

# Small Signal Transistors & Diodes

## SELECTION GUIDE



### Rectifiers

*Bridge, Fast Recovery, General Purpose, Ultrafast*

### Diodes

*Schottky, Small Signal, TVS, Zener*

### Transistors

*Darlington, Digital, General Purpose, Hybrid, JFET, RF Amplifiers*

Fairchild Semiconductor, a long-time, leading global supplier of high performance semiconductors, offers a broad range of small signal transistor and diode products—from JFETs, Schottky, and rectifiers, to RF transistors, TRIACs and more. You will not only find the performance that you want, you will also find the right packaging to meet your design needs. In addition, you can be assured that Fairchild offers long-term family support to help extend the life of your design. With our commitment to providing the best customer service in the industry along with one of the largest portfolios of small signal transistor and diode products, Fairchild is the supplier you can rely on, now and into the future.

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## Bridge Rectifiers

Products	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)
<b>DIP</b> (Refer to p. 75 for detailed package drawing)			
DF005M	50	1.5	1.1
DF01M	100	1.5	1.1
DF02M	200	1.5	1.1
DF04M	400	1.5	1.1
DF06M	600	1.5	1.1
DF08M	800	1.5	1.1
DF10M	1000	1.5	1.1
<b>GBPC/GBPC-W</b> (Refer to p. 76 for detailed package drawing)			
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
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> (Refer to p. 77 for detailed package drawing)			
GBU4A	50	4	1
GBU4B	100	4	1
GBU4D	200	4	1

Products	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)
<b>GBU, Con't.</b>			
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
GBU8M	1000	8	1
<b>KBL</b> (Refer to p. 77 for detailed package drawing)			
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
KBL08	800	4	1.1
KBL10	1000	4	1.1
<b>KBPM</b> (Refer to p. 77 for detailed package drawing)			
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

## Bridge Rectifiers, Con't.

Products	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)
<b>KBPM, Con't.</b>			
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
KBP005M	50	1.5	1.3
KBP01M	100	1.5	1.3
KBP02M	200	1.5	1.3
KBP04M	400	1.5	1.3
KBP06M	600	1.5	1.3
KBP08M	800	1.5	1.3
KBP10M	1000	1.5	1.3
<b>KBU</b> (Refer to p. 77 for detailed package drawing)			
KBU4A	50	4	1
KBU4B	100	4	1
KBU4D	200	4	1
KBU4G	400	4	1
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

Products	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)
<b>SDIP</b> (Refer to p. 78 for detailed package drawing)			
DF005S	50	1.5	1.1
DF01S	100	1.5	1.1
DF02S	200	1.5	1.1
DF04S	400	1.5	1.1
DF06S	600	1.5	1.1
DF08S	800	1.5	1.1
DF10S	1000	1.5	1.1
<b>SOIC</b> 4.9mm × 4.2mm × 3.0mm (Refer to p. 72 for detailed package drawing)			
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

## Fast 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)
<b>SMA (DO-214AC)</b>		4.59mm × 2.89mm × 2.43mm (Refer to p. 70 for detailed package drawing)					
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>DO-41</b>		(Refer to p. 75 for detailed package drawing)					
1N4933	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
RGP10B	Single	100	1	30	1.3	150	5
1N4935	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
RGP10G	Single	400	1	30	1.3	150	5
1N4937	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

## General Purpose 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)
<b>DO-15</b> (Refer to p. 75 for detailed package drawing)							
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> (Refer to p. 76 for detailed package drawing)							
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>SMB (DO-214AA)</b> 4.69mm × 3.94mm × 2.43mm (Refer to p. 70 for detailed package drawing)							
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 (DO-214AB)</b> 7.11mm × 6.22mm × 2.51mm (Refer to p. 71 for detailed package drawing)							
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

## General Purpose Rectifiers, Con't.

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)
<b>SMA (DO-214AC)</b>		4.59mm × 2.89mm × 2.43mm (Refer to p. 70 for detailed package drawing)					
GF1A	Single	50	1	30	1	2000	5
S1A	Single	50	1	40	1.1	1800	1
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>DO-41</b>		(Refer to p. 75 for detailed package drawing)					
1N4001	Single	50	1	30	1.1	–	5
1N4002	Single	100	1	30	1.1	–	5
1N4003	Single	200	1	30	1.1	–	5
1N4004	Single	400	1	30	1.1	–	5
1N4005	Single	600	1	30	1.1	–	5
1N4006	Single	800	1	30	1.1	–	5
1N4007	Single	1000	1	30	1.1	–	5

## Ultrafast 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)
<b>SMB (DO-214AA)</b>		4.69mm × 3.94mm × 2.43mm (Refer to p. 70 for detailed package drawing)					
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 (DO-214AB)</b>		7.11mm × 6.22mm × 2.51mm (Refer to p. 71 for detailed package drawing)					
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
ES3J	Single	600	3	100	1.7	20	10
<b>SMA (DO-214AC)</b>		4.59mm × 2.89mm × 2.43mm (Refer to p. 70 for detailed package drawing)					
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>DO-41</b>		(Refer to p. 75 for detailed package drawing)					
UF4001	Single	50	1	30	1	50	10
UF4002	Single	100	1	30	1	50	10
UF4003	Single	200	1	30	1	50	10
UF4004	Single	400	1	30	1	50	10
UF4005	Single	600	1	30	1.7	75	10
UF4006	Single	800	1	30	1.7	75	10
UF4007	Single	1000	1	30	1.7	75	10
<b>TO-220AB</b>		(Refer to p. 79 for detailed package drawing)					
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



## Ultrafast Rectifiers, Con't.

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)
<b>TO-220AB, Con't.</b>							
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> (Refer to p. 79 for detailed package drawing)							
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
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

## Schottky Diodes

Products	Function	Configuration	$I_{FSM}$ (A)	Thermal Resistance $R_{\theta JA}$ (°C/W)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	$I_{RM}$ Maximum Instantaneous	
								( $\mu$ A)	@ $V_R$ (V)
<b>DO-201AD</b> (Refer to p. 76 for detailed package drawing)									
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
SB320	Schottky Barrier Rectifier	Single	80	40	20	3	0.5	500	20
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>SMB (DO-214AA)</b> 4.69mm × 3.94mm × 2.43mm (Refer to p. 70 for detailed package drawing)									
MBR5130	Schottky Barrier Rectifier	Single	40	–	30	1	0.55	1000	30
MBR5130L	Schottky Barrier Rectifier	Single	40	–	30	1	0.395	1000	30
MBR5140	Schottky Barrier Rectifier	Single	40	–	40	1	0.6	1000	40
S210	Schottky Barrier Rectifier	Single	50	75	100	2	0.85	400	100
S522	Schottky Barrier Rectifier	Single	50	75	20	2	0.5	400	20
S523	Schottky Barrier Rectifier	Single	50	75	30	2	0.5	400	30

## Schottky Diodes, Con't.

Products	Function	Configuration	I <sub>FSM</sub> (A)	Thermal Resistance R <sub>θJA</sub> (°C/W)	V <sub>RRM</sub> Maximum Repetitive Reverse Voltage (V)	I <sub>F (AV)</sub> Average Rectified Forward Current (A)	V <sub>FM</sub> Maximum Instantaneous Forward Voltage (V)	I <sub>RM</sub> Maximum Instantaneous	
								(μA)	@ V <sub>R</sub> (V)
<b>SMB (DO-214AA) , Con't.</b>									
<b>SS24</b>	Schottky Barrier Rectifier	Single	50	75	40	2	0.5	400	40
<b>SS25</b>	Schottky Barrier Rectifier	Single	50	75	50	2	0.7	400	50
<b>SS26</b>	Schottky Barrier Rectifier	Single	50	75	60	2	0.7	400	60
<b>SS28</b>	Schottky Barrier Rectifier	Single	50	75	80	2	0.85	400	80
<b>SS29</b>	Schottky Barrier Rectifier	Single	50	75	90	2	0.85	400	90
<b>SMC (DO-214AB)</b> <span style="float: right;">7.11mm × 6.22mm × 2.51mm (Refer to p. 71 for detailed package drawing)</span>									
<b>MBRS320</b>	Schottky Barrier Rectifier	Single	80	–	20	3	0.5	2000	20
<b>MBRS340</b>	Schottky Barrier Rectifier	Single	80	–	40	3	0.525	2000	40
<b>S310</b>	Schottky Barrier Rectifier	Single	100	55	100	3	0.85	500	100
<b>SS32</b>	Schottky Barrier Rectifier	Single	100	55	20	3	0.5	500	20
<b>SS33</b>	Schottky Barrier Rectifier	Single	100	55	30	3	0.5	500	30
<b>SS34</b>	Schottky Barrier Rectifier	Single	100	55	40	3	0.5	500	40
<b>SS35</b>	Schottky Barrier Rectifier	Single	100	55	50	3	0.75	500	50
<b>SS36</b>	Schottky Barrier Rectifier	Single	100	55	60	3	0.75	500	60
<b>SS38</b>	Schottky Barrier Rectifier	Single	100	55	80	3	0.85	500	80
<b>SS39</b>	Schottky Barrier Rectifier	Single	100	55	90	3	0.85	500	90
<b>SMA (DO-214AC)</b> <span style="float: right;">4.59mm × 2.89mm × 2.43mm (Refer to p. 70 for detailed package drawing)</span>									
<b>FMKA130</b>	Schottky Barrier Rectifier	Single	30	–	30	1	0.55	1000	30
<b>FMKA130L</b>	Schottky Barrier Rectifier	Single	30	–	30	1	0.41	1000	30
<b>FMKA140</b>	Schottky Barrier Rectifier	Single	30	–	40	1	0.6	1000	40
<b>S100</b>	Schottky Barrier Rectifier	Single	40	88	100	1	0.85	200	100
<b>SS12</b>	Schottky Barrier Rectifier	Single	40	88	20	1	0.5	200	20
<b>SS13</b>	Schottky Barrier Rectifier	Single	40	88	30	1	0.5	200	30
<b>SS14</b>	Schottky Barrier Rectifier	Single	40	88	40	1	0.5	200	40

## Schottky Diodes, Con't.

Products	Function	Configuration	$I_{FSM}$ (A)	Thermal Resistance $R_{\theta JA}$ (°C/W)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	$I_{RM}$ Maximum Instantaneous	
								( $\mu$ A)	@ $V_R$ (V)
<b>SMA (DO-214AC), Con't.</b>									
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>DO-41</b> (Refer to p. 75 for detailed package drawing)									
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>SOD-123</b> 2.36mm × 1.80mm × 1.26mm (Refer to p. 71 for detailed package drawing)									
FBR130	Schottky Barrier Rectifier	Single	5.5	73	30	1	0.45	200	30
MBR0520L	Schottky Barrier Rectifier	Single	5.5	340	20	0.5	0.385	250	20
MBR0530	Schottky Barrier Rectifier	Single	5.5	-	30	0.5	0.375	20	15
MBR0540	Schottky Barrier Rectifier	Single	5.5	206	40	0.5	0.51	20	40
<b>SOT-23</b> 2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)									
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
BAT54A	Schottky Diode	Dual & Common Anode	0.6	430	30	0.3	1	2	25

## Schottky Diodes, Con't.

Products	Function	Configuration	$I_{FSM}$ (A)	Thermal Resistance $R_{\theta JA}$ (°C/W)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	$I_{RM}$ Maximum Instantaneous	
								( $\mu$ A)	@ $V_R$ (V)
<b>SOT-23, Con't.</b>									
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
FYV0203DN	Schottky Diode	Dual & Common Cathode	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>SOT-323</b> <span style="float: right;">2.0mm × 1.25mm × 0.95mm (Refer to p. 73 for detailed package drawing)</span>									
BAT54CWT1G	Schottky Diode	Dual & Common Cathode	0.6	430	30	0.2	0.8	2	25
BAT54SWT1G	Schottky Diode	Dual Series	0.6	430	30	0.2	0.8	2	25
<b>TO-220</b> <span style="float: right;">(Refer to p. 79 for detailed package drawing)</span>									
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
MBRP1545N	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	45	15	0.8	1000	45
MBRP2045N	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	45	20	0.8	1000	45
MBRP3010N	Schottky Barrier Rectifier	Dual & Common Cathode	250	–	100	30	1.05	1000	100
MBRP3045N	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	45	30	0.8	1000	45
MBRP745	Schottky Barrier Rectifier	Single	150	–	45	7.5	0.65	1000	45

## Schottky Diodes, Con't.

Products	Function	Configuration	$I_{FSM}$ (A)	Thermal Resistance $R_{\theta JA}$ (°C/W)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	$I_{RM}$ Maximum Instantaneous	
								( $\mu$ A)	@ $V_R$ (V)
(Refer to p. 79 for detailed package drawing)									
<b>TO-220AB</b>									
<b>MBR1535CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	35	15	0.84	100	35
<b>MBR1545CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	45	15	0.84	100	45
<b>MBR1550CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	50	15	0.75	1000	50
<b>MBR1560CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	60	15	0.75	1000	60
<b>MBR2035CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	35	20	0.84	100	35
<b>MBR2045CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	45	20	0.84	100	45
<b>MBR2050CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	50	20	0.95	150	50
<b>MBR2060CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	60	20	0.95	150	60
<b>MBR20S100CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	100	20	0.95	100	100
<b>MBR2535CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	35	30	0.82	200	35
<b>MBR2545CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	45	30	0.82	200	45
<b>MBR2550CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	50	30	0.75	1000	50
<b>MBR2560CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	60	60	30	0.75	1000	60
(Refer to p. 79 for detailed package drawing)									
<b>TO-220AC</b>									
<b>MBR1035</b>	Schottky Barrier Rectifier	Single	150	60	35	10	0.84	100	35
<b>MBR1045</b>	Schottky Barrier Rectifier	Single	150	60	45	10	0.84	100	45
<b>MBR1050</b>	Schottky Barrier Rectifier	Single	150	60	50	10	0.8	100	50
<b>MBR1060</b>	Schottky Barrier Rectifier	Single	150	60	60	10	0.8	100	60
<b>MBR1635</b>	Schottky Barrier Rectifier	Single	150	60	35	16	0.63	200	35
<b>MBR1645</b>	Schottky Barrier Rectifier	Single	150	60	45	16	0.63	200	45
<b>MBR1650</b>	Schottky Barrier Rectifier	Single	150	60	50	16	0.75	1000	50
<b>MBR1660</b>	Schottky Barrier Rectifier	Single	150	60	60	16	0.75	1000	60
<b>MBR735</b>	Schottky Barrier Rectifier	Single	150	60	35	7.5	0.84	100	35
<b>MBR745</b>	Schottky Barrier Rectifier	Single	150	60	45	7.5	0.84	100	45

## Schottky Diodes, Con't.

Products	Function	Configuration	$I_{FSM}$ (A)	Thermal Resistance $R_{\theta JA}$ (°C/W)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	$I_{RM}$ Maximum Instantaneous	
								( $\mu$ A)	@ $V_R$ (V)
<b>TO-220AC, Con't.</b>									
<b>MBR750</b>	Schottky Barrier Rectifier	Single	150	60	50	7.5	0.75	500	50
<b>MBR760</b>	Schottky Barrier Rectifier	Single	150	60	60	7.5	0.75	500	60
<b>TO-220F</b>							(Refer to p. 80 for detailed package drawing)		
<b>FYPF0545S</b>	Schottky Barrier Rectifier	Single	80	–	45	5	0.55	1000	45
<b>FYPF1004DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	80	–	40	10	0.55	1000	40
<b>FYPF1010DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	100	10	0.75	1000	100
<b>FYPF1045DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	80	–	45	10	0.55	1000	45
<b>FYPF1504DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	40	15	0.55	1000	40
<b>FYPF1545DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	100	–	45	15	0.55	1000	45
<b>FYPF2004DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	40	20	0.55	1000	40
<b>FYPF2006DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	60	20	0.58	1000	60
<b>FYPF2010DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	150	–	100	20	0.77	100	100
<b>FYPF2045DN</b>	Schottky Barrier Rectifier	Dual & Common Cathode	80	–	45	10	0.55	1000	45
<b>MBRF20S100CT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	100	20	0.95	100	100
<b>TO-247</b>							(Refer to p. 80 for detailed package drawing)		
<b>MBR3035PT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	60	35	30	0.76	1000	35
<b>MBR3045PT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	60	45	30	0.76	1000	45
<b>MBR3050PT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	60	50	30	0.75	5000	50
<b>MBR3060PT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	200	60	60	30	0.75	5000	60
<b>MBR4035PT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	400	60	35	40	0.7	1000	35
<b>MBR4045PT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	400	60	45	40	0.7	1000	45
<b>MBR4050PT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	400	60	50	40	0.72	1000	50
<b>MBR4060PT</b>	Schottky Barrier Rectifier	Dual & Common Cathode	400	60	60	40	0.72	1000	60

## Schottky Diodes, Con't.

Products	Function	Configuration	$I_{FSM}$ (A)	Thermal Resistance $R_{\theta JA}$ ( $^{\circ}C/W$ )	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{F(AV)}$ Average Rectified Forward Current (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	$I_{RM}$ Maximum Instantaneous	
								( $\mu A$ )	@ $V_R$ (V)
<b>TO-247/TO-3P/TO-3PF</b>					(Refer to pp. 80 & 78 for detailed package drawing)				
FYAF3004DN	Schottky Barrier Rectifier	Dual & Common Cathode	300	–	40	30	0.55	1000	40
<b>DBPAK (TO-252)</b>					6.6mm × 6.1mm × 2.3mm (Refer to p. 70 for detailed package drawing)				
FYD0504SA	Schottky Barrier Rectifier	Single	80	–	40	5	0.55	1000	40
<b>TO-3P</b>					(Refer to p. 78 for detailed package drawing)				
MBRA3045N	Schottky Barrier Rectifier	Dual & Common Cathode	200	–	45	30	0.8	1000	45

## Small Signal Diodes

Products	Configuration	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{FSM}$ (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	Thermal Resistance $R_{\theta JA}$ ( $^{\circ}C/W$ )	$t_{rr}$ Reverse Recovery Time (ns)	$I_{RM}$ Maximum Instantaneous Reverse Current ( $\mu A$ )
<b>DO-35</b> (Refer to p. 75 for detailed package drawing)								
FJH1101	Single	20	0.15	1	1.1	300	–	0.005
1N456A	Single	30	0.5	1	1	300	–	0.025
FJH1100	Single	30	0.15	1	1.05	300	–	0.003
FJH1102	Single	30	0.15	1	1.1	300	–	0.1
FDH700	Single	30	0.15	1	1.25	300	0.9	0.05
1N4154	Single	35	0.3	4	1	300	4	0.1
1N4152	Single	40	0.2	4	0.88	300	2	0.05
BAY71	Single	50	0.3	4	1	300	2	0.1
1N457	Single	70	0.2	4	1	300	–	0.025
1N457A	Single	70	0.2	4	1	300	–	0.025
1N4305	Single	75	0.3	4	0.85	300	2	0.1
1N4153	Single	75	0.2	4	0.88	300	2	0.05
1N4151	Single	75	0.15	2	1	300	2	0.05
1N3064	Single	75	0.3	4	1	300	4	0.1
BAW62	Single	75	0.3	4	1	300	40	0.025
1N4150	Single	75	0.4	4	1	300	4	0.1
1N4454	Single	75	0.4	4	1	300	4	0.1
FDH600	Single	75	0.4	4	1	300	4	0.1
1N483B	Single	80	0.2	4	1	300	–	0.025
1N5282	Single	80	0.2	1	1	300	4	0.1
BAW76	Single	85	0.3	4	1	300	2	0.1
FDH444	Single	100	0.2	1	0.5	300	60	0.05



## Small Signal Diodes

Products	Configuration	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{FSM}$ (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	Thermal Resistance $R_{\theta JA}$ (°C/W)	$t_{rr}$ Reverse Recovery Time (ns)	$I_{RM}$ Maximum Instantaneous Reverse Current (µA)
<b>DO-35, Con't.</b>								
1N4148	Single	100	0.2	4	1	300	4	0.025
1N4446	Single	100	0.2	4	1	300	4	0.025
1N4448	Single	100	0.2	4	1	300	4	0.025
1N914	Single	100	0.2	4	1	300	4	0.025
1N914A	Single	100	0.2	4	1	300	4	0.025
1N914B	Single	100	0.2	4	1	300	4	0.025
1N916	Single	100	0.2	4	1	300	4	0.025
1N916A	Single	100	0.2	4	1	300	4	0.025
1N916B	Single	100	0.2	4	1	300	4	0.025
1N4149	Single	100	0.3	1	1	300	4	0.025
BAV19	Single	120	0.2	4	1.25	300	50	0.1
BAY72	Single	125	0.2	4	1	350	50	0.1
BAY73	Single	125	0.5	1	1	300	1000	0.005
1N3595	Single	150	0.2	4	1	300	3000	0.1
1N458A	Single	150	0.5	4	1	300	–	0.025
FDH300	Single	150	0.5	4	1	300	–	0.001
FDH300A	Single	150	0.5	4	1	300	–	0.001
FDH3595	Single	150	0.5	4	1	300	3000	0.001
FDH333	Single	150	0.5	4	1.15	300	–	0.003
1S922	Single	150	0.2	4	1.2	300	–	0.1
1N485B	Single	200	0.2	4	1	300	–	0.025
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
1N4938	Single	200	0.5	4	1	300	50	0.1
FDH400	Single	200	0.5	1	1.1	300	50	0.1
1S923	Single	200	0.2	4	1.2	300	–	0.1
BAV20	Single	200	0.2	4	1.25	300	50	0.1
1N486B	Single	250	0.2	4	1	300	–	0.05
BAV21	Single	250	0.2	4	1.25	300	50	0.1
<b>LL-34/SOD80</b>							(Refer to p. 71 for detailed package drawing)	
FDLL457A	Single	70	0.2	4	1	300	–	0.025
FDLL4151	Single	75	0.2	1	1	350	4	0.05
FDLL4150	Single	75	0.4	4	1	300	4	0.1
FDLL4148	Single	100	0.2	4	1	300	4	0.025
LL4148	–	100	0.2	1	1	300	4	25
FDLL4448	Single	100	0.2	4	1	300	4	0.025
FDLL914	Single	100	0.2	4	1	300	4	0.025
FDLL914A	Single	100	0.2	4	1	300	4	0.025
FDLL914B	Single	100	0.2	4	1	300	4	0.025

## Small Signal Diodes

Products	Configuration	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{FSM}$ (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	Thermal Resistance $R_{\theta JA}$ ( $^{\circ}C/W$ )	$t_{rr}$ Reverse Recovery Time (ns)	$I_{RM}$ Maximum Instantaneous Reverse Current ( $\mu A$ )
<b>LL-34/SOD80, Con't.</b>								
FDLL300A	Single	150	0.5	4	1	300	–	0.001
FDLL3595	Single	150	0.5	4	1	350	3000	100
FDLL333	Single	150	0.5	4	1.15	300	–	0.003
FDLL485B	Single	200	0.5	4	1	350	–	0.025
FDLL400	Single	200	0.5	4	1.1	300	50	0.1
BAV102	Single	200	0.5	4	1.25	350	50	0.1
BAV103	Single	250	0.5	4	1.25	350	50	0.1
<b>SOD-123</b> <span style="float: right;">2.36mm × 1.80mm × 1.26mm (Refer to p. 71 for detailed package drawing)</span>								
MMSD4448	Single	100	0.2	2	1	312	4	0.025
MMSD914	Single	100	0.2	2	1	312	50	0.025
MMSD4148	Single	100	0.6	2	1	312	4	5
MMSD3070	Single	200	0.2	2	1	312	50	0.1
<b>SOD-323</b> <span style="float: right;">1.8mm × 1.35mm × 1.1mm (Refer to p. 71 for detailed package drawing)</span>								
BAT54HT1G	Single	30	0.2	0.6	0.8	600	5	2
BAS16HT1G	Single	85	0.2	0.6	1.25	600	6	1
<b>SOT-23</b> <span style="float: right;">2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)</span>								
MMBD1705	Dual & Common Anode	30	0.05		1.1	357	0.7	0.05
MMBD1705A	Dual & Common Anode	30	0.15	0.25	1.1	357	1	0.05
BAW74	Dual & Common Anode	50	0.2	2	1	357	4	100
BAW56	Dual & Common Anode	85	0.2	2	1.25	357	6	2.5
MMBD1205	Dual & Common Anode	100	0.2	2	1	357	4	0.05
MMBD4148CA	Dual & Common Anode	100	0.2	4	1	357	4	0.025
BAS35	Dual & Common Anode	120	0.2	2	1	357	50	0.1
MMBD1405	Dual & Common Anode	200	0.2	2	1	357	50	0.1
MMBD1505A	Dual & Common Anode	200	0.2	2	1.1	357	–	0.01
MMBD1405A	Dual & Common Anode	250	0.6	2	1.1	357	50	0.1
MMBD1704A	Dual & Common Cathode	30	0.05	0.25	1.1	357	1	0.05
BAV74	Dual & Common Cathode	50	0.2	2	1	357	4	0.1
BAV70	Dual & Common Cathode	70	0.2	2	1.25	357	6	5

## Small Signal Diodes

Products	Configuration	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$V_{RRM}$ Maximum Repetitive Reverse Voltage (V)	$I_{FSM}$ (A)	$V_{FM}$ Maximum Instantaneous Forward Voltage (V)	Thermal Resistance $R_{\theta JA}$ ( $^{\circ}C/W$ )	$t_{rr}$ Reverse Recovery Time (ns)	$I_{RM}$ Maximum Instantaneous Reverse Current ( $\mu A$ )
<b>SOT-23, Con't.</b>								
MMBD2838	Dual & Common Cathode	75	0.2	2	1.2	357	4	0.1
MMBD1204	Dual & Common Cathode	100	0.2	2	1	357	4	0.05
MMB-D4148CC	Dual & Common Cathode	100	0.2	4	1	357	4	0.025
MMBD1404	Dual & Common Cathode	200	0.2	2	1	357	50	0.1
MMBD1504A	Dual & Common Cathode	200	0.2	2	1.1	357	–	0.01
MMBD1404A	Dual & Common Cathode	250	0.6	2	1.1	357	50	0.1
MMBD1703	Dual Series	30	0.05	0.25	1.1	357	0.7	0.05
MMBD1703A	Dual Series	30	0.15	0.25	1.1	357	1	0.05
BAV99	Dual Series	70	0.2	2	1.25	357	6	2.5
MMBD1203	Dual Series	100	0.2	2	1	357	4	0.05
MMBD4148SE	Dual Series	100	0.2	4	1	357	4	0.025
MMBD7000	Dual Series	100	0.2	2	1.1	357	4	0.3
BAS31	Dual Series	120	0.2	2	1	357	50	0.1
MMBD1403	Dual Series	200	0.2	2	1	357	50	0.1
MMBD1503A	Dual Series	200	0.2	2	1.1	357	–	0.01
FLD261	Dual Series	200	0.6	3	1.4	357	400	0.005
BAV235	Dual Series	250	0.2	9	1.25	357	50	0.1
MMBD1403A	Dual Series	250	0.6	2	1.25	357	50	0.1
MMBD1701	Single	30	0.05	0.25	1.1	357	0.7	0.05
MMBD1701A	Single	30	0.15	0.25	1.1	357	1	0.05
BAS16	Single	85	0.2	2	1.25	357	6	1
MMBD1201	Single	100	0.2	2	1	357	4	0.05
MMBD4148	Single	100	0.2	2	1	357	4	0.025
MMBD914	Single	100	0.2	2	1	357	4	0.025
MMBD4448	Single	100	0.6	2	1	357	4	0.025
BAS29	Single	120	0.2	2	1	357	50	0.1
BAS19	Single	120	0.2	2	1.25	357	50	0.1
MMBD1401	Single	200	0.2	2	1	357	50	0.1
MMBD1501A	Single	200	0.2	2	1.1	357	–	0.01
BAS20	Single	200	0.2	2	1.25	357	6	0.1
MMBD1401A	Single	250	0.6	2	1.1	357	50	0.1
BAS21	Single	250	0.6	2	1.25	357	50	0.1
<b>SOT-323</b> <span style="float: right;">2.0mm × 1.25mm × 0.95mm (Refer to p. 73 for detailed package drawing)</span>								
BAV99WT1G	Dual Series	70	0.2	1	1.25	460	6	2.5

## Transient Voltage Suppressors

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
DO-15 <span style="float: right;">(Refer to p. 75 for detailed package drawing)</span>									
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
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
SA13CA	13	14.4	15.9	1	21.5	23.2	1	500	Unidirectional

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
<b>DO-15, Con't.</b>									
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
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

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
<b>DO-15, Con't.</b>									
SA33A	33	36.7	40.6	1	53.3	9.4	1	500	Unidirectional
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
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

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
DO-15, Con't.									
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
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

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
<b>DO-15, Con't.</b>									
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
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> (Refer to p. 76 for detailed package drawing)									
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



## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
DO-201AE, Con't.									
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
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
1V5KE150A	128	143	158	1	207	7.2	5	1500	Unidirectional
1V5KE150CA	128	143	158	1	207	7.2	5	1500	Bidirectional

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
<b>DO-201AE, Con't.</b>									
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 (DO-214AA)</b> <span style="float: right;">4.69mm × 3.94mm × 2.43mm (Refer to p. 70 for detailed package drawing)</span>									
SMBJ5V0A	5	6.4	7	10	9.2	65.2	800	600	Unidirectional
SMBJ5V0CA	5	6.4	7	10	9.2	65.2	1600	600	Bidirectional
SMBJ6V0A	6	6.67	7.37	10	10.3	58.3	800	600	Unidirectional
SMBJ6V0CA	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
SMBJ7V0A	7	7.78	8.6	10	12	50	200	600	Unidirectional
SMBJ7V0CA	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
SMBJ8V0A	8	8.89	9.83	1	13.6	44.1	50	600	Unidirectional
SMBJ8V0CA	8	8.89	9.83	1	13.6	44.1	100	600	Bidirectional
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

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SMB (DO-214AA), Con't.									
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
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

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
<b>SMB (DO-214AA) , Con't.</b>									
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
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 (DO-214AB)</b>					7.11mm × 6.22mm × 2.51mm (Refer to p. 71 for detailed package drawing)				
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

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
<b>SMC (DO-214AB) , Con't.</b>									
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
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

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (µA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SMC (DO-214AB) , Con't.									
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
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

## Transient Voltage Suppressors, Con't.

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	I <sub>R</sub> Max Reverse Leakage @ V <sub>RWM</sub> (μA)	P <sub>PPM</sub> (W)	Direction
		Min	Max						
SMC (DO-214AB), Con't.									
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
SMCJ170CA	170	189	209	1	275	5.5	5	1500	Bidirectional
SOT-23 <span style="float: right;">2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)</span>									
MMBZ5V6B	3	5.32	5.88	20	8	3	5	24	Unidirectional

## Zener Diodes

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
DO-35 <span style="float: right;">(Refer to p. 75 for detailed package drawing)</span>					
1N4370A	2.28	2.4	2.52	0.5	30
1N4371A	2.57	2.7	2.84	0.5	30
1N4372A	2.85	3	3.15	0.5	29
1N5221B	2.28	2.4	2.52	0.5	30
1N5222B	2.375	2.5	2.625	0.5	30
1N5223B	2.565	2.7	2.835	0.5	30
1N5224B	2.66	2.8	2.94	0.5	30
1N5225B	2.85	3	3.15	0.5	29
1N5226B	3.135	3.3	3.465	0.5	28
1N5227B	3.42	3.6	3.78	0.5	24
1N5228B	3.705	3.9	4.095	0.5	23
1N5229B	4.085	4.3	4.515	0.5	22
1N5230B	4.465	4.7	4.935	0.5	19
1N5231B	4.845	5.1	5.355	0.5	17
1N5231C	5	5.1	5.2	0.5	17
1N5232B	5.32	5.6	5.88	0.5	11
1N5233B	5.7	6	6.3	0.5	7
1N5234B	5.89	6.2	6.51	0.5	7
1N5235B	6.46	6.8	7.14	0.5	5
1N5236B	7.125	7.5	7.875	0.5	6
1N5237B	7.79	8.2	8.61	0.5	8
1N5238B	8.265	8.7	9.135	0.5	8
1N5239B	8.645	9.1	9.555	0.5	10
1N5240B	9.5	10	10.5	0.5	17
1N5241B	10.45	11	11.55	0.5	22

## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
DO-35, Con't.					
1N5242B	11.4	12	12.6	0.5	30
1N5243B	12.35	13	13.65	0.5	13
1N5244B	13.3	14	14.7	0.5	15
1N5245B	14.25	15	15.75	0.5	16
1N5246B	15.2	16	16.8	0.5	17
1N5247B	16.15	17	17.85	0.5	19
1N5248B	17.1	18	18.9	0.5	21
1N5249B	18.05	19	19.95	0.5	23
1N5250B	19	20	21	0.5	25
1N5251B	20.9	22	23.1	0.5	29
1N5252B	22.8	24	25.2	0.5	33
1N5253B	23.75	25	26.25	0.5	35
1N5254B	25.65	27	28.35	0.5	41
1N5255B	26.6	28	29.4	0.5	44
1N5256B	28.5	30	31.5	0.5	49
1N5257B	31.35	33	34.65	0.5	58
1N5258B	34.2	36	37.8	0.5	70
1N5259B	37.05	39	40.95	0.5	80
1N5260B	40.85	43	45.15	0.5	93
1N5261B	44.65	47	49.35	0.5	105
1N5262B	48.45	51	53.55	0.5	125
1N5263B	53.2	56	58.8	0.5	150
1N5985B	2.28	2.4	2.52	0.5	100
1N5986B	2.565	2.7	2.835	0.5	100
1N5987B	2.85	3	3.15	0.5	95
1N5988B	3.135	3.3	3.465	0.5	95
1N5989B	3.42	3.6	3.78	0.5	90
1N5990B	3.705	3.9	4.095	0.5	90
1N5991B	4.085	4.3	4.515	0.5	88
1N5992B	4.465	4.7	4.935	0.5	70
1N5993B	4.845	5.1	5.355	0.5	50
1N5994B	5.32	5.6	5.88	0.5	25
1N5995B	5.89	6.2	6.51	0.5	10
1N5996B	6.46	6.8	7.14	0.5	8
1N5997B	7.125	7.5	7.875	0.5	7
1N5998B	7.79	8.2	8.61	0.5	7
1N5999B	8.645	9.1	9.555	0.5	10
1N6000B	9.5	10	10.5	0.5	15
1N6001B	10.45	11	11.55	0.5	18
1N6002B	11.4	12	12.6	0.5	22
1N6003B	12.35	13	13.65	0.5	25
1N6004B	14.25	15	15.75	0.5	32



## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
DO-35, Con't.					
1N6005B	15.2	16	16.8	0.5	36
1N6006B	17.1	18	18.9	0.5	42
1N6007B	19	20	21	0.5	48
1N6008B	20.9	22	23.1	0.5	55
1N6009B	22.8	24	25.2	0.5	62
1N6010B	25.65	27	28.35	0.5	70
1N6011B	28.5	30	31.5	0.5	70
1N6012B	31.35	33	34.65	0.5	88
1N6013B	34.2	36	37.8	0.5	95
1N6014B	37.05	39	40.95	0.5	130
1N6015B	40.85	43	45.15	0.5	150
1N6016B	44.65	47	49.35	0.5	170
1N6017B	48.45	51	53.55	0.5	180
1N6018B	53.2	56	58.8	0.5	200
1N746A	3.14	3.3	3.47	0.5	28
1N747A	3.42	3.6	3.78	0.5	24
1N748A	3.71	3.9	4.1	0.5	23
1N749A	4.09	4.3	4.52	0.5	22
1N750A	4.47	4.7	4.94	0.5	19
1N751A	4.85	5.1	5.36	0.5	17
1N752A	5.32	5.6	5.88	0.5	11
1N753A	5.89	6.2	6.51	0.5	7
1N754A	6.46	6.8	7.14	0.5	5
1N755A	7.13	7.5	7.88	0.5	6
1N756A	7.79	8.2	8.61	0.5	8
1N757A	8.65	9.1	9.56	0.5	10
1N758A	9.5	10	10.5	0.5	17
1N759A	11.4	12	12.6	0.5	30
1N957B	6.46	6.8	7.14	0.5	4.5
1N958B	7.125	7.5	7.875	0.5	5.5
1N959B	7.79	8.2	8.61	0.5	6.5
1N960B	8.645	9.1	9.555	0.5	7.5
1N961B	9.5	10	10.5	0.5	8.5
1N962B	10.45	11	11.55	0.5	9.5
1N963B	11.4	12	12.6	0.5	11.5
1N964B	12.35	13	13.65	0.5	13
1N965B	14.25	15	15.75	0.5	16
1N966B	15.2	16	16.8	0.5	17
1N967B	17.1	18	18.9	0.5	21
1N968B	19	20	21	0.5	25
1N969B	20.9	22	23.1	0.5	29

## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>DO-35, Con't.</b>					
1N970B	22.8	24	25.2	0.5	33
1N971B	25.652	27	28.35	0.5	41
1N972B	28.5	30	31.5	0.5	49
1N973B	31.35	33	34.65	0.5	58
1N974B	34.2	36	37.8	0.5	70
1N975B	37.05	39	40.95	0.5	80
1N976B	40.85	43	45.15	0.5	93
1N977B	44.65	47	49.35	0.5	105
1N978B	48.45	51	53.55	0.5	125
1N979B	53.2	62	65.1	0.5	185
BZX55C2V4	2.28	2.42	2.56	0.5	85
BZX55C2V7	2.5	2.7	2.9	0.5	85
BZX55C3V0	2.8	3	3.2	0.5	85
BZX55C3V3	3.1	3.3	3.5	0.5	85
BZX55C3V6	3.4	3.6	3.8	0.5	85
BZX55C3V9	3.7	3.9	4.1	0.5	85
BZX55C4V3	4	4.3	4.6	0.5	75
BZX55C4V7	4.4	4.7	5	0.5	60
BZX55C5V1	4.8	5.1	5.4	0.5	35
BZX55C5V6	5.2	5.6	6	0.5	25
BZX55C6V2	5.8	6.2	6.6	0.5	10
BZX55C6V8	6.4	6.8	7.2	0.5	8
BZX55C7V5	7	7.5	7.9	0.5	7
BZX55C8V2	7.7	8.2	8.7	0.5	7
BZX55C9V1	8.5	9.1	9.6	0.5	10
BZX55C10	9.5	10	10.6	0.5	20
BZX55C11	10.4	11	11.6	0.5	20
BZX55C12	11.4	12	12.7	0.5	20
BZX55C13	12.4	13	14.1	0.5	26
BZX55C15	13.8	15	15.6	0.5	30
BZX55C16	15.3	16	17.1	0.5	40
BZX55C18	16.8	18	19.1	0.5	50
BZX55C20	18.8	20	21.1	0.5	55
BZX55C22	20.8	22	23.3	0.5	55
BZX55C24	22.8	24	25.6	0.5	80
BZX55C27	25.1	27	28.9	0.5	80
BZX55C30	28	30	32	0.5	80
BZX55C33	31	33	35	0.5	80
BZX55C36	34	36	38	0.5	80
BZX55C39	37	39	41	0.5	90
BZX55C43	40	43	46	0.5	90
BZX55C47	44	47	50	0.5	110

## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>DO-35, Con't.</b>					
BZX55C51	48	51	54	0.5	54
BZX55C56	52	56	60	0.5	60
BZX79C2V4	2.2	2.4	2.6	0.5	100
BZX79C2V7	2.5	2.7	2.9	0.5	100
BZX79C3V0	2.8	3	3.2	0.5	95
BZX79C3V3	3.1	3.3	3.5	0.5	85
BZX79C3V6	3.4	3.6	3.8	0.5	85
BZX79C3V9	3.7	3.9	4.1	0.5	85
BZX79C4V3	4	4.3	4.6	0.5	75
BZX79C4V7	4.4	4.7	5	0.5	60
BZX79C5V1	4.8	5.1	5.4	0.5	35
BZX79C5V6	5.2	5.6	6	0.5	25
BZX79C6V2	5.8	6.2	6.6	0.5	10
BZX79C6V8	6.4	6.8	7.2	0.5	8
BZX79C7V5	7	7.5	7.9	0.5	7
BZX79C8V2	7.7	8.2	8.7	0.5	7
BZX79C9V1	8.5	9.1	9.6	0.5	10
BZX79C10	9.4	10	10.6	0.5	20
BZX79C11	10.4	11	11.6	0.5	20
BZX79C12	11.4	12	12.7	0.5	20
BZX79C13	12.4	13	14.1	0.5	26
BZX79C15	13.8	15	15.6	0.5	30
BZX79C16	15.3	16	17.1	0.5	40
BZX79C18	16.8	18	19.1	0.5	50
BZX79C20	18.8	20	21.2	0.5	55
BZX79C22	20.8	22	23.3	0.5	55
BZX79C24	22.8	24	25.6	0.5	80
BZX79C27	25.1	27	28.9	0.5	80
BZX79C30	28	30	32	0.5	80
BZX79C33	31	33	35	0.5	80
BZX79C36	34	36	38	0.5	90
BZX79C39	37	39	41	0.5	130
BZX79C43	40	43	46	0.5	150
BZX79C47	44	47	50	0.5	150
BZX79C51	48	51	54	0.5	180
BZX79C56	52	56	60	0.5	200
<b>DO-41 (Glass)</b>				(Refer to p. 75 for detailed package drawing)	
1N4728A	3.315	3.3	3.465	1	10
1N4729A	3.42	3.6	3.78	1	10
1N4730A	3.705	3.9	40.95	1	9
1N4731A	4.085	4.3	4.515	1	9

## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
DO-41 (Glass), Con't.					
1N4732A	4.465	4.7	4.935	1	8
1N4733A	4.845	5.1	5.355	1	7
1N4734A	5.32	5.6	5.88	1	5
1N4735A	5.89	6.2	6.51	1	2
1N4736A	6.46	6.8	7.14	1	3.5
1N4737A	7.125	7.5	7.875	1	4
1N4738A	7.79	8.2	8.61	1	4.5
1N4739A	8.645	9.1	9.555	1	5
1N4740A	9.5	10	10.5	1	7
1N4741A	10.45	11	11.55	1	8
1N4742A	11.4	12	12.6	1	9
1N4743A	12.35	13	13.65	1	10
1N4744A	14.25	15	15.75	1	14
1N4745A	15.2	16	16.8	1	16
1N4746A	17.1	18	18.9	1	20
1N4747A	19	20	21	1	22
1N4748A	20.9	22	23.1	1	23
1N4749A	22.8	24	25.2	1	25
1N4750A	25.65	27	28.35	1	35
1N4751A	28.5	30	31.5	1	40
1N4752A	31.35	33	34.65	1	45
1N4753A	34.2	36	37.8	1	50
1N4754A	37.05	39	40.95	1	60
1N4755A	40.85	43	45.15	1	70
1N4756A	44.65	47	49.35	1	80
1N4757A	48.45	51	53.55	1	95
1N4758A	53.2	56	58.8	1	110
BZX85C3V3	3.1	3.3	3.5	1	20
BZX85C3V6	3.4	3.6	3.8	1	15
BZX85C3V9	3.7	3.9	4.1	1	15
BZX85C4V3	4	4.3	4.6	1	13
BZX85C4V7	4.4	4.7	5	1	13
BZX85C5V1	4.8	5.1	5.4	1	10
BZX85C5V6	5.2	5.6	6	1	7
BZX85C6V2	5.8	6.2	6.6	1	4
BZX85C6V8	6.4	6.8	7.2	1	3
BZX85C7V5	7	7.5	7.9	1	3
BZX85C8V2	7.7	8.2	8.7	1	5
BZX85C9V1	8.5	9.1	9.6	1	5
BZX85C10	9.4	10	10.6	1	7
BZX85C11	10.4	11	11.6	1	8
BZX85C12	11.4	12	12.7	1	9

## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>DO-41 (Glass), Con't.</b>					
BZX85C13	12.4	13	14.1	1	10
BZX85C15	13.8	15	15.6	1	15
BZX85C16	15.3	16	17.1	1	15
BZX85C18	16.8	18	19.1	1	20
BZX85C20	18.8	20	21.2	1	24
BZX85C22	20.8	22	23.3	1	25
BZX85C24	22.8	24	25.6	1	25
BZX85C27	25.1	27	28.9	1	30
BZX85C30	28	30	32	1	30
BZX85C33	31	33	35	1	35
BZX85C36	34	36	38	1	40
BZX85C39	37	39	41	1	45
BZX85C43	40	43	46	1	50
BZX85C47	44	47	50	1	90
BZX85C51	48	51	54	1	115
BZX85C56	52	56	60	1	120
<b>SOD-123</b> <span style="float: right;">2.36mm × 1.80mm × 1.26mm (Refer to p. 71 for detailed package drawing)</span>					
MMSZ4684	3.14	3.3	3.47	0.5	–
MMSZ5226B	3.135	3.3	3.465	0.5	28
MMSZ5227B	3.42	3.6	3.78	0.5	24
MMSZ4686	3.71	3.9	4.1	0.5	–
MMSZ5228B	3.705	3.9	4.095	0.5	23
MMSZ5229B	4.085	4.3	4.515	0.5	22
MMSZ4688	4.47	4.7	4.94	0.5	–
MMSZ5230B	4.465	4.7	4.935	0.5	19
MMSZ4689	4.85	5.1	5.36	0.5	–
MMSZ5231B	4.845	5.1	5.355	0.5	17
MMSZ5232B	5.32	5.6	5.88	0.5	11
MMSZ5233B	5.7	6	6.3	0.5	7
MMSZ5234B	5.89	6.2	6.51	0.5	7
MMSZ4692	6.46	6.8	7.14	0.5	–
MMSZ5235B	6.46	6.8	7.14	0.5	5
MMSZ5236B	7.125	7.5	7.875	0.5	6
MMSZ5237B	7.79	8.2	8.61	0.5	8
MMSZ5238B	8.265	8.7	9.135	0.5	8
MMSZ5239B	8.645	9.1	9.555	0.5	10
MMSZ4697	9.5	10	10.5	0.5	–
MMSZ5240B	9.5	10	10.5	0.5	17
MMSZ5241B	10.45	11	11.55	0.5	22
MMSZ5242B	11.4	12	12.6	0.5	30
MMSZ5243B	12.35	13	13.65	0.5	13

## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>SOD-123, Con't.</b>					
MMSZ5244B	13.3	14	14.7	0.5	15
MMSZ4702	14.25	15	15.75	0.5	–
MMSZ5245B	14.25	15	15.75	0.5	16
MMSZ4703	15.2	16	16.8	0.5	–
MMSZ5246B	15.2	16	16.8	0.5	17
MMSZ5247B	16.15	17	17.85	0.5	19
MMSZ5248B	17.1	18	18.9	0.5	21
MMSZ4706	18.05	19	19.95	0.5	–
MMSZ5249B	18.05	19	19.95	0.5	23
MMSZ5250B	19	20	21	0.5	25
MMSZ5251B	20.92	22	23.1	0.5	29
MMSZ5252B	22.8	24	25.2	0.5	33
MMSZ5253B	23.75	25	26.25	0.5	35
MMSZ5254B	25.65	27	28.35	0.5	41
MMSZ5255B	26.6	28	29.4	0.5	44
MMSZ5256B	28.5	30	31.5	0.5	49
MMSZ5257B	31.35	33	34.65	0.5	58
<b>SOD80</b> (Refer to p. 71 for detailed package drawing)					
FLZ2V2A	2.13	2.21	2.29	0.5	35
FLZ2V2B	2.23	2.32	2.4	0.5	35
FLZ2V4A	2.34	2.42	2.5	0.5	35
FLZ2V4B	2.45	2.53	2.61	0.5	35
FLZ2V7A	2.55	2.64	2.73	0.5	35
FLZ2V7B	2.7	2.8	2.9	0.5	35
FLZ3V0A	2.86	2.96	3.05	0.5	35
FLZ3V0B	3.02	3.12	3.21	0.5	35
FLZ3V3A	3.17	3.27	3.36	0.5	35
FLZ3V3B	3.33	3.43	3.52	0.5	35
FLZ3V6A	3.48	3.57	3.66	0.5	48
FLZ3V6B	3.64	3.73	3.81	0.5	48
FLZ3V9A	3.78	3.88	3.97	0.5	40
FLZ3V9B	3.93	4.03	4.12	0.5	40
FLZ4V3A	4.07	4.15	4.23	0.5	32
FLZ4V3B	4.22	4.3	4.38	0.5	32
FLZ4V3C	4.35	4.44	4.52	0.5	32
FLZ4V7A	4.48	4.56	4.64	0.5	21
FLZ4V7B	4.6	4.68	4.75	0.5	21
FLZ4V7C	4.73	4.81	4.89	0.5	21
FLZ5V1A	4.86	4.94	5.02	0.5	17
FLZ5V1B	4.99	5.08	5.16	0.5	17
FLZ5V1C	5.13	5.23	5.33	0.5	17
FLZ5V6A	5.31	5.41	5.5	0.5	10.5

## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
SOD80, Con't.					
FLZ5V6B	5.48	5.58	5.68	0.5	10.5
FLZ5V6C	5.66	5.76	5.86	0.5	10.5
FLZ6V2A	5.83	5.94	6.04	0.5	8.5
FLZ6V2B	6.01	6.12	6.22	0.5	8.5
FLZ6V2C	6.18	6.28	6.38	0.5	8.5
FLZ6V8A	6.33	6.45	6.57	0.5	6.6
FLZ6V8B	6.54	6.66	6.77	0.5	6.6
FLZ6V8C	6.72	6.83	6.93	0.5	6.6
FLZ7V5A	6.9	7.04	7.17	0.5	6.6
FLZ7V5B	7.13	7.26	7.39	0.5	6.6
FLZ7V5C	7.35	7.49	7.62	0.5	6.6
FLZ8V2A	7.58	7.73	7.88	0.5	6.6
FLZ8V2B	7.84	7.99	8.13	0.5	6.6
FLZ8V2C	8.09	8.24	8.39	0.5	6.6
FLZ9V1A	8.34	8.51	8.68	0.5	6.6
FLZ9V1B	8.63	8.8	8.97	0.5	6.6
FLZ9V1C	8.91	9.09	9.27	0.5	6.6
FLZ10VA	9.21	9.39	9.57	0.5	6.6
FLZ10VB	9.5	9.69	9.88	0.5	6.6
FLZ10VC	9.84	10.06	10.28	0.5	6.6
FLZ11VA	10.2	10.41	10.61	0.5	8.5
FLZ11VB	10.53	10.73	10.92	0.5	8.5
FLZ11VC	10.85	11.04	11.23	0.5	8.5
FLZ12VA	11.16	11.38	11.6	0.5	9.5
FLZ12VB	11.53	11.71	11.89	0.5	9.5
FLZ12VC	11.83	12.05	12.27	0.5	9.5
FLZ13VA	12.21	12.45	12.68	0.5	11.4
FLZ13VB	12.62	12.87	13.12	0.5	11.4
FLZ13VC	13.07	13.33	13.58	0.5	11.4
FLZ15VA	13.52	13.79	14.05	0.5	13.3
FLZ15VB	13.99	14.26	14.52	0.5	13.3
FLZ15VC	14.45	14.72	14.99	0.5	13.3
FLZ16VA	14.9	15.19	15.47	0.5	15.2
FLZ16VB	15.36	15.65	15.93	0.5	15.2
FLZ16VC	15.83	16.14	16.45	0.5	15.2
FLZ18VA	16.38	16.7	17.02	0.5	19.4
FLZ18VB	16.96	17.29	17.61	0.5	19.4
FLZ18VC	17.56	17.9	18.24	0.5	19.4
FLZ20VA	18.17	18.52	18.86	0.5	23.5
FLZ20VB	18.78	19.13	19.48	0.5	23.5
FLZ20VC	19.42	19.8	20.18	0.5	23.5

## Zener Diodes, Con't.

Products	V <sub>z</sub> Min Zener Voltage (V)	V <sub>z</sub> Nominal Voltage (V)	V <sub>z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>z</sub> (Ω)
<b>SOD80, Con't.</b>					
FLZ20VD	19.93	20.3	20.67	0.5	23.5
FLZ22VA	20.28	20.66	21.03	0.5	25.6
FLZ22VB	20.82	21.21	21.59	0.5	25.6
FLZ22VC	21.29	21.66	22.02	0.5	25.6
FLZ22VD	21.75	22.15	22.54	0.5	25.6
FLZ24VA	22.32	22.69	23.06	0.5	29
FLZ24VB	22.81	23.24	23.67	0.5	29
FLZ24VC	23.35	23.78	24.21	0.5	29
FLZ24VD	23.87	24.31	24.75	0.5	29
FLZ27VA	24.33	24.89	25.45	0.5	38
FLZ27VB	25.04	25.62	26.19	0.5	38
FLZ27VC	25.69	26.29	26.88	0.5	38
FLZ27VD	26.36	26.97	27.57	0.5	38
FLZ30VA	27.07	27.69	28.31	0.5	46
FLZ30VB	27.77	27.69	28.31	0.5	46
FLZ30VC	28.44	29.09	29.74	0.5	46
FLZ30VD	29.1	29.77	30.43	0.5	46
FLZ33VA	29.76	30.45	31.14	0.5	55
FLZ33VB	30.4	31.1	31.8	0.5	55
FLZ33VC	30.99	31.7	32.41	0.5	55
FLZ33VD	31.57	32.3	33.03	0.5	55
FLZ36VA	32.3	32.96	33.62	0.5	63
FLZ36VB	32.95	33.63	34.3	0.5	63
FLZ36VC	33.58	34.27	34.95	0.5	63
FLZ36VD	34.19	34.89	35.59	0.5	63
FLZ39VA	34.86	35.57	36.28	0.5	72
FLZ39VB	35.53	36.26	36.99	0.5	72
FLZ39VC	36.18	36.92	37.66	0.5	72
FLZ39VD	36.82	37.58	38.33	0.5	72
<b>SOT-23</b> <span style="float: right;">2.36mm × 1.80mm × 1.26mm (Refer to p. 72 for detailed package drawing)</span>					
BZX84C3V3	3.1	3.3	3.5	0.35	85
BZX84C3V6	3.4	3.6	3.8	0.35	85
BZX84C3V9	3.7	3.9	4.1	0.35	85
BZX84C4V3	4	4.3	4.6	0.35	75
BZX84C4V7	4.4	4.7	5	0.35	60
BZX84C5V1	4.8	5.1	5.4	0.35	35
BZX84C5V6	5.2	5.6	6	0.35	25
BZX84C6V2	5.8	6.2	6.6	0.35	10
BZX84C6V8	6.4	6.8	7.2	0.35	8
BZX84C7V5	7	7.5	7.9	0.35	7
BZX84C8V2	7.7	8.2	8.7	0.35	7
BZX84C9V1	8.5	9.1	9.6	0.35	10



## Zener Diodes, Con't.

Products	V <sub>z</sub> Min Zener Voltage (V)	V <sub>z</sub> Nominal Voltage (V)	V <sub>z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>z</sub> (Ω)
SOT-23, Con't.					
BZX84C10	9.4	10	10.6	0.35	20
BZX84C11	10.4	11	11.6	0.35	20
BZX84C12	11.4	12	12.7	0.35	20
BZX84C13	12.4	13	14.1	0.35	26
BZX84C15	13.8	15	15.6	0.35	30
BZX84C16	15.3	16	17.1	0.35	40
BZX84C18	16.8	18	19.1	0.35	50
BZX84C20	18.8	20	21.2	0.35	55
BZX84C22	20.8	22	23.3	0.35	55
BZX84C24	22.8	24	25.6	0.35	80
BZX84C27	25.1	27	28.9	0.35	80
BZX84C30	28	30	32	0.35	80
BZX84C33	31	33	35	0.35	80
MMBZ5221B	2.31	2.4	2.52	0.35	-
MMBZ5223B	2.6	2.7	2.83	0.35	-
MMBZ5226B	3.16	3.3	3.49	0.35	28
MMBZ5227B	3.44	3.6	3.8	0.35	24
MMBZ5228B	3.74	3.9	4.12	0.35	23
MMBZ5229B	4.12	4.3	4.54	0.35	22
MMBZ5230B	4.5	4.7	4.94	0.35	19
MMBZ5231B	4.87	5.1	5.33	0.35	17
MMBZ5232B	5.31	5.6	5.85	0.35	11
MMBZ5233B	5.65	6	6.24	0.35	7
MMBZ5234B	5.81	6.2	6.45	0.35	7
MMBZ5235B	6.42	6.8	7.01	0.35	5
MMBZ5236B	7.04	7.5	7.73	0.35	6
MMBZ5237B	7.67	8.2	8.42	0.35	8
MMBZ5238B	8.15	8.7	8.91	0.35	8
MMBZ5239B	8.54	9.1	9.3	0.35	10
MMBZ5240B	9.38	10	10.17	0.35	17
MMBZ5241B	10.33	11	11.14	0.35	22
MMBZ5242B	11.24	12	12.08	0.35	30
MMBZ5243B	12.22	13	13.36	0.35	13
MMBZ5244B	13.18	14	14.37	0.35	15
MMBZ5245B	14.1	15	15.37	0.35	16
MMBZ5246B	15.04	16	16.42	0.35	17
MMBZ5247B	15.97	17	17.41	0.35	19
MMBZ5248B	16.92	18	18.45	0.35	21
MMBZ5249B	17.88	19	19.42	0.35	23
MMBZ5250B	18.7	20	20.6	0.35	25
MMBZ5251B	20.6	22	22.6	0.35	29
MMBZ5252B	22.5	24	14.6	0.35	33

## Zener Diodes, Con't.

Products	V <sub>Z</sub> Min Zener Voltage (V)	V <sub>Z</sub> Nominal Voltage (V)	V <sub>Z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>Z</sub> (Ω)
<b>SOT-23, Con't.</b>					
MMBZ5253B	23.4	25	25.6	0.35	35
MMBZ5254B	25.3	27	27.7	0.35	41
MMBZ5255B	26.2	28	28.7	0.35	44
MMBZ5256B	28.1	30	30.7	0.35	49
MMBZ5257B	30.9	33	33.8	0.35	58
<b>SOD-323F</b> 1.7mm × 1.3mm × 1.0mm (Refer to p. 72 for detailed package drawing)					
MM3Z2V4B	2.35	2.4	2.45	0.2	94
MM3Z2V7B	2.65	2.7	2.75	0.2	94
MM3Z3V0B	2.94	3	3.06	0.2	89
MM3Z3V3B	3.23	3.3	3.37	0.2	89
MM3Z3V6B	3.53	3.6	3.67	0.2	84
MM3Z3V9B	3.82	3.9	3.98	0.2	84
MM3Z4V3B	4.21	4.3	4.39	0.2	84
MM3Z4V7B	4.61	4.7	4.79	0.2	75
MM3Z5V1B	5	5.1	5.2	0.2	56
MM3Z5V6B	5.49	5.6	5.71	0.2	37
MM3Z6V2B	6.08	6.2	6.32	0.2	9
MM3Z6V8B	6.66	6.8	6.94	0.2	14
MM3Z7V5B	7.35	7.5	7.65	0.2	14
MM3Z8V2B	8.04	8.2	8.36	0.2	14
MM3Z9V1B	8.92	9.1	9.28	0.2	14
MM3Z10VB	9.8	10	10.2	0.2	18
MM3Z11VB	10.78	11	11.22	0.2	18
MM3Z12VB	11.76	12	12.24	0.2	23
MM3Z13VB	12.74	13	13.26	0.2	28
MM3Z15VB	14.7	15	15.3	0.2	28
MM3Z16VB	15.68	16	16.32	0.2	37
MM3Z18VB	17.64	18	18.36	0.2	42
MM3Z20VB	19.6	20	20.4	0.2	51
MM3Z22VB	21.56	22	22.44	0.2	51
MM3Z24VB	23.52	24	24.48	0.2	65
MM3Z27VB	26.46	27	27.54	0.2	75
MM3Z30VB	29.4	30	30.6	0.2	75
MM3Z33VB	32.34	33	33.66	0.2	75
MM3Z36VB	35.28	36	36.72	0.2	84
MM3Z39VB	38.22	39	39.78	0.2	122
MM3Z43VB	42.14	43	43.86	0.2	141
MM3Z47VB	46.06	47	47.94	0.2	160
MM3Z51VB	49.98	51	52.02	0.2	169
MM3Z56VB	54.88	56	57.12	0.2	188
MM3Z62VB	60.76	62	63.24	0.2	202

**SOD-323F, Con't.**

Products	V <sub>z</sub> Min Zener Voltage (V)	V <sub>z</sub> Nominal Voltage (V)	V <sub>z</sub> Max Zener Voltage (V)	P <sub>D</sub> Total Device Dissipation (W)	Maximum Z <sub>z</sub> (Ω)
SOD-323F, Con't.					
MM3Z68VB	66.64	68	69.36	0.2	226
MM3Z75VB	73.5	75	76.5	0.2	240
MM3Z2V4C	2.28	2.4	2.52	0.2	94
MM3Z2V7C	2.57	2.7	2.84	0.2	94
MM3Z3V0C	2.85	3	3.15	0.2	89
MM3Z3V3C	3.14	3.3	3.47	0.2	89
MM3Z3V6C	3.42	3.6	3.78	0.2	84
MM3Z3V9C	3.71	3.9	4.1	0.2	84
MM3Z4V3C	4.09	4.3	4.52	0.2	84
MM3Z4V7C	4.47	4.7	4.94	0.2	75
MM3Z5V1C	4.85	5.1	5.36	0.2	56
MM3Z5V6C	5.32	5.6	5.88	0.2	37
MM3Z6V2C	5.89	6.2	6.51	0.2	9
MM3Z6V8C	6.46	6.8	7.14	0.2	14
MM3Z7V5C	7.11	7.5	7.86	0.2	14
MM3Z8V2C	7.79	8.2	8.61	0.2	14
MM3Z9V1C	8.65	9.1	9.56	0.2	14
MM3Z10VC	9.5	10	10.5	0.2	18
MM3Z11VC	10.45	11	11.55	0.2	18
MM3Z12VC	11.4	12	12.6	0.2	23
MM3Z13VC	12.35	13	13.65	0.2	28
MM3Z15VC	14.25	15	15.75	0.2	28
MM3Z16VC	15.2	16	16.8	0.2	37
MM3Z18VC	17.1	18	18.9	0.2	42
MM3Z20VC	19	20	21	0.2	51
MM3Z22VC	20.9	22	23.1	0.2	51
MM3Z24VC	22.8	24	25.2	0.2	65
MM3Z27VC	25.65	27	28.35	0.2	75
MM3Z30VC	28.5	30	31.5	0.2	75
MM3Z33VC	31.35	33	34.65	0.2	75
MM3Z36VC	34.2	36	37.8	0.2	84
MM3Z39VC	37.05	39	40.95	0.2	122
MM3Z43VC	40.85	43	45.15	0.2	141
MM3Z47VC	44.65	47	49.35	0.2	160
MM3Z51VC	48.45	51	53.55	0.2	169
MM3Z56VC	53.2	56	58.8	0.2	188
MM3Z62VC	58.9	62	65.1	0.2	202
MM3Z68VC	64.6	68	71.4	0.2	226
MM3Z75VC	71.25	75	78.75	0.2	240

## Darlington Transistors

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	h <sub>FE</sub>				Saturation Voltage		
					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>SOT-223 NPN Configuration</b> <span style="float:right">6.5mm × 3.5mm × 1.8mm (Refer to p. 73 for detailed package drawing)</span>											
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> <span style="float:right">6.5mm × 3.5mm × 1.8mm (Refer to p. 73 for detailed package drawing)</span>											
PZTA64	30	30	10	1.2	20000	–	5	100	1.5	100	0.1
<b>SOT-23 NPN Configuration</b> <span style="float:right">2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)</span>											
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> <span style="float:right">2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)</span>											
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-3 NPN Configuration</b> <span style="float:right">2.92mm × 1.4mm × 1.12mm (Refer to p. 74 for detailed package drawing)</span>											
MMBTA28	80	80	12	0.8	10000	–	5	100	1.5	100	0.1
<b>TO-226 NPN Configuration</b> <span style="float:right">(Refer to p. 80 for detailed package drawing)</span>											
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> <span style="float:right">(Refer to p. 78 for detailed package drawing)</span>											
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
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

## Darlington Transistors, Con't.

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	h <sub>FE</sub>				Saturation Voltage			
					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)	
TO-92 NPN Configuration, Con't.												
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	
TO-92 PNP Configuration										(Refer to p. 78 for detailed package drawing)		
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	

## Digital Transistors

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>				Saturation Voltage		
							Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>SOT-23 NPN Configuration</b>							2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)						
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>							2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)						
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>							2.0mm × 1.25mm × 0.95mm (Refer to p. 73 for detailed package drawing)						
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
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

## Digital Transistors, Con't.

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C Max</sub> (A)	R <sub>1</sub> (kΩ)	R <sub>2</sub> (kΩ)	h <sub>FE</sub>				Saturation Voltage		
							Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>SOT-323 NPN Configuration, Con't.</b>													
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> <span style="float:right">2.0mm × 1.25mm × 0.95mm (Refer to p. 73 for detailed package drawing)</span>													
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>SOT-523F NPN Configuration</b> <span style="float:right">1.5mm × 0.78mm × 0.58mm (Refer to p. 73 for detailed package drawing)</span>													
FJY3009R	40	40	5	100	-	-	100	-	-	-	0.3	-	-
FJY3010R	40	40	5	100	-	-	100	-	-	-	0.3	-	-
FJY3011R	40	40	5	100	-	-	100	-	-	-	0.3	-	-
FJY3012R	40	40	5	100	-	-	100	-	-	-	0.3	-	-
FJY3001R	50	50	10	100	-	-	22	-	-	-	0.3	-	-
FJY3002R	50	50	10	100	-	-	30	-	-	-	0.3	-	-
FJY3003R	50	50	10	100	-	-	56	-	-	-	0.3	-	-
FJY3004R	50	50	10	100	-	-	56	-	-	-	0.3	-	-
FJY3005R	50	50	10	100	-	-	30	-	-	-	0.3	-	-
FJY3006R	50	50	10	100	-	-	68	-	-	-	0.3	-	-
FJY3007R	50	50	10	100	-	-	68	-	-	-	0.3	-	-
FJY3008R	50	50	10	100	-	-	56	-	-	-	0.3	-	-
FJY3013R	50	50	10	100	-	-	56	-	-	-	0.3	-	-
FJY3014R	50	50	10	100	-	-	68	-	-	-	0.3	-	-
FJY3015R	50	50	10	100	-	-	33	-	-	-	0.3	-	-
<b>SOT-523F PNP Configuration</b> <span style="float:right">1.5mm × 0.78mm × 0.58mm (Refer to p. 73 for detailed package drawing)</span>													
FJY4001R	-50	-50	-10	-100	-	-	20	-	-	-	-0.3	-	-
FJY4002R	-50	-50	-10	-100	-	-	30	-	-	-	-0.3	-	-
FJY4003R	-50	-50	-10	-100	-	-	56	-	-	-	-0.3	-	-
FJY4004R	-50	-50	-10	-100	-	-	68	-	-	-	-0.3	-	-

## Digital Transistors, Con't.

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>				Saturation Voltage			
							Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)	
<b>SOT-523F PNP Configuration, Con't.</b>														
FJY4005R	-50	-50	-10	-100	-	-	30	-	-	-	-	-0.3	-	-
FJY4006R	-50	-50	-10	-100	-	-	68	-	-	-	-	-0.3	-	-
FJY4007R	-50	-50	-10	-100	-	-	68	-	-	-	-	-0.3	-	-
FJY4008R	-50	-50	-10	-100	-	-	68	-	-	-	-	-0.3	-	-
FJY4013R	-50	-50	-10	-100	-	-	68	-	-	-	-	-0.3	-	-
FJY4014R	-50	-50	-10	-100	-	-	68	-	-	-	-	-0.3	-	-
FJY4009R	-40	-40	-5	-100	-	-	100	-	-	-	-	-0.3	-	-
FJY4010R	-40	-40	-5	-100	-	-	100	-	-	-	-	-0.3	-	-
FJY4011R	-40	-40	-5	-100	-	-	100	-	-	-	-	-0.3	-	-
FJY4012R	-40	-40	-5	-100	-	-	100	-	-	-	-	-0.3	-	-
<b>TO-92 NPN Configuration</b>											(Refer to p. 78 for detailed package drawing)			
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	
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>											(Refer to p. 78 for detailed package drawing)			
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	



## Digital Transistors, Con't.

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>				Saturation Voltage		
							Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>TO-92S NPN Configuration</b>							(Refer to p. 79 for detailed package drawing)						
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
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>							(Refer to p. 79 for detailed package drawing)						
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

## General Purpose Transistors

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage		
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
<b>SC70-6 NPN Configuration</b>					2.0mm × 1.25mm × 1.10mm (Refer to p. 70 for detailed package drawing)						
BC847	45	50	6	0.1	110	800	5	2	0.6	100	5
<b>SOT-223 NPN Configuration</b>					6.5mm × 3.5mm × 1.8mm (Refer to p. 73 for detailed package drawing)						
BCE68	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
BCE54	45	45	5	1.5	40	250	2	150	0.5	500	50
BCE55	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
BCE56	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>					6.5mm × 3.5mm × 1.8mm (Refer to p. 73 for detailed package drawing)						
BCE69	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
NZT749	25	35	5	4	80	300	2	1000	0.3	1000	100
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
BCE51	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
BCE52	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
NZT751	60	80	5	4	75	–	2	500	0.5	2000	200
NZT45H8	60	–	–	8	60	–	1	2	1	8000	400
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
BCE53	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

## General Purpose Transistors, Con't.

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	h <sub>FE</sub>				Saturation Voltage		
					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>SOT-23 NPN Configuration</b>					2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)						
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
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
MMBT6515	25	40	4	0.2	250	500	10	2	0.5	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
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
BSR13	30	60	5	0.5	100	300	10	150	1.6	500	50
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
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
MMBT3904K	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
MMBT4401K	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
MMBT2222AK	40	75	6	0.6	100	300	10	150	1	500	50
BSS79C	40	75	6	0.8	100	300	10	150	0.3	150	15
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

## General Purpose Transistors, Con't.

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	h <sub>FE</sub>				Saturation Voltage		
					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>SOT-23 NPN Configuration, Con't.</b>											
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
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
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
MMBTA05	60	60	4	0.5	50	-	1	10	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
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
MMBT5550	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>											
2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)											
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

## General Purpose Transistors, Con't.

Products	$V_{CEO}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage		
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
SOT-23 PNP Configuration, Con't.											
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
MMBT3906K	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
MMBT4403K	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
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
MMBT455	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
MMBT2907AK	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
MMBT456	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

## General Purpose Transistors, Con't.

Products	$V_{CEO}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage		
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
<b>SOT-23 PNP Configuration, Con't.</b>											
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> <span style="float:right">2.0mm × 1.25mm × 0.95mm (Refer to p. 73 for detailed package drawing)</span>											
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
FJX945	50	60	5	0.15	70	700	6	1	0.3	100	10
<b>SOT-323 PNP Configuration</b> <span style="float:right">2.0mm × 1.25mm × 0.95mm (Refer to p. 73 for detailed package drawing)</span>											
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
FJX733	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-89 NPN Configuration</b> <span style="float:right">4.5mm × 2.5mm × 1.5mm (Refer to p. 72 for detailed package drawing)</span>											
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
FJC690	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
FJC2383	160	160	6	1	100	320	5	200	1.5	500	50
<b>SOT-89 PNP Configuration</b> <span style="float:right">4.5mm × 2.5mm × 1.5mm (Refer to p. 72 for detailed package drawing)</span>											
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
FJC790	40	50	5	2	300	800	2	10	0.25	500	5
KSA1201	120	120	5	0.8	80	240	5	100	1	500	50
<b>SuperSOT-3 NPN Configuration</b> <span style="float:right">2.92mm × 1.4mm × 1.12mm (Refer to p. 74 for detailed package drawing)</span>											
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

## General Purpose Transistors, Con't.

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	h <sub>FE</sub>				Saturation Voltage		
					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>SuperSOT-3 PNP Configuration</b>					2.92mm × 1.4mm × 1.12mm (Refer to p. 74 for detailed package drawing)						
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
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-226 NPN Configuration</b>					(Refer to p. 80 for detailed package drawing)						
MPSW01	30	40	5	–	60	–	1	100	0.5	1	100
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
TN6715A	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>					(Refer to p. 80 for detailed package drawing)						
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
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

## General Purpose Transistors, Con't.

Products	$V_{CEO}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage		
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
<b>TO-226 PNP Configuration, Con't.</b>											
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
TN5320A	200	200	4	0.1	30	150	10	50	2.5	50	5
TN5415A	200	200	4	0.1	30	150	10	50	2.5	50	5
<b>TO-92 NPN Configuration</b> <span style="float: right;">(Refer to p. 78 for detailed package drawing)</span>											
KSC5019	10	30	6	2	140	600	1	500	0.5	2000	50
PN2369	15	40	4	0.2	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
PN3646	15	40	5	0.3	30	120	0.4	30	0.28	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
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
MPS6521	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
MPS6514	25	40	4	0.2	90	300	10	100	0.5	50	5
MPS6515	25	40	4	0.2	250	500	10	2	0.5	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	–	–	–
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
SS9011	30	50	5	0.03	28	198	5	1	0.3	10	1



## General Purpose Transistors, Con't.

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage		
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
TO-92 NPN Configuration, Con't.											
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
PN4141	30	60	5	0.5	100	300	10	150	1.6	500	50
PN2222	30	60	5	0.6	100	300	10	150	1	500	50
PN3566	30	40	5	0.6	150	600	10	10	1	100	10
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
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
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
KS3302	40	50	5	1	–	–	–	–	0.15	100	10
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

## General Purpose Transistors, Con't.

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	h <sub>FE</sub>				Saturation Voltage			
					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)	
TO-92 NPN Configuration, Con't.												
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	
BC337A	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	
2N3859A	60	60	6	0.5	100	200	1	10	–	–	–	
KSP05	60	60	4	0.5	50	–	1	10	0.25	100	10	
MPSA05	60	60	4	0.5	100	–	1	100	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	
MPS651	60	80	5	0.8	75	–	2	500	0.3	1000	100	
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	
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	
BC63916	80	100	5	1	100	250	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	

## General Purpose Transistors, Con't.

Products	$V_{CEO}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage		
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
<b>TO-92 NPN Configuration, Con't.</b>											
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> <span style="float: right;">(Refer to p. 78 for detailed package drawing)</span>											
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
2N5772	15	40	5	–	30	120	0.4	30	0.28	100	10
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
BC318C	20	30	5	–	420	800	5	2	0.5	100	5
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
BC213L	30	45	5	0.5	80	400	5	2	0.6	100	10
BC214	30	45	5	0.5	140	400	5	2	0.6	100	5

## General Purpose Transistors, Con't.

Products	$V_{CEO}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage			
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)	
TO-92 PNP Configuration, Con't.												
BC214L	30	45	5	0.5	140	400	5	2	0.6	100	10	
BC214LB	30	45	5	0.5	200	400	5	2	0.6	100	10	
BC214LC	30	45	5	0.5	350	600	5	2	0.6	100	10	
MPS3703	30	50	5	0.8	30	150	5	50	0.25	50	5	
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	
2N5366	40	40	4	0.5	100	300	1	50	0.25	50	2.5	
PN4250	40	40	5	0.5	250	700	5	0.1	0.25	10	1	
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	
KSA733	50	60	5	0.15	40	700	6	1	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	
MPS8598	60	60	5	–	100	300	5	1	0.4	100	10	
BC327A	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	

## General Purpose Transistors, Con't.

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	h <sub>FE</sub>				Saturation Voltage		
					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>TO-92 PNP Configuration, Con't.</b>											
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
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
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>										(Refer to p. 79 for detailed package drawing)	
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
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

## General Purpose Transistors, Con't.

Products	$V_{CEO}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage		
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
<b>TO-92L PNP Configuration</b>					(Refer to p. 79 for detailed package drawing)						
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>					(Refer to p. 79 for detailed package drawing)						
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>					(Refer to p. 79 for detailed package drawing)						
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

## Hybrid Transistors

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	h <sub>FE</sub>				Saturation Voltage			
					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)	
<b>SC70-6 NPN Configuration</b>					2.0mm × 1.25mm × 1.10mm (Refer to p. 70 for detailed package drawing)							
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	
FFB5551	160	180	6	200	80	250	5	10	1	50	5	
<b>SC70-6 NPN/PNP Configuration</b>					2.0mm × 1.25mm × 1.10mm (Refer to p. 70 for detailed package drawing)							
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>SC70-6 PNP Configuration</b>					2.0mm × 1.25mm × 1.10mm (Refer to p. 70 for detailed package drawing)							
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>					4.9mm × 4.2mm × 3.0mm (Refer to p. 72 for detailed package drawing)							
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>					4.9mm × 4.2mm × 3.0mm (Refer to p. 72 for detailed package drawing)							
MMPQ6700	40	40	5	0.2	70	–	1	10	0.25	10	1	
<b>SOIC PNP Configuration</b>					4.9mm × 4.2mm × 3.0mm (Refer to p. 72 for detailed package drawing)							
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>					1.6mm × 1.2mm × 0.59mm (Refer to p. 73 for detailed package drawing)							
FJYF2906	40	40	5	0.15	80	300	1	1	0.3	10	1	
<b>SuperSOT-6 NPN Configuration</b>					3.00mm × 1.70mm × 1.10mm (Refer to p. 74 for detailed package drawing)							
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	
FMBSA06	80	80	4	0.5	100	–	1	10	0.25	100	10	
FMB5551	160	180	6	0.1	80	250	5	10	0.15	10	1	
FMBS5551	160	180	6	0.6	80	250	5	10	0.15	10	1	
<b>SuperSOT-6 NPN/PNP Configuration</b>					3.00mm × 1.70mm × 1.10mm (Refer to p. 74 for detailed package drawing)							
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	

## Hybrid Transistors, Con't.

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$ Max (A)	$h_{FE}$				Saturation Voltage			
					Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)	
<b>SuperSOT-6 PNP Configuration</b>					3.00mm × 1.70mm × 1.10mm (Refer to p. 74 for detailed package drawing)							
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	
FMBSA56	80	80	4	0.5	100	-	1	10	0.25	100	10	
FMBS5401	150	160	5	0.6	60	240	5	10	0.2	10	1	

## JFET Transistors

Products	$BV_{GDS}$ (V)	$P_D$ Power	$V_{GS(off)}$				$V_{DSS}$			GFS	
			Min (V)	Max (V)	@ $I_D$ (μA)	@ $V_{DS}$ (V)	Min (mA)	Max (mA)	@ $V_{DS}$ (V)	Min (mS)	Max (mS)
<b>SOT-223 N-Channel</b>			6.5mm × 3.5mm × 1.8mm (Refer to p. 73 for detailed package drawing)								
JFTJ105	25	1000	4.5	10	1	5	500	-	15	-	-
<b>SOT-23 N-Channel</b>			2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)								
KSK595H	20	100	-	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	-	-
MMBF4392	30	350	2	5	0.001	20	25	75	20	-	-
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	-	-
MMBFJ113	35	350	0.5	3	1	5	2	-	15	-	-
MMBFJ112	35	350	1	5	1	5	5	-	15	-	-
MMBF4416A	35	225	2.5	6	0.001	15	5	15	15	4.5	7.5
MMBFJ111	35	350	3	10	1	5	20	-	15	-	-
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



**JFET Transistors, Con't.**

Products	BV <sub>GDS</sub> (V)	P <sub>D</sub> Power	V <sub>GS</sub> (off)				V <sub>DSS</sub>			GFS	
			Min (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-23 N-Channel, Con't.</b>											
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	-	-
MMBF4093	40	350	1	5	0.001	20	8	-	20	-	-
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	-	-
MMBF4091	40	350	5	10	0.001	20	30	-	20	-	-
BSR56	40	250	4	10	0.001	15	50	-	15	-	-
<b>SOT-23 P-Channel</b> <span style="float: right;">2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)</span>											
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	-	-
MMBFJ176	30	225	1	4	0.01	15	2	25	15	-	-
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	-	-
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> <span style="float: right;">2.0mm × 1.25mm × 0.95mm (Refer to p. 73 for detailed package drawing)</span>											
FJX597JB	20	100	-	1.5	1	5	0.15	0.24	5	-	-
FJX597JH	20	100	-	1.5	1	5	0.15	0.35	5	-	-
FJX597JC	20	100	-	1.5	1	5	0.21	0.35	5	-	-
<b>SuperSOT-3 N-Channel</b> <span style="float: right;">2.92mm × 1.4mm × 1.12mm (Refer to p. 74 for detailed package drawing)</span>											
MMBF5434	25	350	1	4	0.003	5	30	-	15	-	-
MMBFJ108	25	350	3	10	0.01	15	80	-	15	-	-
<b>TO-92 N-Channel</b> <span style="float: right;">(Refer to p. 78 for detailed package drawing)</span>											
FJN598J	20	150	-	1.5	1	5	0.1	0.35	5	-	-
J300	25	350	-	-	-	-	6	30	10	-	-
2N5555	25	350	-	-	-	-	15	-	15	-	-
2N5484	25	350	0.3	3	0.01	15	1	5	15	3	6
J210	25	350	1	3	0.001	-	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	-	-
J309	25	625	1	4	0.001	10	12	30	10	10	20
PN5434	25	350	1	4	0.003	5	30	-	15	-	-
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	-	-
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	-	-
J106	25	625	2	6	1	5	200	-	15	-	-

**JFET Transistors, Con't.**

Products	BV <sub>GDS</sub> (V)	P <sub>D</sub> Power	V <sub>GS(off)</sub>				V <sub>DSS</sub>			GFS	
			Min (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)
TO-92 N-Channel, Con't.											
J310	25	625	2	6.5	0.001	10	24	60	10	8	18
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	2	6.5
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	–	–
PN5432	25	350	4	10	0.003	5	150	–	15	–	–
J105	25	625	4.5	10	1	5	500	–	15	–	–
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	–	–
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	–	–
TIS75	30	350	0.8	4	0.004	20	8	80	15	–	–
2N5951	30	350	2	5	0.1	15	7	13	15	–	–
PN4392	30	625	2	5	0.001	20	25	75	20	–	–
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	–	–
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	–	–
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	–	–
PN4391	30	625	4	10	0.001	20	50	150	20	–	–
2N5638	30	625	–	12	–	–	50	–	20	–	–
BF246A	30	625	0.6	14.5	0.01	15	30	80	15	8	–
J113	35	625	0.5	3	1	5	2	–	15	–	–

## JFET Transistors, Con't.

Products	BV <sub>GDS</sub> (V)	P <sub>D</sub> Power	V <sub>GS (off)</sub>				V <sub>DSS</sub>			GFS	
			Min (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>TO-92 N-Channel, Con't.</b>											
J112	35	625	1	5	1	5	5	–	15	–	–
J111	35	625	3	10	1	5	20	–	15	–	–
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	–	–
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	–	–
U1898	40	625	2	7	0.001	20	15	–	20	–	–
PN4091	40	625	5	10	0.001	20	30	–	20	–	–
U1897	40	625	5	10	0.001	20	30	–	20	–	–
KSK30	50	100	0.4	5	0.1	10	0.3	6.5	10	–	–
<b>TO-92 P-Channel</b> <span style="float: right;">(Refer to p. 78 for detailed package drawing)</span>											
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	–	–
J176	30	350	1	4	0.01	15	2	25	15	–	–
J271	30	350	1.5	4.5	0.001	15	6	50	15	8	18
P1087	30	350	–	5	1	15	5	–	20	–	–
J175	30	350	3	6	0.01	15	7	60	15	–	–
P1086	30	350	–	10	1	15	10	–	20	–	–
J174	30	350	5	10	0.01	15	20	100	15	–	–
2N5460	40	350	0.75	6	1	15	1	5	15	1	4
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

## RF Amplifier Transistors

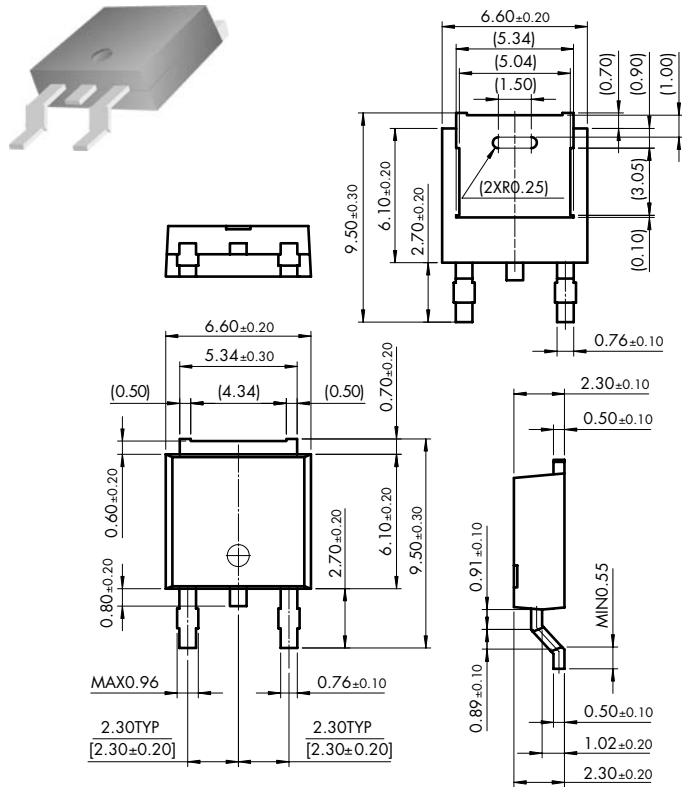
Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	F <sub>T</sub> (MHz)	h <sub>FE</sub>				Saturation Voltage		
						Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>SOT-23 NPN Configuration</b>						2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)						
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	400	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
MMBTH10	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>						2.9mm × 1.3mm × 1.14mm (Refer to p. 72 for detailed package drawing)						
MMBTH81	20	20	3	0.05	600	60	–	10	5	0.5	5	0.5
<b>TO-92 NPN Configuration</b>						(Refer to p. 78 for detailed package drawing)						
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
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

## RF Amplifier Transistors, Con't.

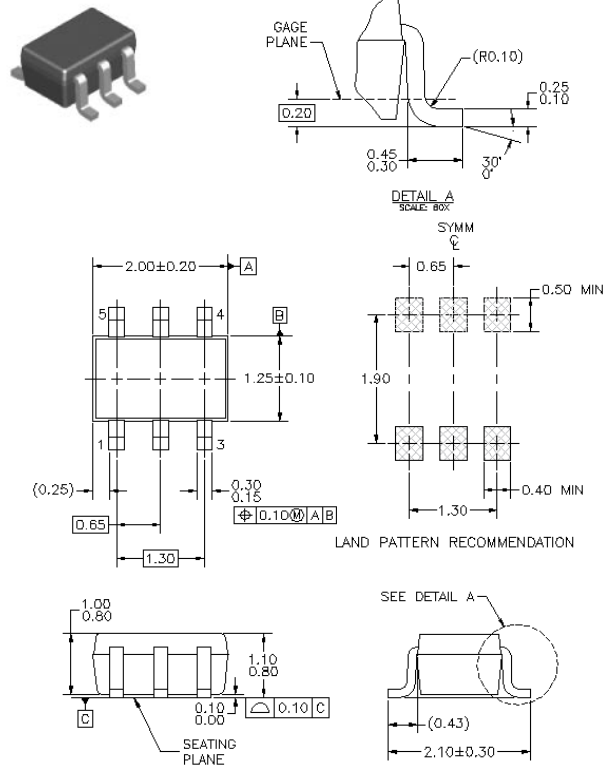
Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> Max (A)	F <sub>T</sub> (MHz)	h <sub>FE</sub>				Saturation Voltage		
						Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@ I <sub>C</sub> (mA)	@ I <sub>B</sub> (mA)
<b>TO-92 NPN Configuration, Con't.</b>												
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>										(Refer to p. 78 for detailed package drawing)		
MPSH81	20	20	3	0.05	600	60	–	10	5	0.5	5	0.5
<b>TO-92S NPN Configuration</b>										(Refer to p. 79 for detailed package drawing)		
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

## Surface Mount Packages

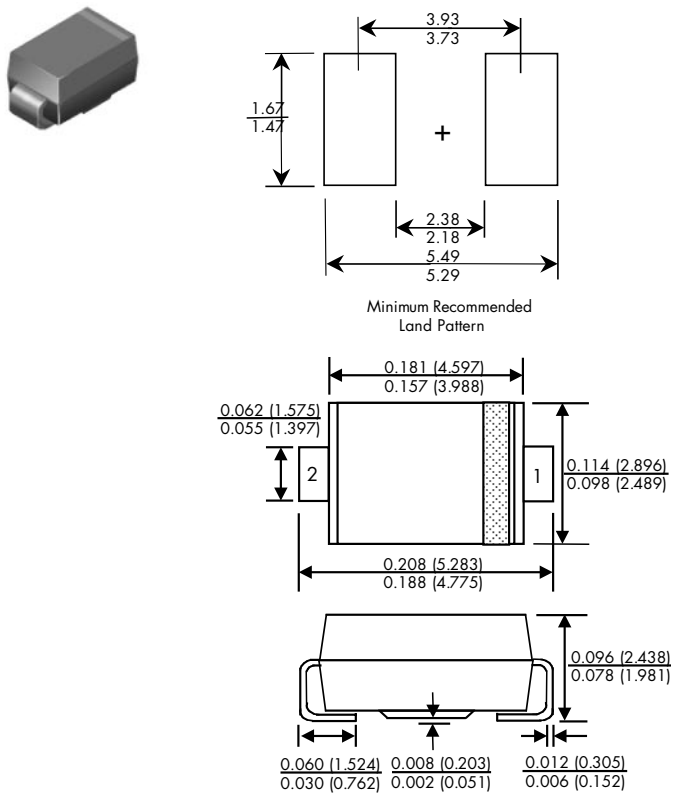
### DPAK (TO-252)



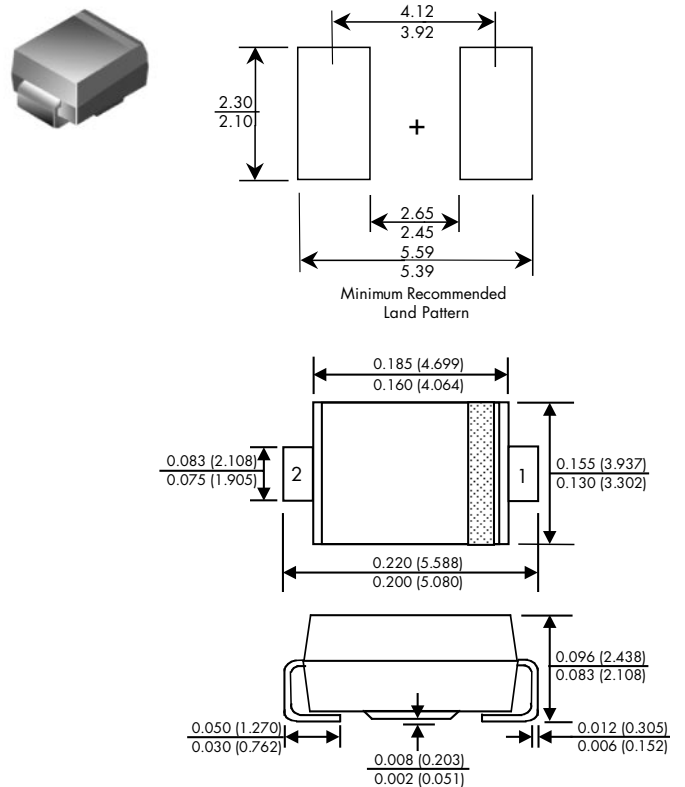
### SC70-6L



### SMA (DO-214AC)

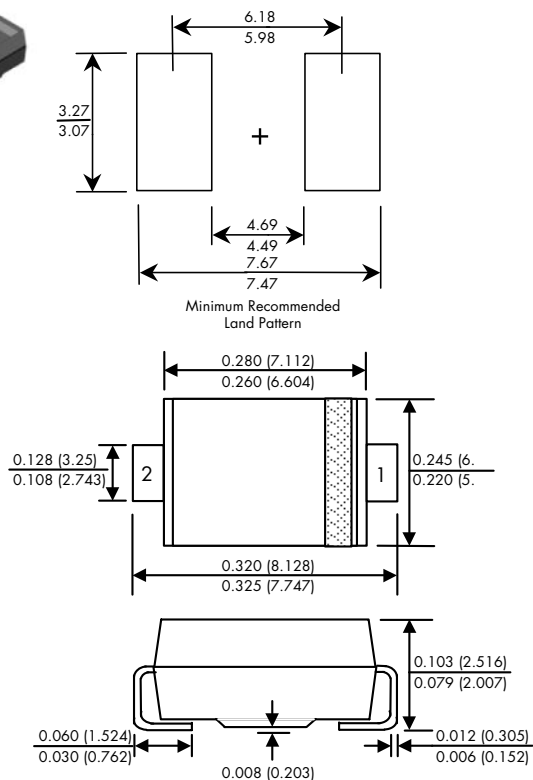
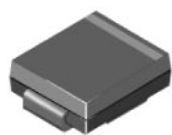


### SMB (DO-214AA)

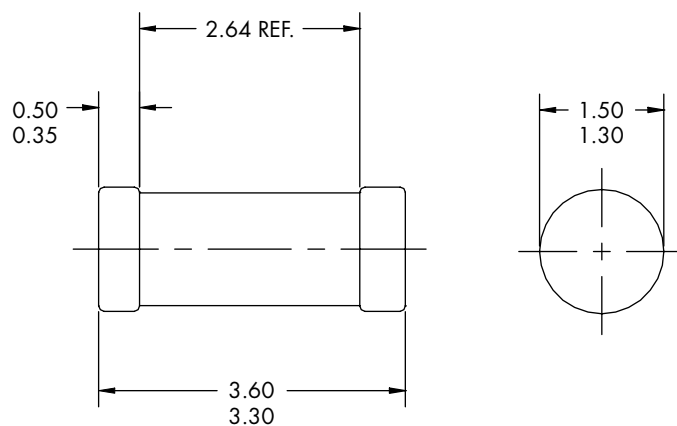


## Surface Mount Packages, Con't.

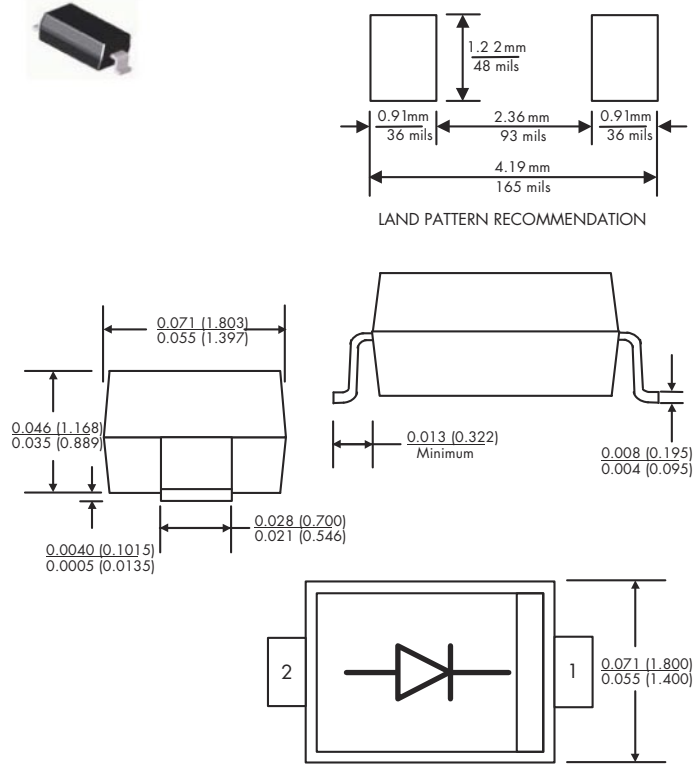
**SMC (DO-214AB)**



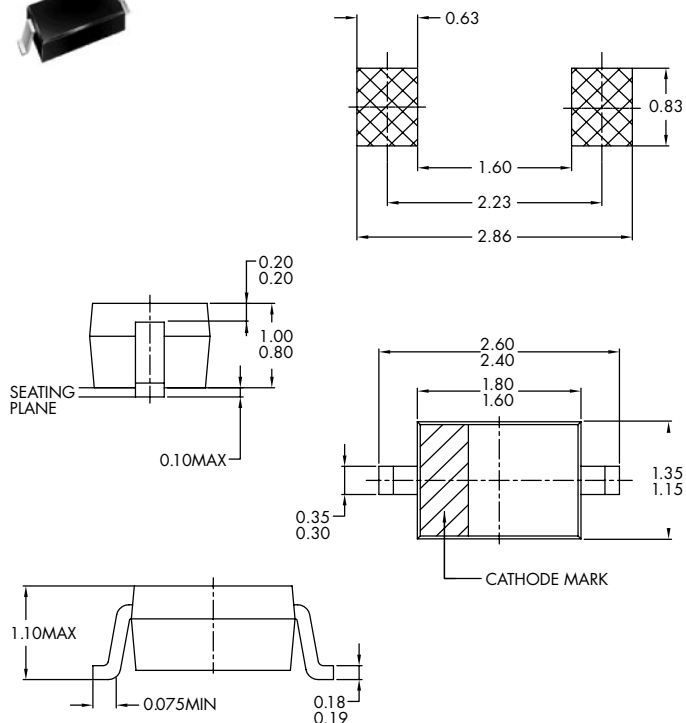
**SOD-80/LL-34**




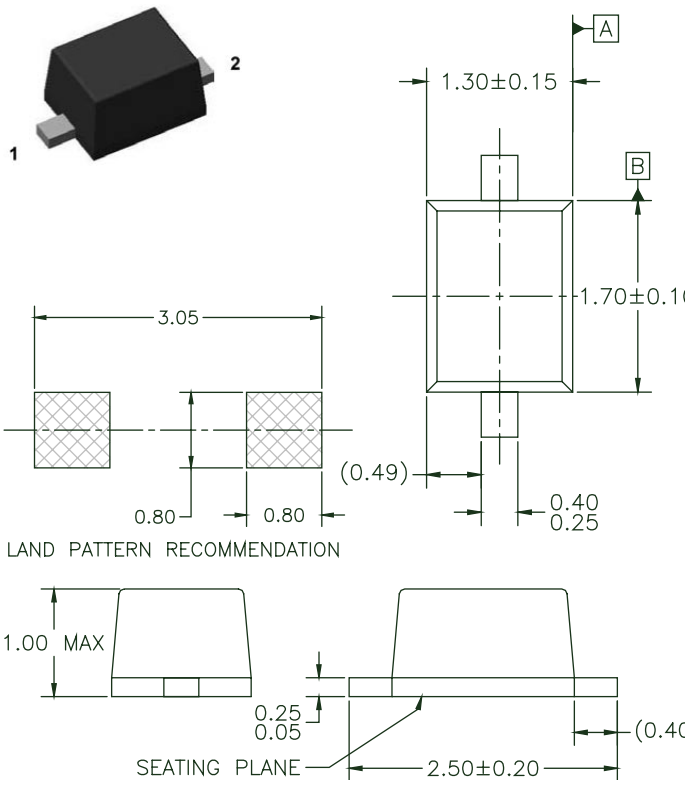
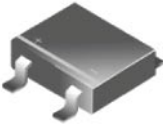
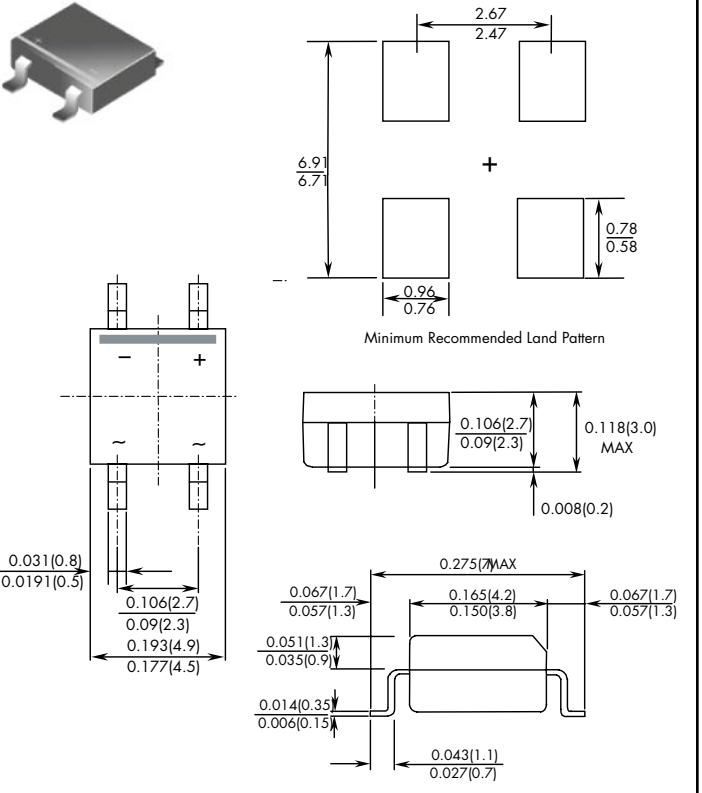

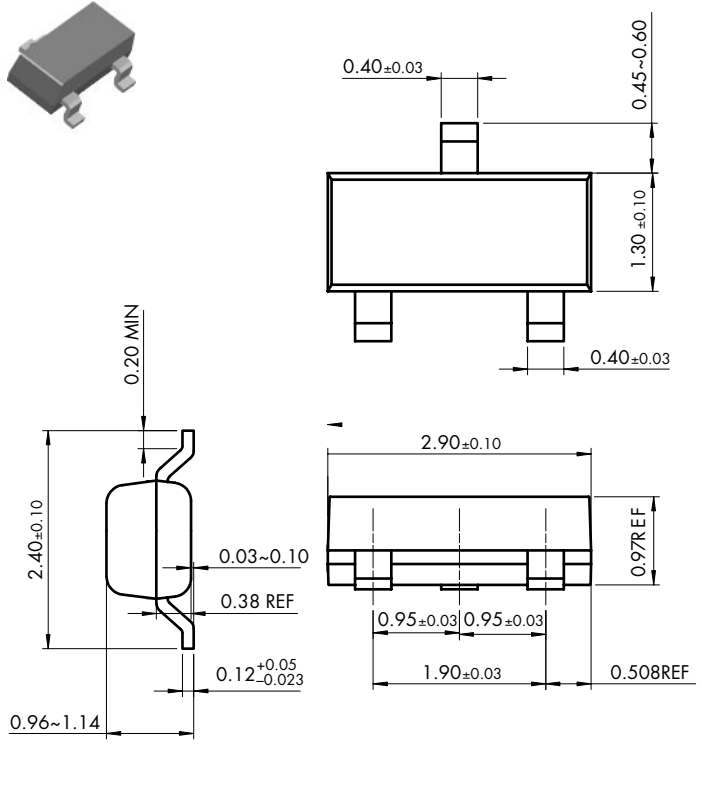
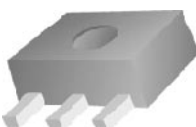
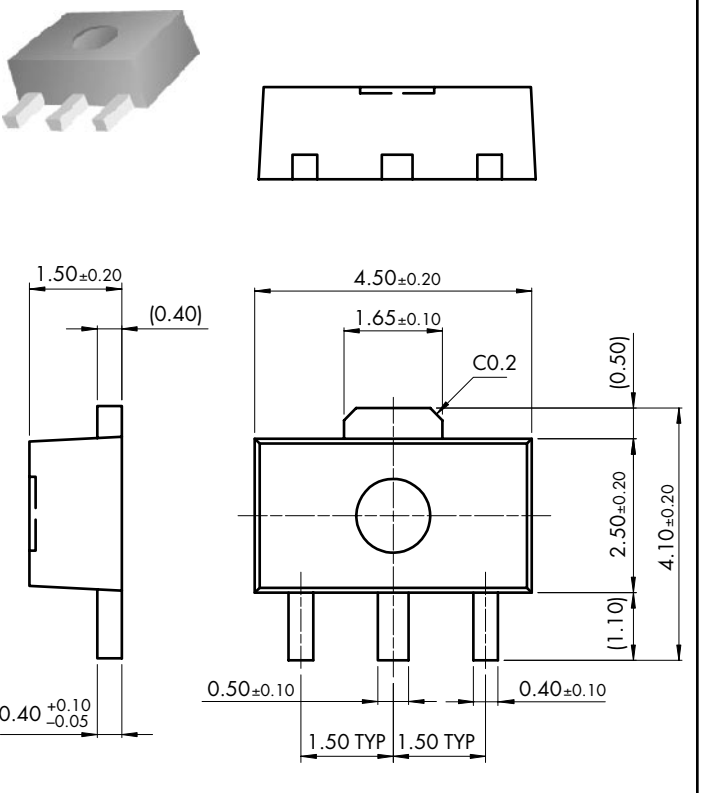
**SOD-123**



**SOD-323**



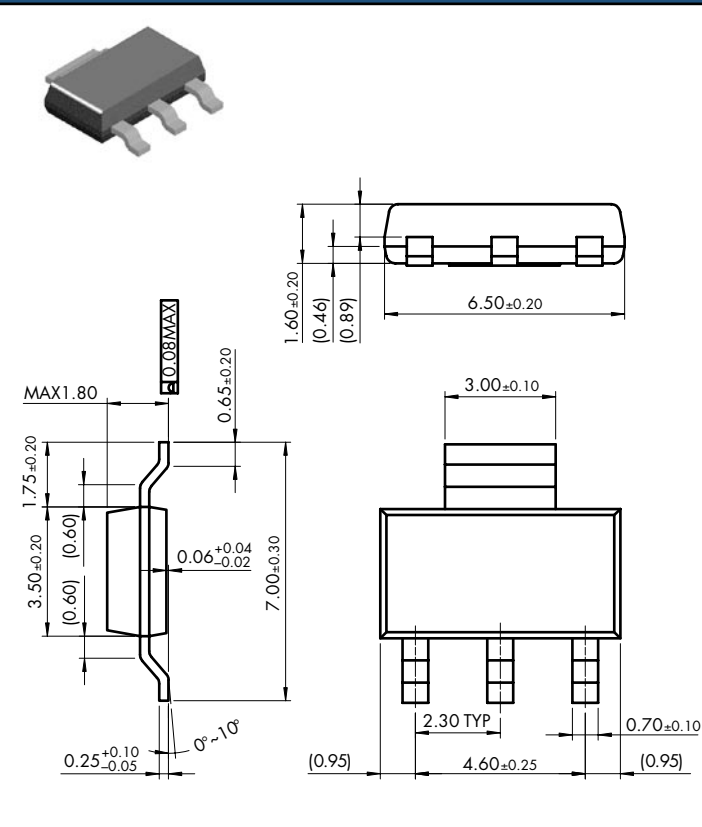
## Surface Mount Packages, Con't.

SOD-323F	SOIC-4
  <p>LAND PATTERN RECOMMENDATION</p>	  <p>Minimum Recommended Land Pattern</p>
SOT-23	SOT-89
 	 

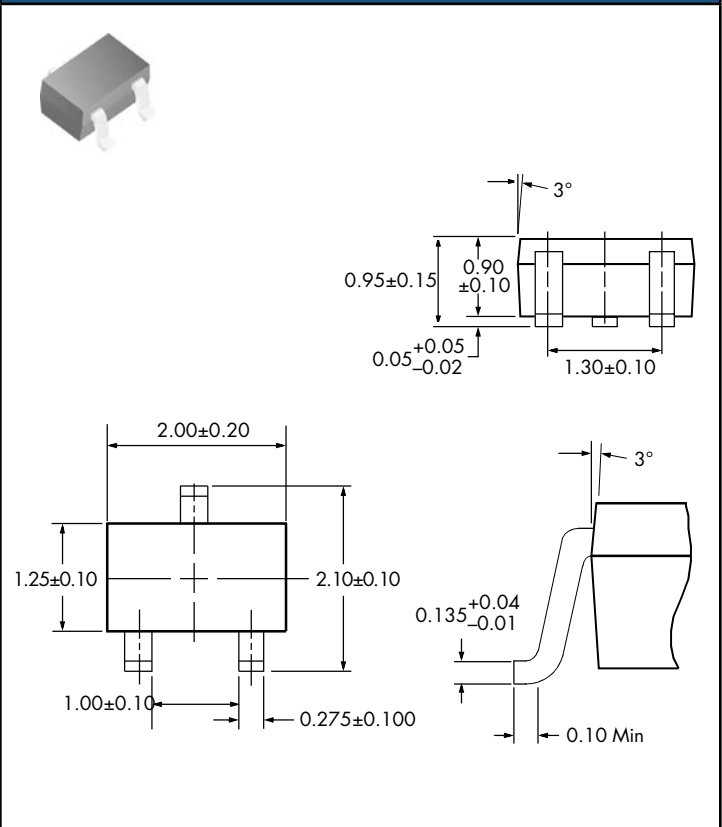


## Surface Mount Packages, Con't.

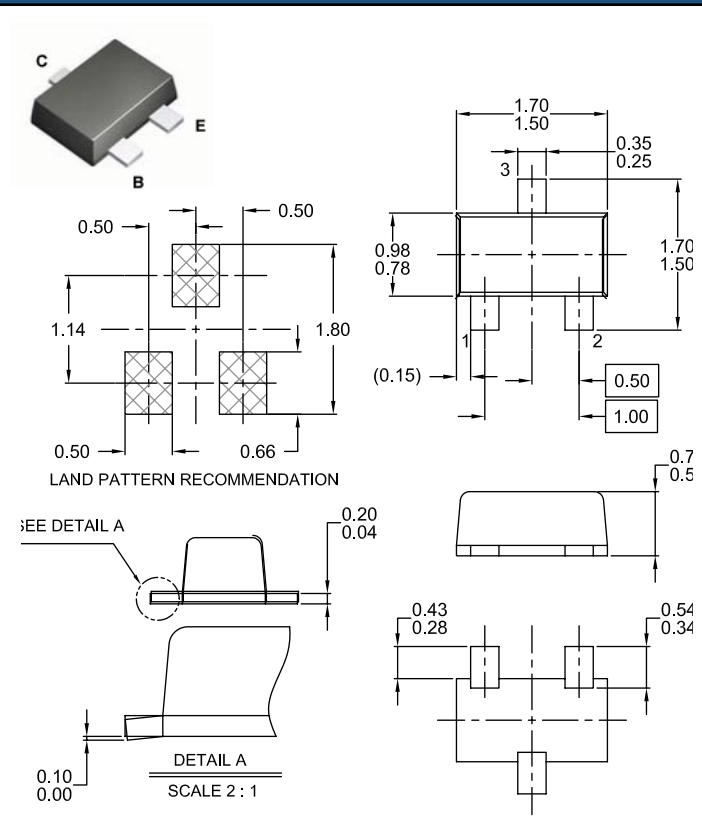
**SOT-223**



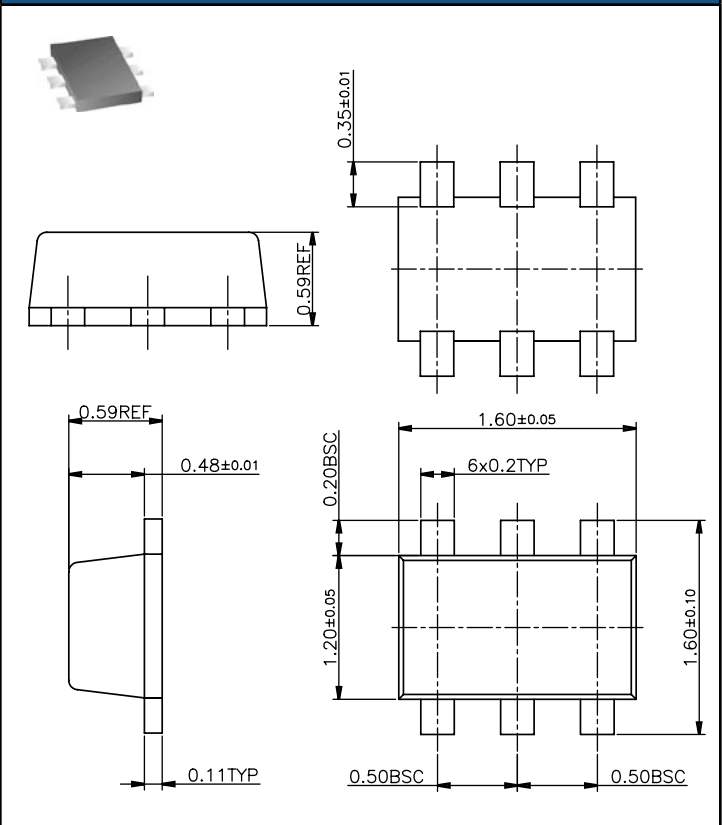
**SOT-323**



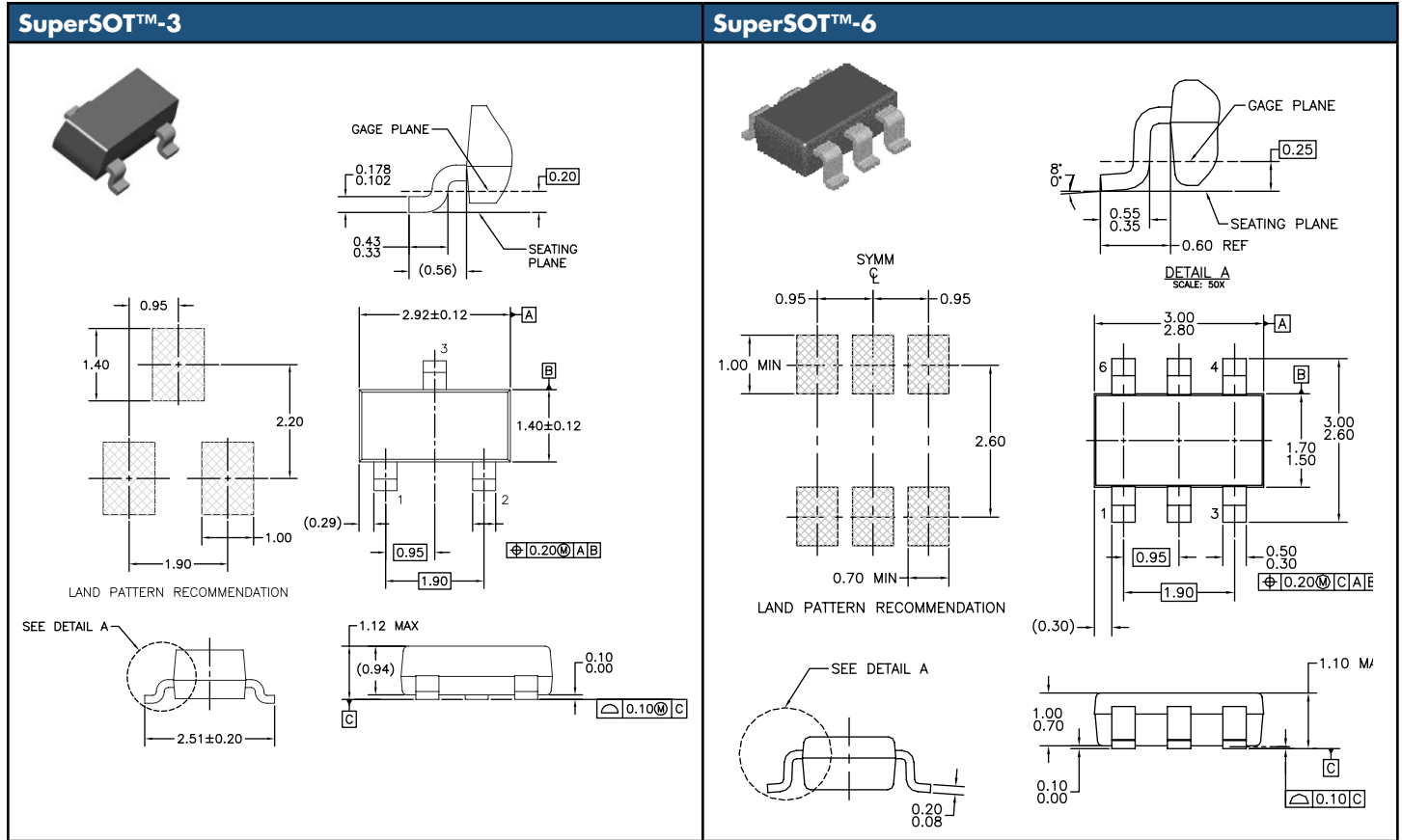
**SOT-523F**




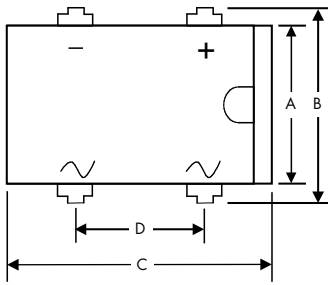
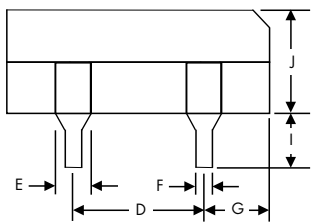
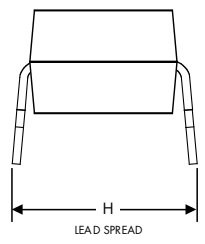

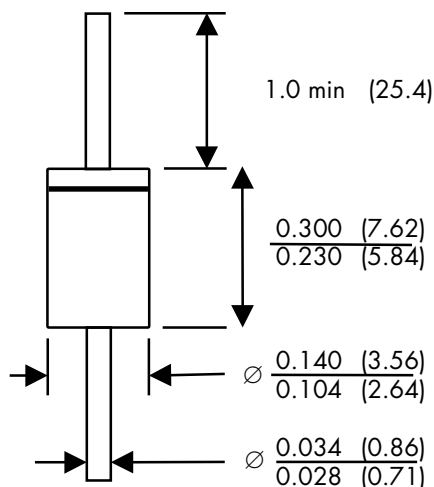

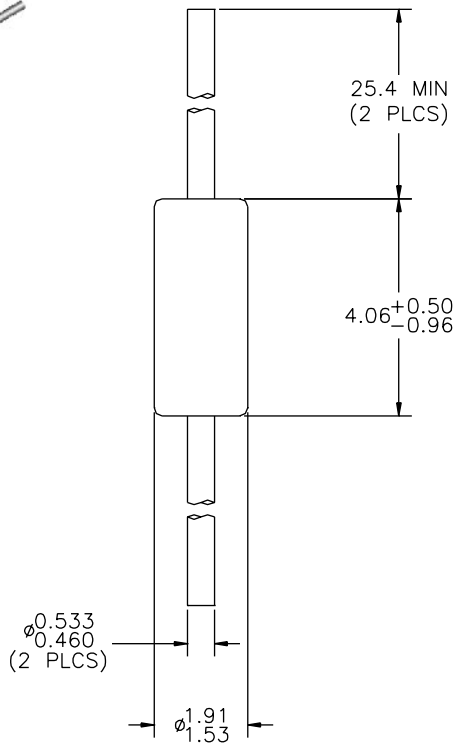

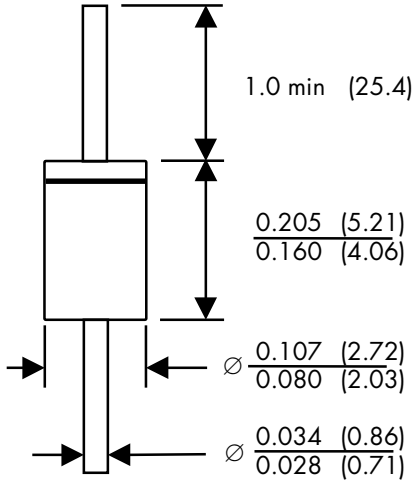
**SOT-563F**




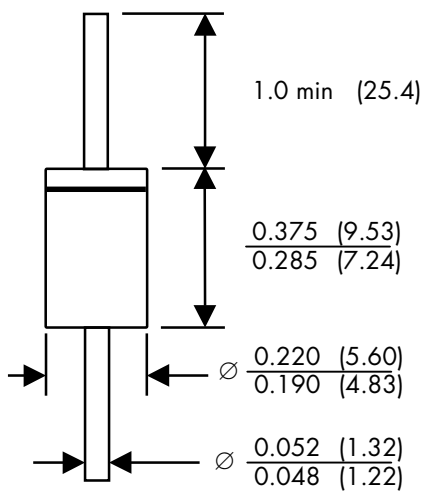

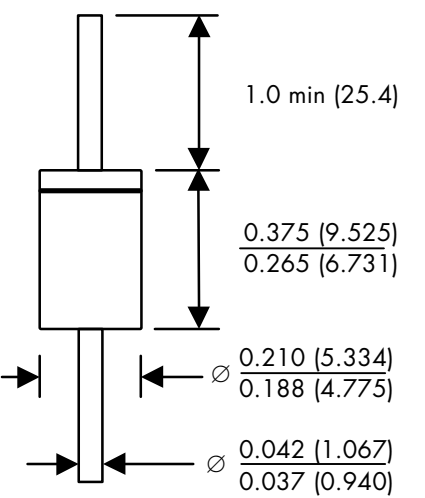

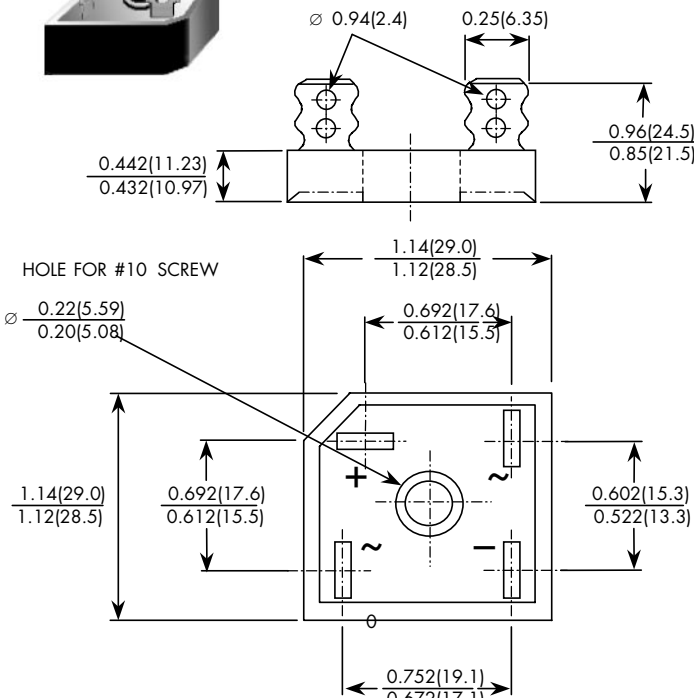

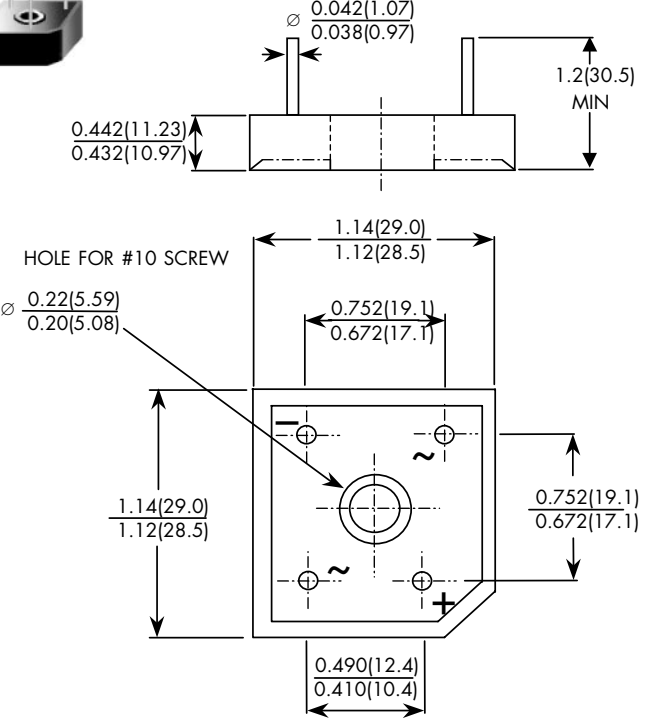
## Surface Mount Packages, Con't.



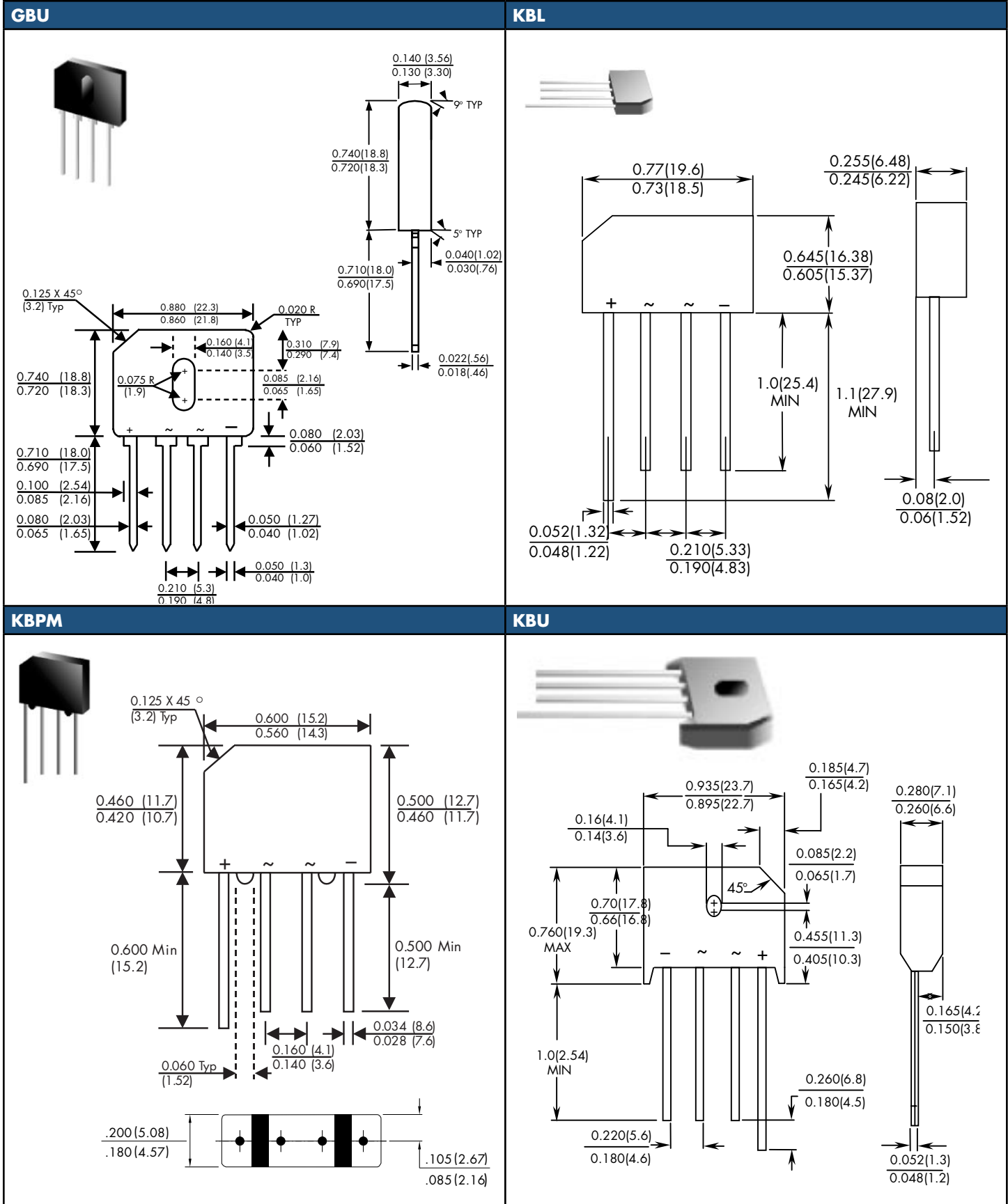
## Thru-Hole Packages

DIP	DO-15																																																							
  <table border="1" data-bbox="462 441 795 808"> <thead> <tr> <th>DIM</th> <th>MIN (in)</th> <th>MAX (in)</th> <th>MIN (mm)</th> <th>MAX (mm)</th> </tr> </thead> <tbody> <tr><td>A</td><td>.245</td><td>.255</td><td>6.223</td><td>6.477</td></tr> <tr><td>B</td><td>.285</td><td>.315</td><td>7.239</td><td>8.001</td></tr> <tr><td>C</td><td>.320</td><td>.335</td><td>8.128</td><td>8.509</td></tr> <tr><td>D</td><td>.195</td><td>.205</td><td>4.953</td><td>5.207</td></tr> <tr><td>E</td><td>.035</td><td>.045</td><td>0.889</td><td>1.143</td></tr> <tr><td>F</td><td>.018</td><td>.022</td><td>0.457</td><td>0.559</td></tr> <tr><td>G</td><td>.055</td><td>.075</td><td>1.397</td><td>1.905</td></tr> <tr><td>H</td><td>.300</td><td>.350</td><td>7.620</td><td>8.890</td></tr> <tr><td>I</td><td>.150</td><td>.185</td><td>3.810</td><td>4.699</td></tr> <tr><td>J</td><td>.120</td><td>.130</td><td>3.048</td><td>3.302</td></tr> </tbody> </table>  	DIM	MIN (in)	MAX (in)	MIN (mm)	MAX (mm)	A	.245	.255	6.223	6.477	B	.285	.315	7.239	8.001	C	.320	.335	8.128	8.509	D	.195	.205	4.953	5.207	E	.035	.045	0.889	1.143	F	.018	.022	0.457	0.559	G	.055	.075	1.397	1.905	H	.300	.350	7.620	8.890	I	.150	.185	3.810	4.699	J	.120	.130	3.048	3.302	 
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DO-35	DO-41																																																							
 	 																																																							

## Thru-Hole Packages, Con't.

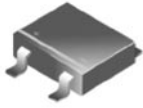
DO-201AD	DO-201AE
  <p>1.0 min (25.4)</p> <p><math>\frac{0.375}{0.285}</math> (9.53 / 7.24)</p> <p><math>\frac{0.220}{0.190}</math> (5.60 / 4.83)</p> <p><math>\frac{0.052}{0.048}</math> (1.32 / 1.22)</p>	  <p>1.0 min (25.4)</p> <p><math>\frac{0.375}{0.265}</math> (9.525 / 6.731)</p> <p><math>\frac{0.210}{0.188}</math> (5.334 / 4.775)</p> <p><math>\frac{0.042}{0.037}</math> (1.067 / 0.940)</p>
GBPC	GBPC-W
  <p><math>\frac{0.94}{0.25}</math> (2.4 / 6.35)</p> <p><math>\frac{0.442}{0.432}</math> (11.23 / 10.97)</p> <p><math>\frac{0.96}{0.85}</math> (24.5 / 21.5)</p> <p>HOLE FOR #10 SCREW</p> <p><math>\frac{0.22}{0.20}</math> (5.59 / 5.08)</p> <p><math>\frac{1.14}{1.12}</math> (29.0 / 28.5)</p> <p><math>\frac{0.692}{0.612}</math> (17.6 / 15.5)</p> <p><math>\frac{0.602}{0.522}</math> (15.3 / 13.3)</p> <p><math>\frac{0.752}{0.672}</math> (19.1 / 17.1)</p>	  <p><math>\frac{0.042}{0.038}</math> (1.07 / 0.97)</p> <p><math>\frac{0.442}{0.432}</math> (11.23 / 10.97)</p> <p>1.2(30.5) MIN</p> <p>HOLE FOR #10 SCREW</p> <p><math>\frac{0.22}{0.20}</math> (5.59 / 5.08)</p> <p><math>\frac{1.14}{1.12}</math> (29.0 / 28.5)</p> <p><math>\frac{0.752}{0.672}</math> (19.1 / 17.1)</p> <p><math>\frac{0.490}{0.410}</math> (12.4 / 10.4)</p>

## Thru-Hole Packages, Con't.

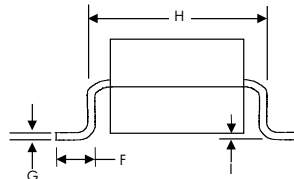
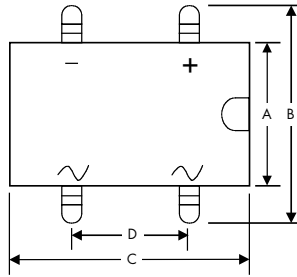


## Thru-Hole Packages, Con't.

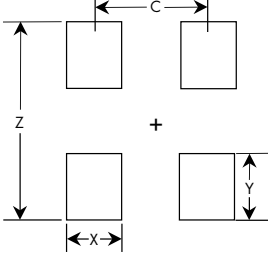
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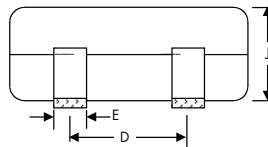
DIM	MIN (in)	MAX (in)	MIN (mm)	MAX (mm)
A	.245	.255	6.223	6.477
B	.360	.410	9.144	10.41
C	.320	.335	8.128	8.509
D	.195	.205	4.953	5.207
E	.038	.042	0.965	1.067
F	.040	.060	1.016	1.524
G	Typ	.009	Typ	0.229
H	.290	.310	7.366	7.874
I	.004	.008	0.0102	0.203
J	115	135	2.921	3.429



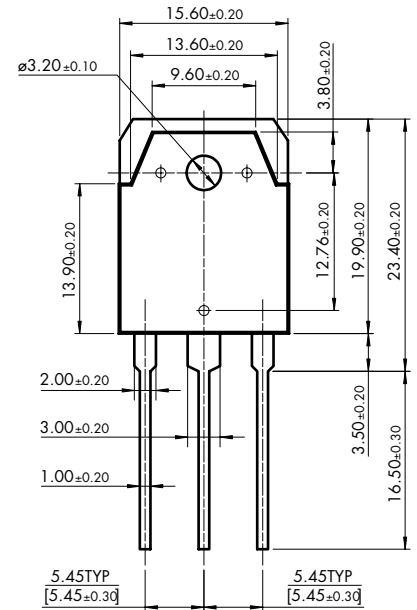
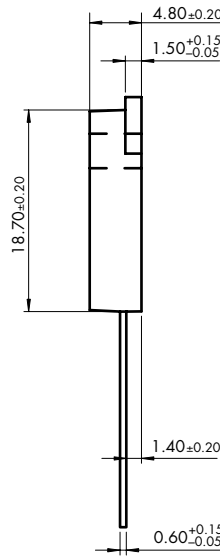
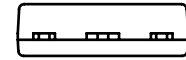
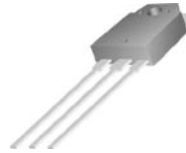
	SDIP		SOIC-4	
DIM	MIN	MAX	MIN	MAX
Z	10.06	10.26	6.71	6.91
X	1.2	1.4	0.76	0.96
Y	1.52 (Typ)	0.58	0.78	
C	5 (Typ)	2.47	2.67	



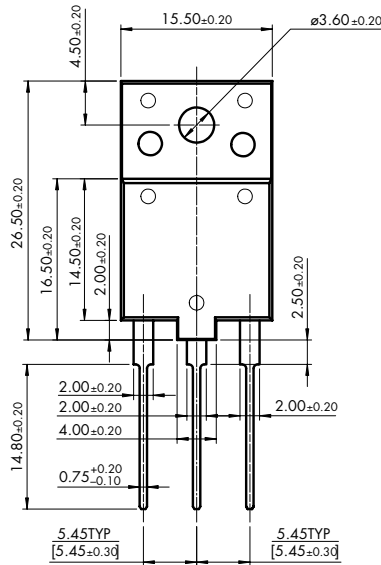
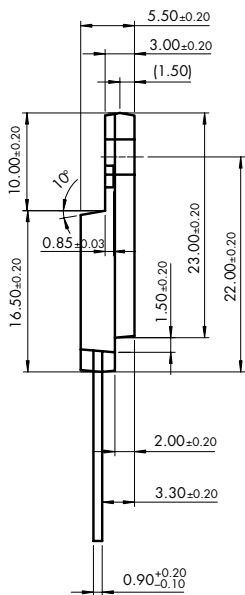
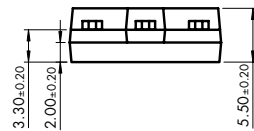
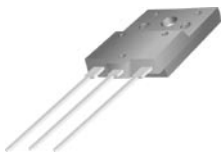
Minimum Recommended Land Pattern



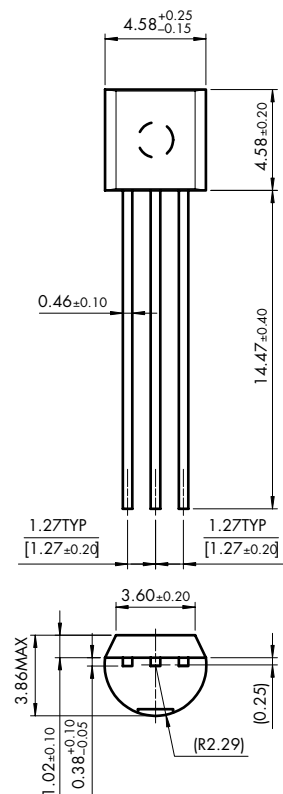
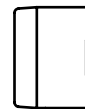
### TO-3P



### TO-3PF

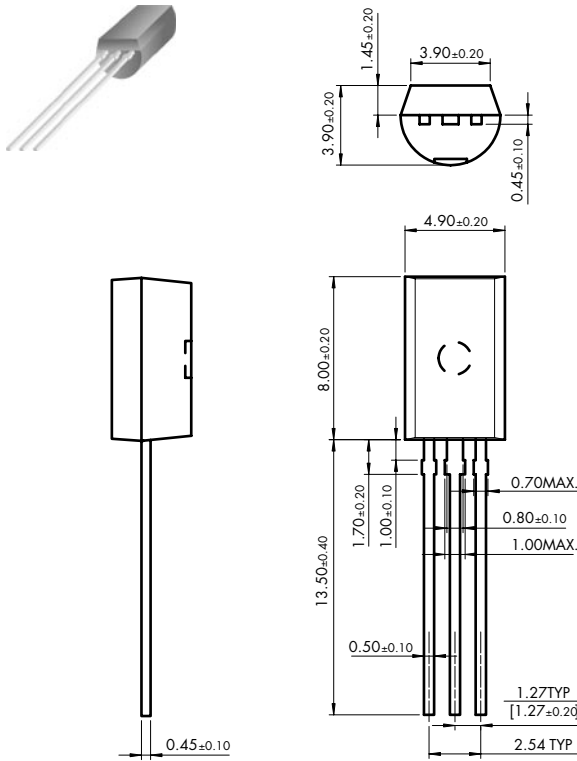


### TO-92

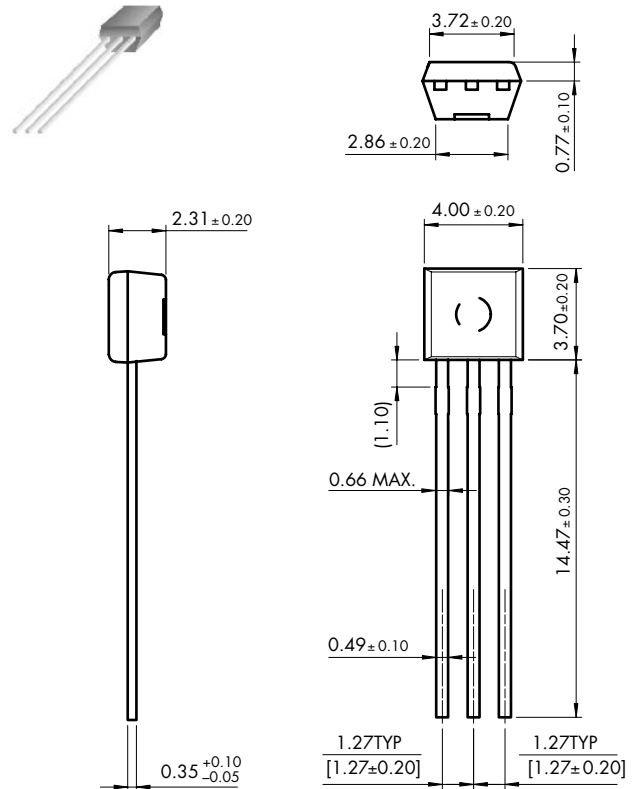


### Thru-Hole Packages, Con't.

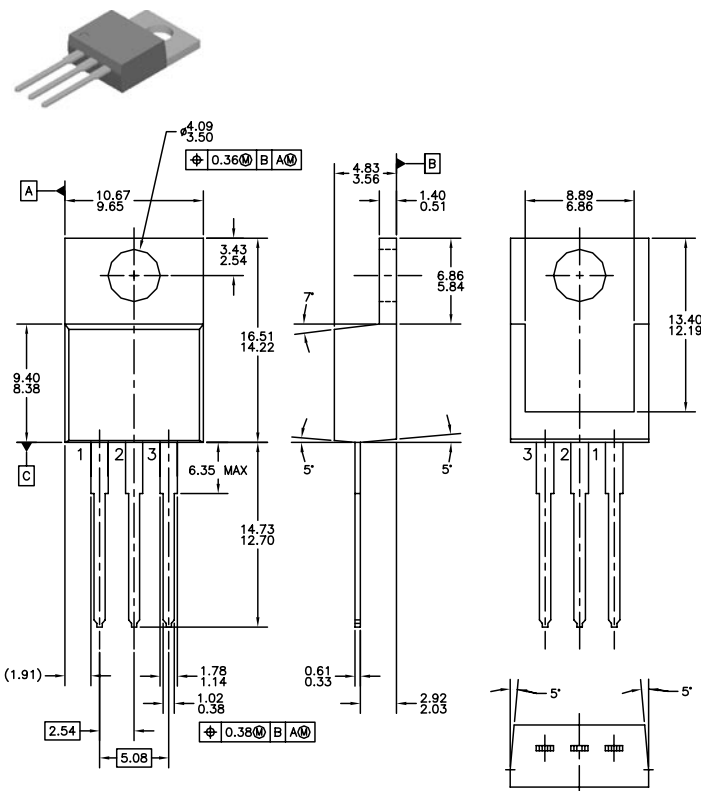
**TO-92L**



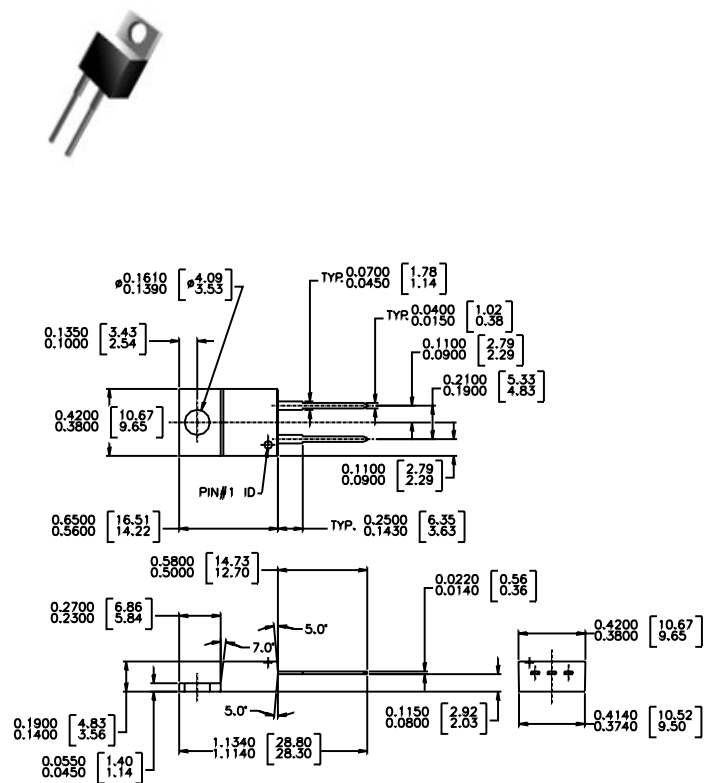
**TO-92S**



**TO-220/TO-220AB**

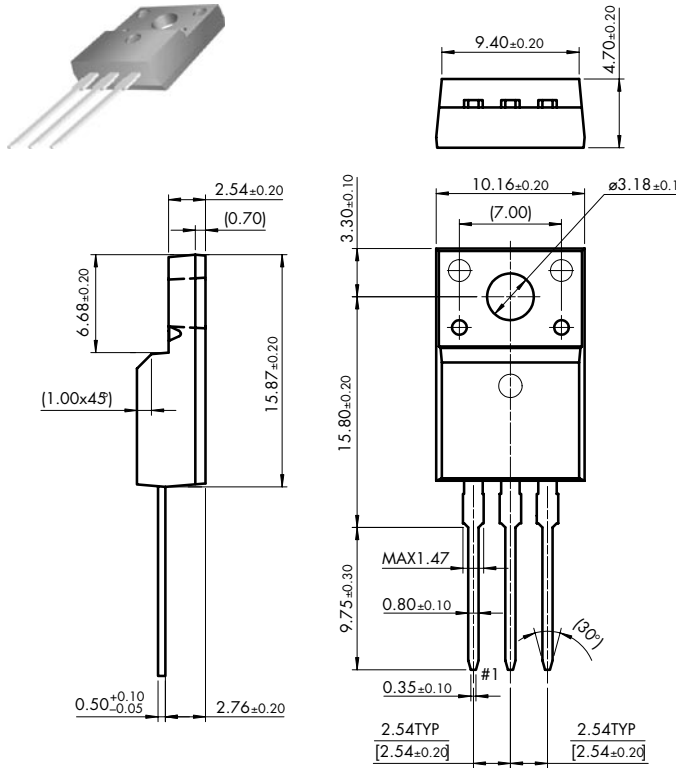


**TO-220AC**

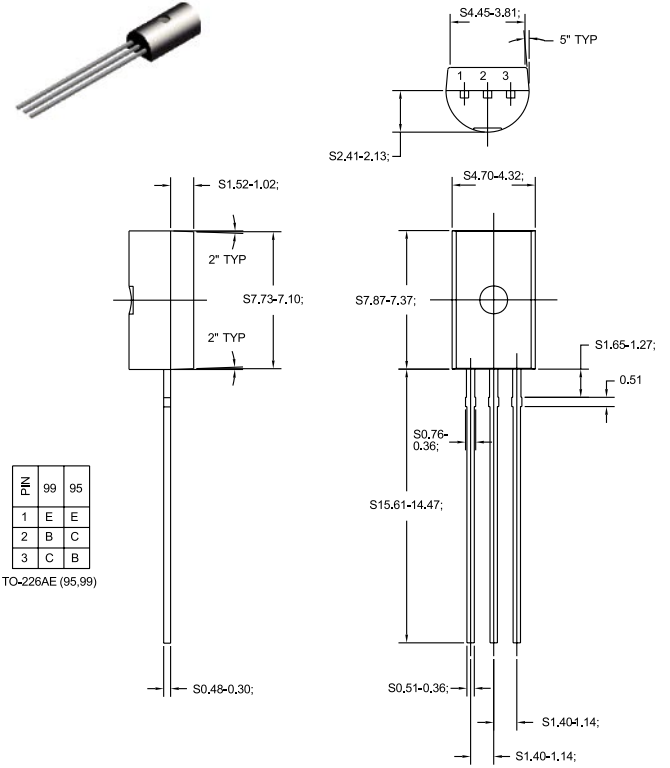


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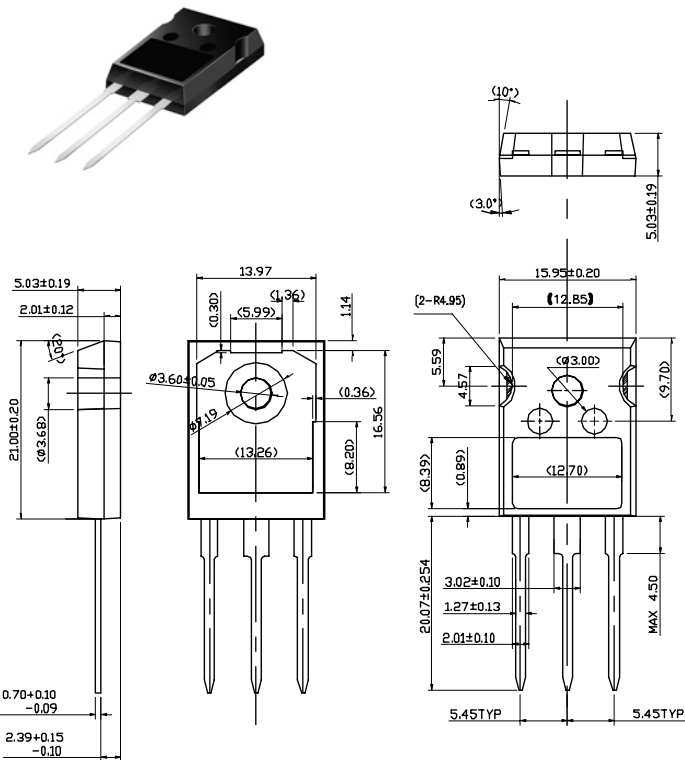
**TO-220F**




**TO-226AE**



**TO-247**





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SUPPORT

COMPANY

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Comparators  
High Performance Amplifiers  
(>15MHz)  
Operational Amplifiers  
RF Power Amplifiers

### Diodes & Rectifiers

Bridge Rectifiers  
Rectifiers  
Operational Amplifiers  
Schottky Diodes & Rectifiers  
Small Signal Diodes  
Transient Voltage  
Suppressors  
Zener Diodes

### Interface

LVDS  
• Drivers  
• Receiver  
Serializer/Deserializer  
•  $\mu$ SerDes<sup>™</sup>  
USB Transceiver

### Logic

Logic by Family  
Logic by Function  
Translator

### Signal Conversion

Voltage to Frequency  
Converters

### Timing Circuits

Timers

### Power Modules

Smart Power Modules  
(SPM<sup>™</sup>)  
IGBT Module

### Optoelectronics

Infrared Light Emitting  
Diodes  
Optical Interrupt Switches  
Optically Coupled Solid  
State Relays  
Optocouplers  
Photosensors  
Reflective Object Sensors

### Switches

Analog Switches  
Audio Switches  
Bus Switches  
USB Switches  
Video Switches  
Full Function Load Switches  
(IntelliMAX<sup>™</sup>)  
Load Switches

### Power Controllers

ACPI Controllers  
Ground Fault Interrupt  
Controllers  
Off-Line Conversion (FPS<sup>™</sup>)  
• Green (FPS<sup>™</sup>)  
Power Factor Correction  
Controllers  
PWM & PM Controllers  
PWM Controllers  
SMPS Controllers

### Power Driver

LED Drivers  
High Voltage Gate Drivers  
(HVIC)

### Transistors

BJTs  
IGBT  
• IGBT Discrete  
• IGBT Module  
• Smart Power Modules  
(SPM<sup>™</sup>)  
JFETs  
MOSFETs  
MOSFET/Schottky Combos  
Load Switches  
Full Function Load Switches  
(IntelliMAX<sup>™</sup>)  
Small Signal Transistors

### Voltage Reference, Supervisory, and Other

Voltage Detectors  
Voltage Stabilizers  
Voltage Supervisory–  
Microprocessor

### TRIACs

TRIACs

### Filters

Video Filter Drivers  
Video Switch Matrix

### Temperature Management

Temperature Sensors

### Voltage Regulators

Charge Pump Regulators  
Integrated Switching  
Regulators  
LDOs  
Shunt Regulators  
Standard Regulators

### Application-based Products

Audio  
• Audio Power Amplifiers  
• Audio Switches  
Lighting and Display  
• CCFL Controllers  
• Ballast Controllers  
• Landing Correction IC  
• Vertical Output IC  
Motor Drivers  
• Low Voltage  
(DC, Actuator)  
• Smart Power Modules  
(SPM<sup>™</sup>)  
RF Power Amplifiers  
USB  
• USB Transceivers  
• USB Switches  
Video  
• Triple Video DACs  
• Video Filter Drivers  
Video Switch Matrix  
• Video Switches  
• High Performance  
Video Multiplexer

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