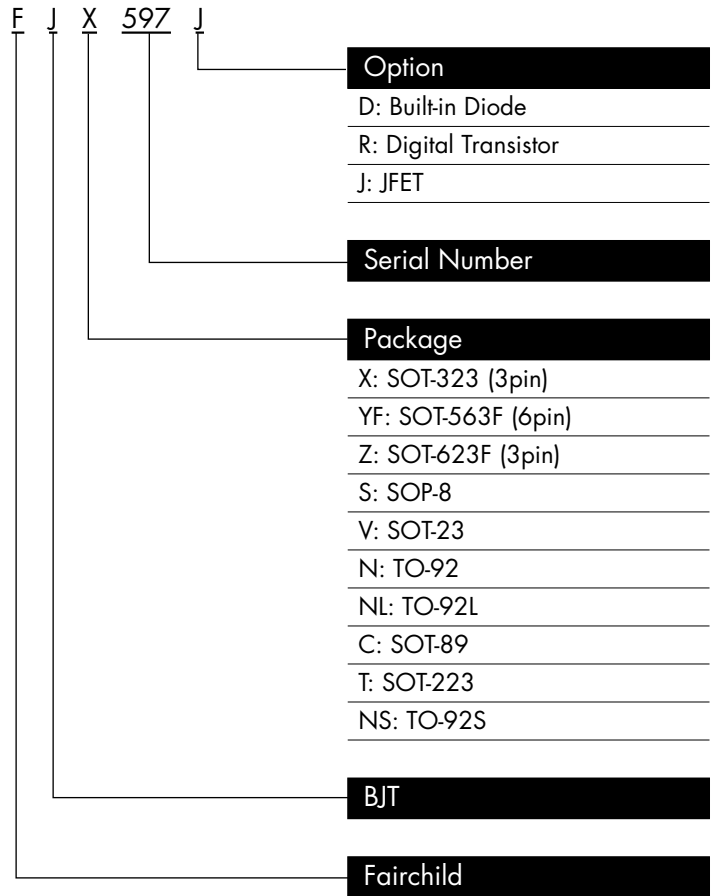


**Discrete** (Continued)

**Bipolar Power Transistor**

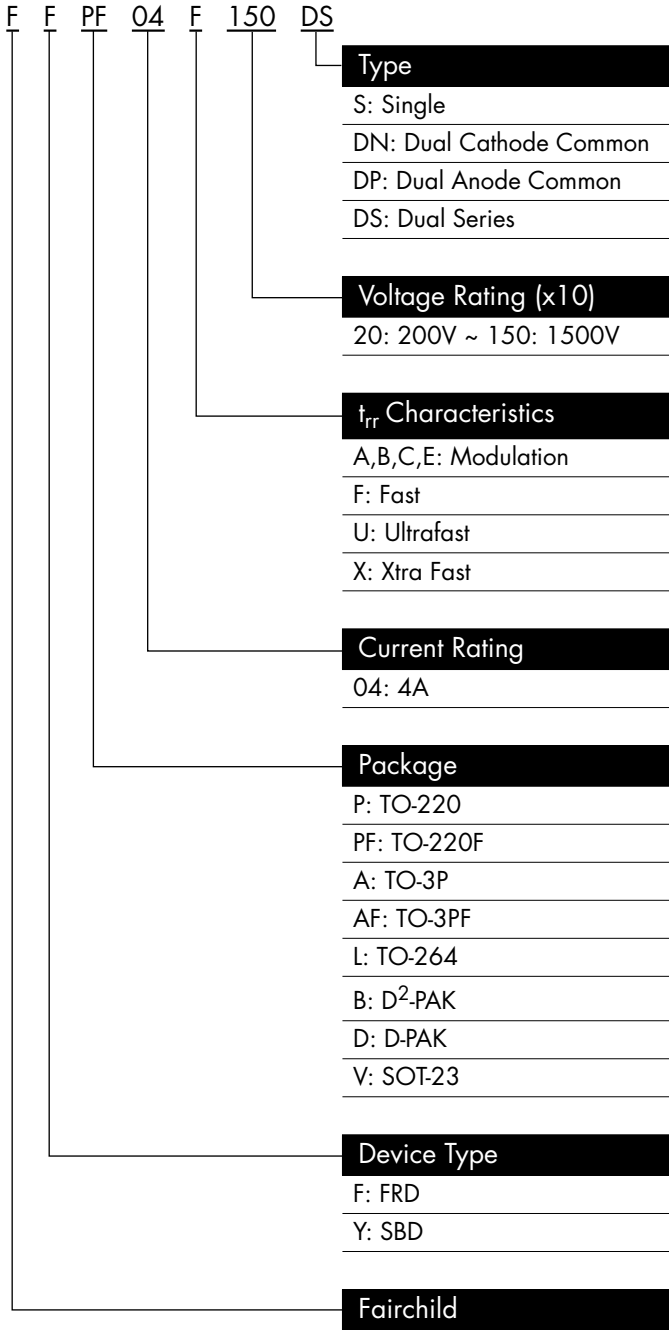


**Small Signal Transistor**



**Discrete** (Continued)

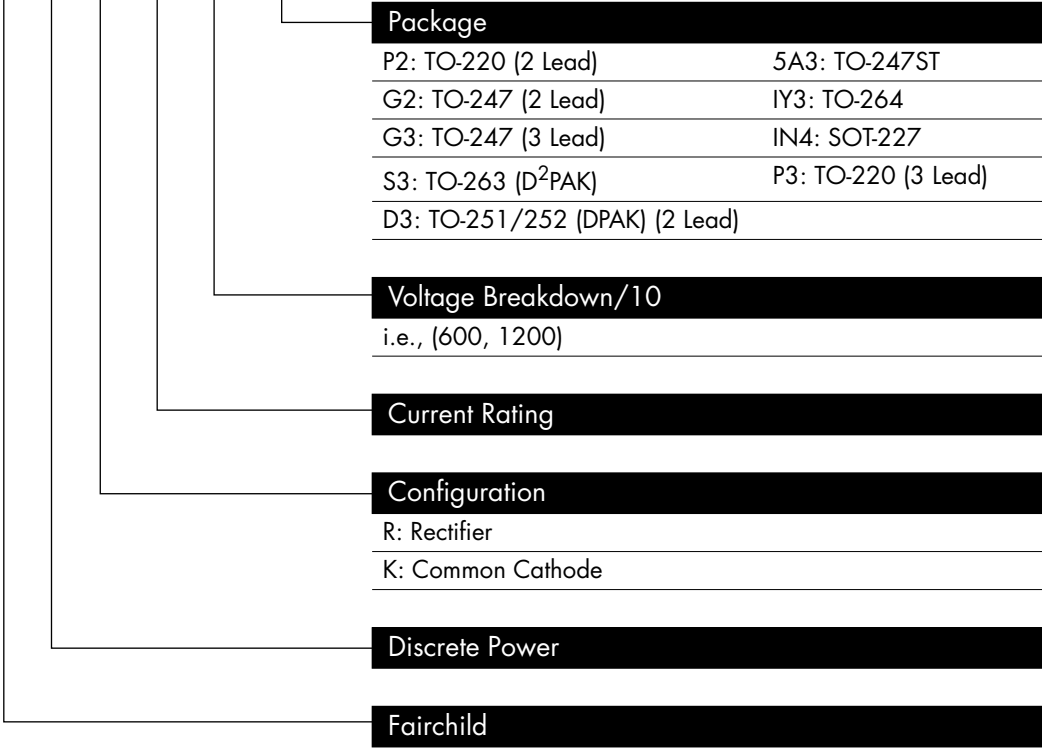
**Diode**



**Discrete** (Continued)

**STEALTH™ Rectifier**

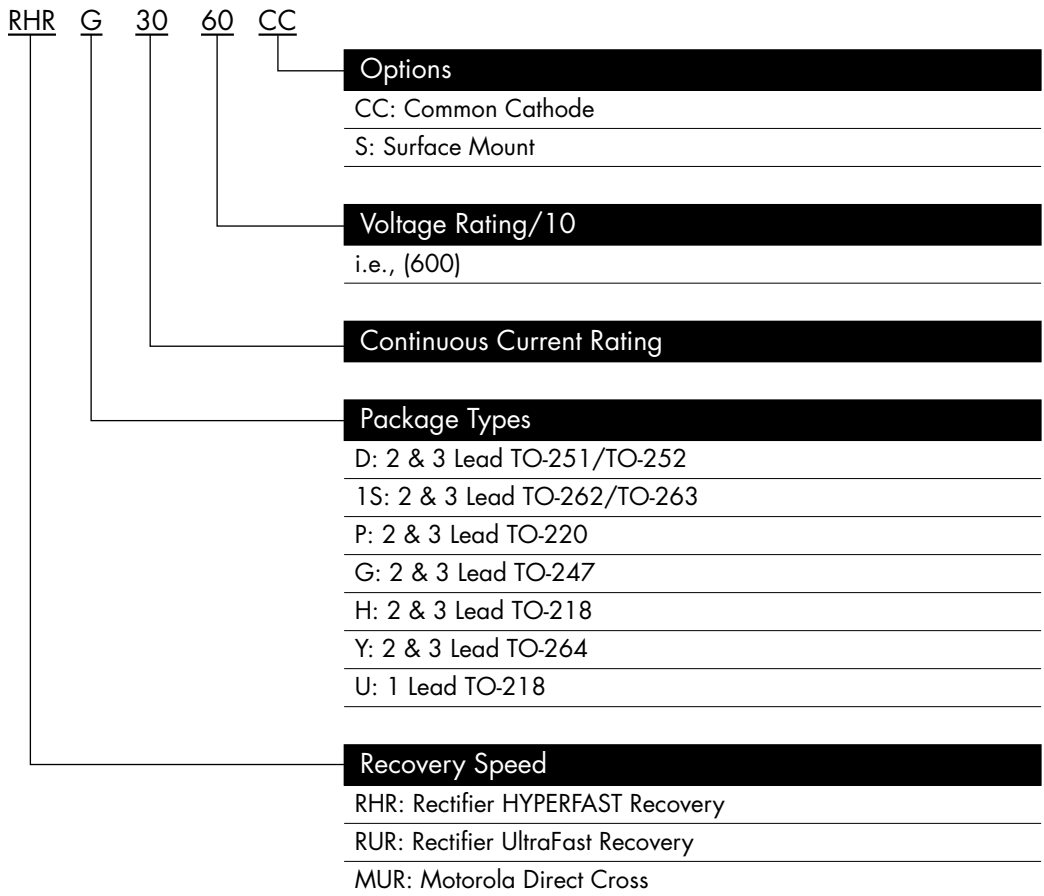
ISL 9 R 15 60 G2



Package	
P2: TO-220 (2 Lead)	5A3: TO-247ST
G2: TO-247 (2 Lead)	IY3: TO-264
G3: TO-247 (3 Lead)	IN4: SOT-227
S3: TO-263 (D <sup>2</sup> PAK)	P3: TO-220 (3 Lead)
D3: TO-251/252 (DPAK) (2 Lead)	
Voltage Breakdown/10	
i.e., (600, 1200)	
Current Rating	
Configuration	
R: Rectifier	
K: Common Cathode	
Discrete Power	
Fairchild	

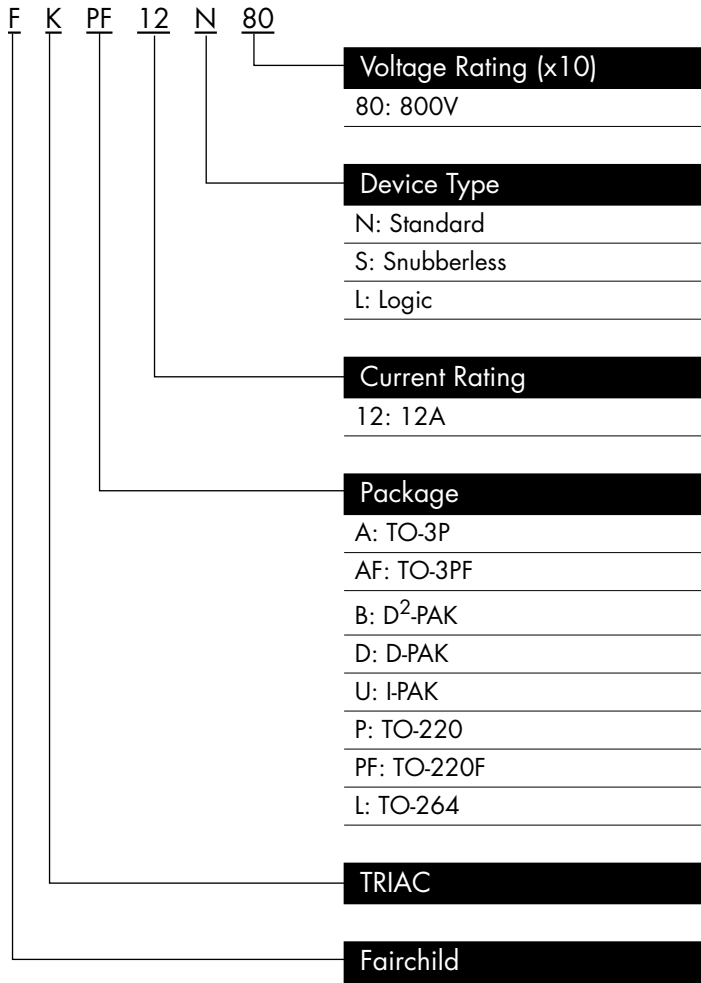
**Discrete** (Continued)

**Fast Rectifier**



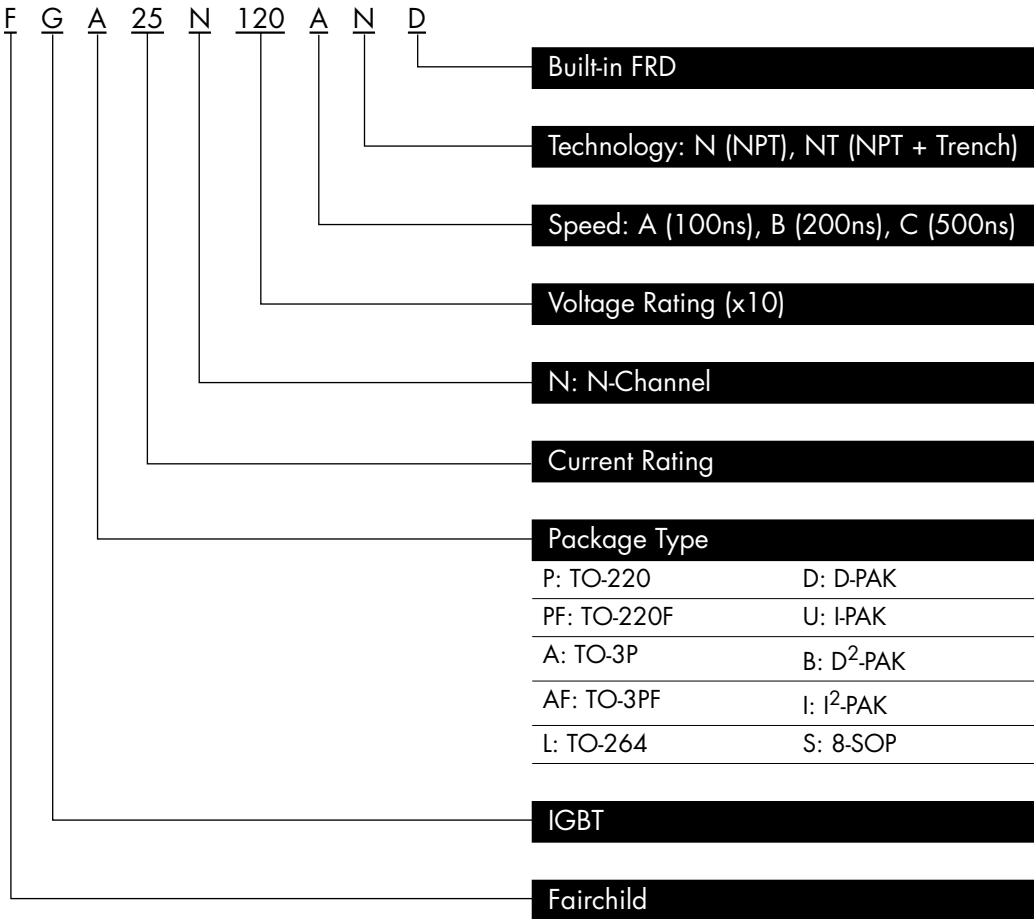
**Discrete** (Continued)

**TRIAC**



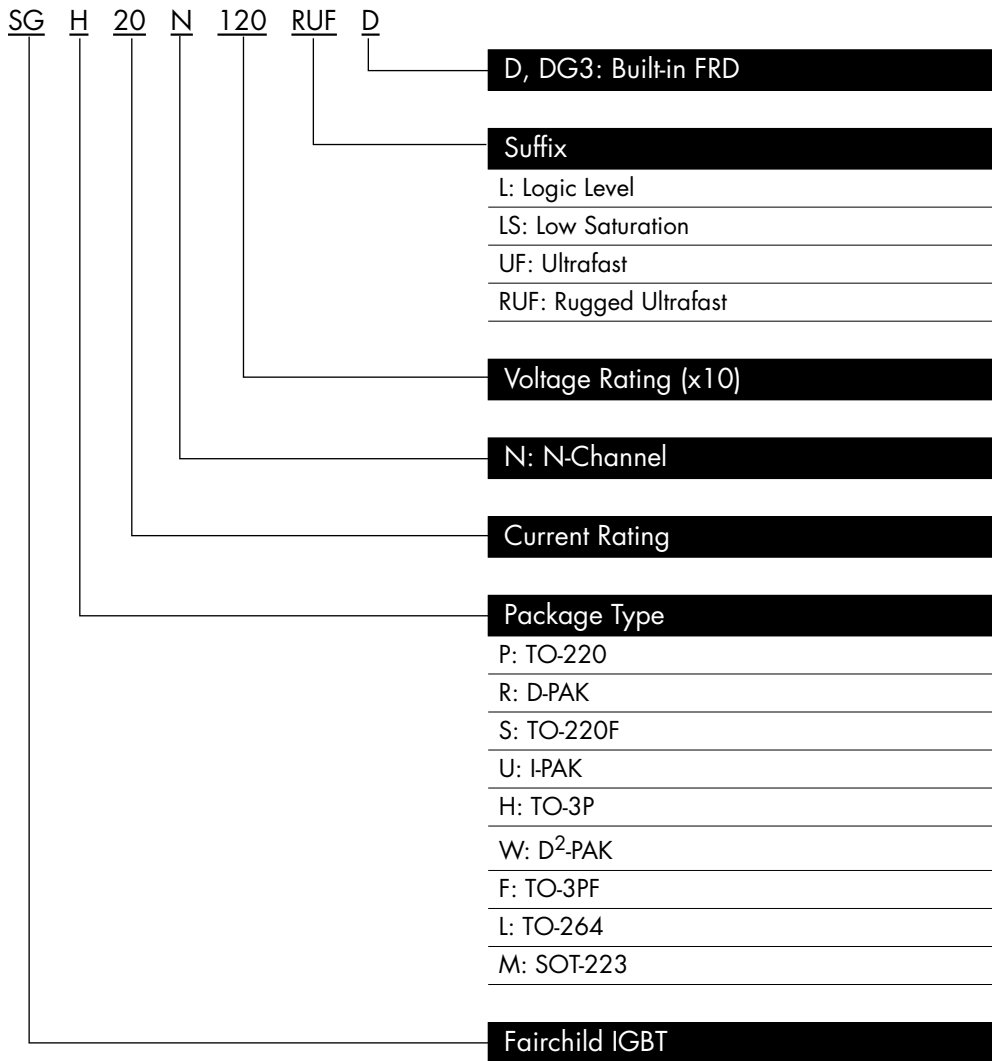
**Discrete** (Continued)

**Discrete IGBT (I)**



**Discrete** (Continued)

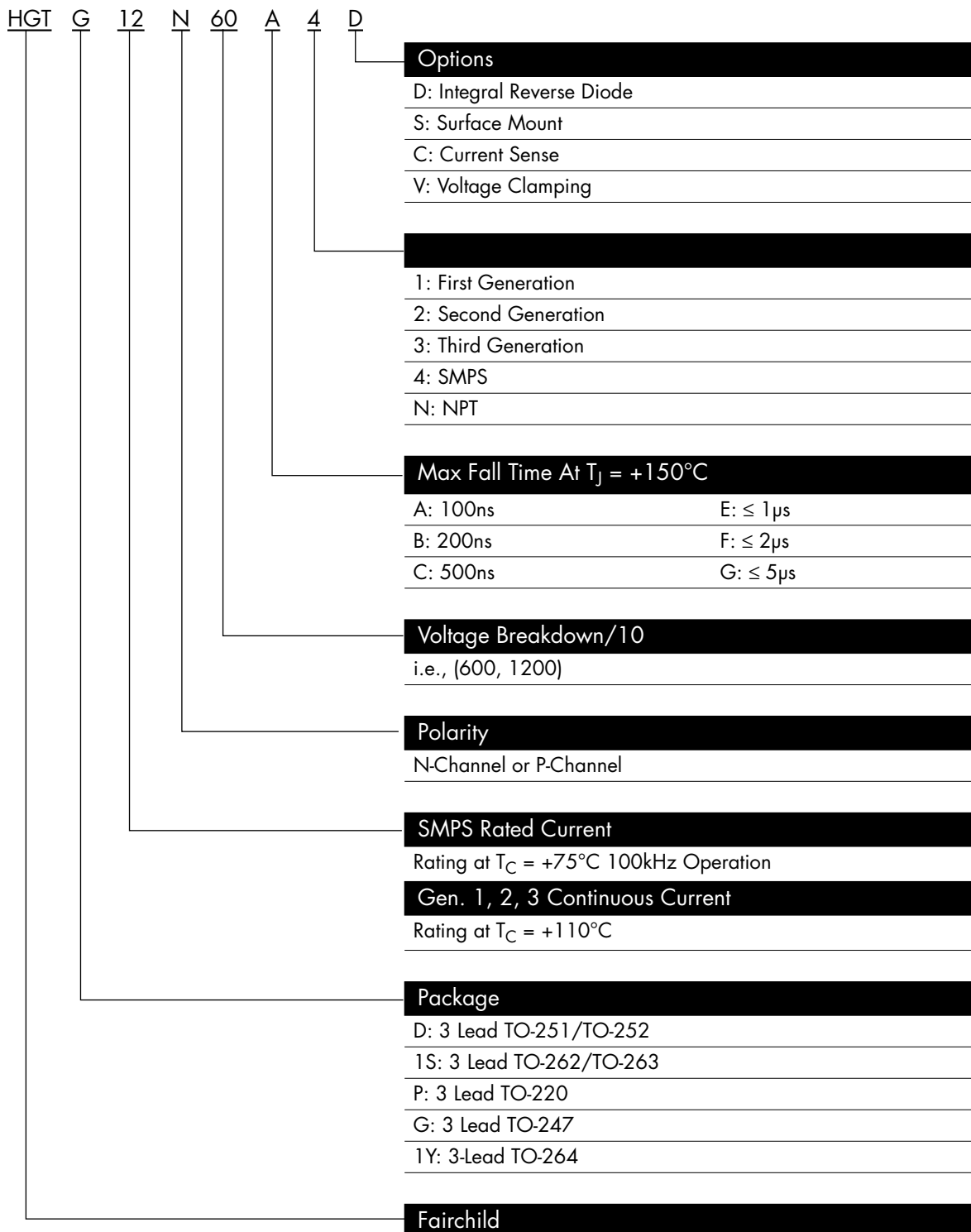
**Discrete IGBT (II)**





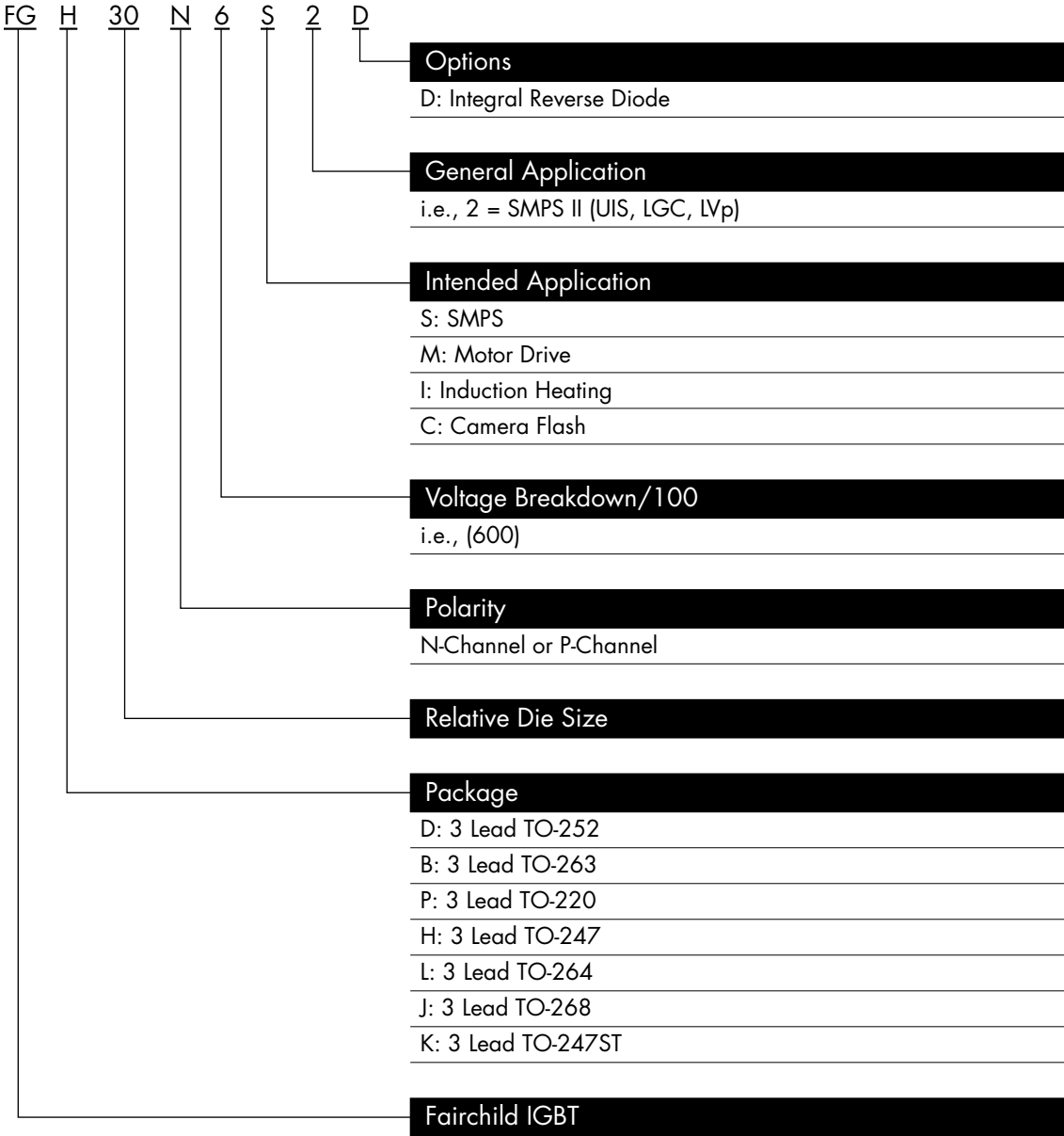
**Discrete** (Continued)

**Discrete IGBT (SMPS I)**



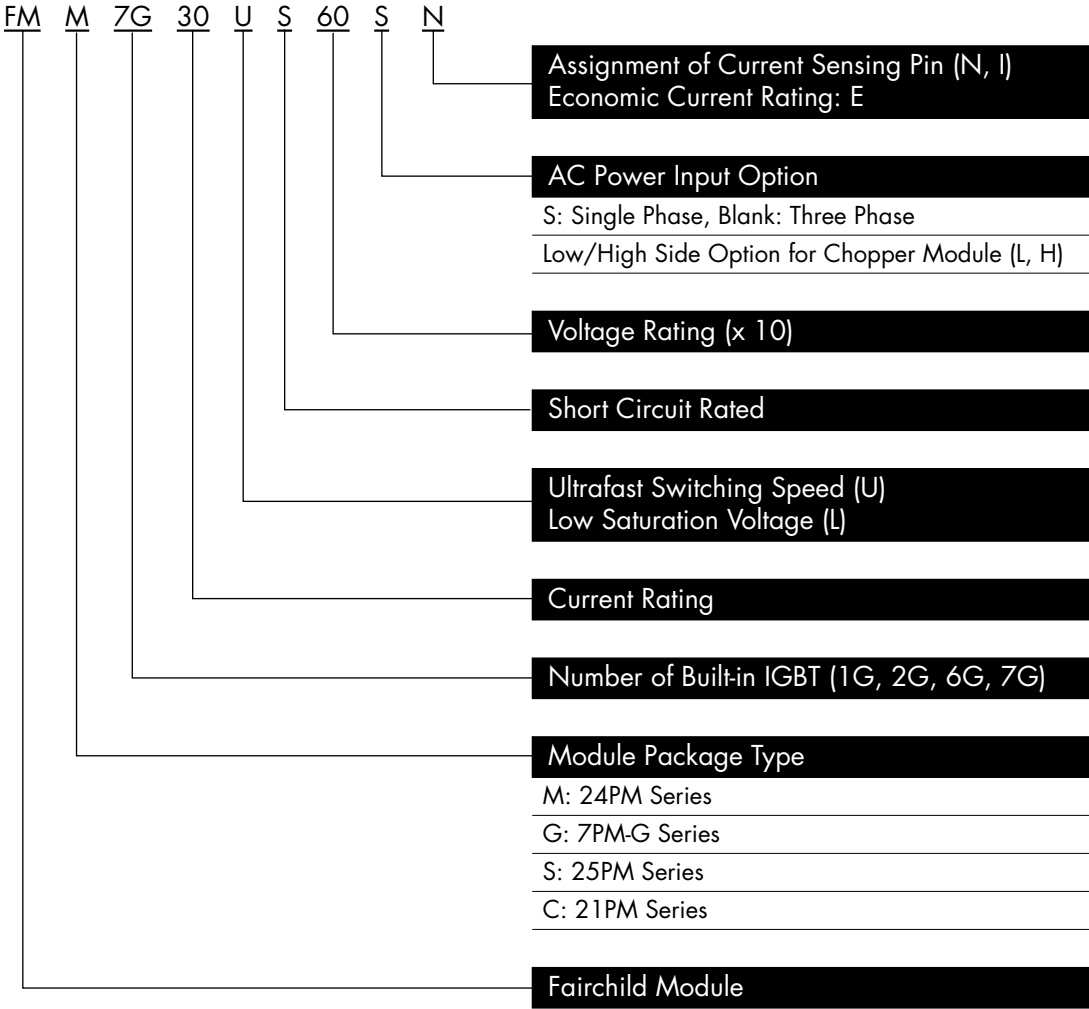
**Discrete** (Continued)

**Discrete IGBT (SMPS II)**



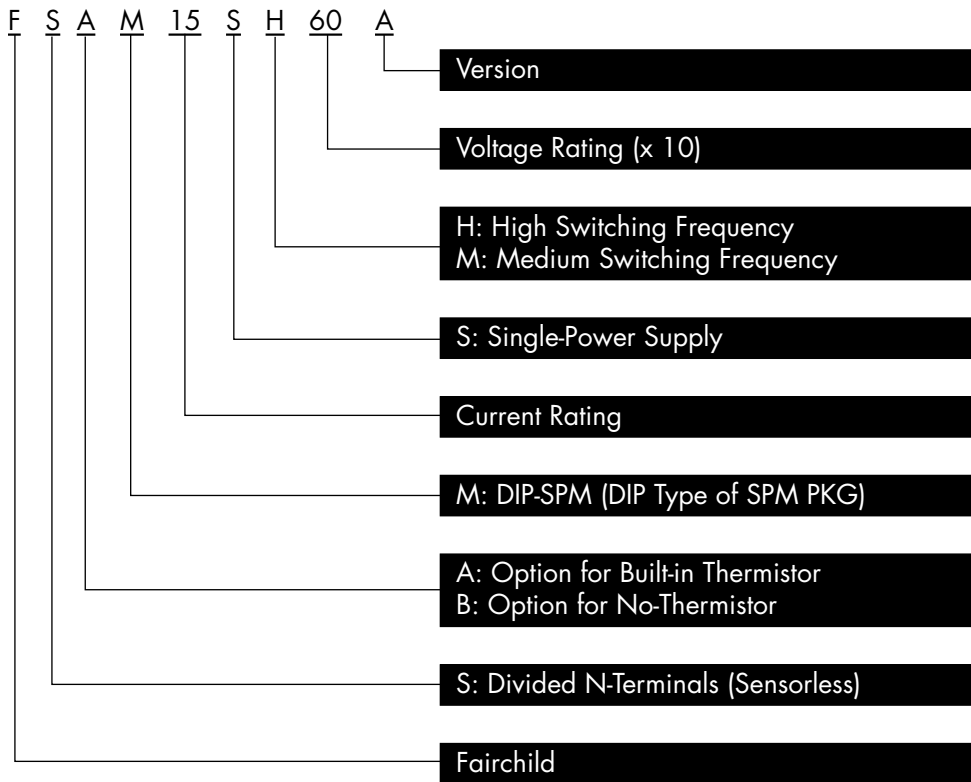
**Discrete** (Continued)

**IGBT Module**



**Discrete** (Continued)

**SPM™ (Smart Power Module)**



Fairchild Semiconductor's Design Center offers a wide range of design tools including online selection and simulation tools, software downloads, and developer kits. Details can be found below. The web site for this information is <http://www.fairchildsemi.com/designcenter/>

## Design Tools

### FETBench

[http://www.transim.com/fairchild/fairchild\\_index.html](http://www.transim.com/fairchild/fairchild_index.html)  
(Registration required)

MOSFET design workbench featuring WebSIM™ and other resources for the design engineer

### Power Factor Correction (PFC) Toolkit

<http://www.fairchildsemi.com/designcenter/pfc>  
(Registration required)

This online toolkit contains tutorials, topology recommendations, product selection tools as well as other design recommendations for PFC applications.

### Power Supply Design Toolkit

<http://www.fairchildsemi.com/designcenter/acdc>  
(Registration required)

This online tool features tutorials, selection tools, and design aids specifically addressing AC/DC designs. Included is a step by step design tool using Fairchild Power Switches (FPS™).

### Synchronous buck MOSFET loss calculations with Excel Model (.pdf)

<http://www.fairchildsemi.com/designcenter/>

## Developer Tools

### ACEx™ Developer Tool Kit

[http://www.fairchildsemi.com/products/micro/acex\\_dtk.html](http://www.fairchildsemi.com/products/micro/acex_dtk.html)

## Models and Simulation Tools

<http://www.fairchildsemi.com/models>

Fairchild provides a full range of simulation resources including SPICE and IBIS models, as well as simulation tools.

## Sample Code

### ACEx™ sample code downloads

[http://www.fairchildsemi.com/products/micro/sw/sample\\_code.html](http://www.fairchildsemi.com/products/micro/sw/sample_code.html)

Download code to assist in your designs with ACEx™

## Training & Seminars

### Archived webcasts

<http://www.fairchildsemi.com/power/pwrsemwebcast03.html>

Contents:

- Flyback Converters – Fairchild Power Switch (FPS™ )
- Practical aspects of feedback control
- Power Factor Correction
- DC-DC Solutions (Control)
- High-Voltage Discrete Technology
- DC-DC Solutions (MOSFETs)
- Motor Solutions

## Quality System

The success of Fairchild is dependent upon the level of service that we can provide to our customers. One of the ways that we provide this high level of service is through a comprehensive quality system. Fairchild's Quality Strategy stresses four key areas:

- Designing In Quality
- Building In Quality
- Customer Service
- Continuous Improvement

This quality system bolsters Fairchild's strategic initiatives of product innovation, cost-effective manufacturing and superior customer service.

Fairchild has a strong focus on *Supplier Quality*. Quality systems and programs are in place for all Fairchild suppliers worldwide including direct raw materials, fabrication, assembly and test subcontractors. These include a comprehensive rating system, controlled supplier lists, documented qualification procedures and environmental standards specifications.

Fairchild is committed to *Development Quality*. Development processes are based on the QS9000 Advanced Product Quality Planning (APQP) methodology. APQP is a concurrent engineering process that examines the processes, products and technologies to assure the end products work optimally. These developmental processes include a phase review system wherein at each point in the process, there is an opportunity to decide whether to continue or discontinue development as appropriate. Integral to the APQP methodology is the use of Failure Mode and Effects Analysis (FMEA) to examine the various ways that product, process or equipment failures can occur and develop control plans to proactively prevent the failures.

Fairchild's *Manufacturing Quality* systems are founded on the principles of Built-In Quality. Quality is an integral part of every step in the manufacturing process, starting with the development process itself. Fairchild's Manufacturing and Engineering groups make extensive use of statistical methods such as Design of Experiments to determine optimal process parameters and Statistic Process Control (SPC) to monitor the process performance. Continuous Improvement efforts use information available from sources such as customers, process control monitors, reliability testing and final test operations to generate action plans that will push the factories ever closer to quality perfection.

*Service Quality* is not just an afterthought at Fairchild. It is a major part of our quality system. An integral part of Fairchild's Service Quality is the Customer Quality Engineering (CQE) group, which is a global organization of engineers dedicated to addressing all process, product or service quality issues that customers may have. CQE also acts as the customer advocate within Fairchild and is available to support customers with qualification information, surveys, questionnaires and other inquiries. Additional service support is available through a new virtual organization of customer quality champions who are trained and certified to provide direct customer support from each of Fairchild's manufacturing sites. Fairchild's service quality includes fully equipped failure analysis labs at all manufacturing locations to test customer returned samples.

### The Future

All of Fairchild's manufacturing sites are in the process of enhancing their quality systems to meet the requirements of the TS-16949 standard. Quality systems based on this standard have a very strong link to the associated business processes. Another part of our future direction is an active focus on environmental quality. With the billions of parts that semiconductor manufacturers ship, it is imperative that these products do not contaminate the environment. Fairchild is contributing to this effort through compliance to industry standards such ISO-14001, conversion to lead-free plating, elimination of hazardous or restricted substances in our products and minimization of waste from our manufacturing processes.

We will continue to improve our processes, products and services to provide customers with design solutions that offer a true competitive advantage. This drive for continuous improvement is ingrained in our culture and a key to the future success of Fairchild Semiconductor and our customers.