



Power Management

Selection Guide – February 2010





Introduction

The Leader in Energy Efficient Technologies for Power Management

EFFICIENT ENERGY CONVERSION IS VITAL for an environmentally-friendly electricity support. Being the leader in energy efficiency technologies, Infineon's products are enormously important for future energy supplies in terms of both exploiting renewables and using energy efficiently. Infineon's products stand out for their reliability, their quality excellence and their innovative and leading-edge technology in power supply.

With sustainable technology leadership we drive innovative power architectures. We lead in power density and enable systems with best cost performance ratio for consumer applications, PC silverbox, notebook adapters and server. Explore our wide offer of high-end products for your applications.

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SMPS IC Overview

	PWM Controller										Combo			
	Quasiresonant					Fixed Frequency					PWM+CCM PFC			
	TDA4605-2 TDA4605-3	TDA16846 TDA16847	ICE1QS01 ICE1QS01 G	ICE2QS01	ICE2QS02 G	ICE3AS031 G ICE3BS031 G	ICE3BS02L	ICE3A(B)S02	ICE3DS01	ICE2A(B)S01	TDA16850-2	TDA16888	ICE1CS02	ICE1PCS01 ICE1PCS02
General purpose control IC	Universal, high performance control IC including low-power standby and power factor correction	PWM Control IC including advanced burst mode, PFC and frequency reduction for best-in-class efficiency ratings	PWM Control IC including active burst mode, PFC and frequency reduction for best-in-class efficiency ratings + active burst mode + start up cell	PWM Control IC including frequency reduction for best-in-class average efficiency ratings	General purpose Control IC with enhanced ICE3DS01 features	General purpose Control IC with enhanced ICE3DS01 features	General purpose Control IC with enhanced ICE3DS01 features	General purpose Control IC with enhanced ICE2A(B)S01 features	General purpose Control IC with enhanced ICE2A(B)S01 features	Control with special features for CRT monitor applications	High performance power combi controller including PFC and PWM stage	High performance power combi controller including PFC and PWM stage	Standalone PFC controller for boost topology with soft-start	
Typical Application	CVT, VCR, adapter	CTV, VCR, set-top-box, adapter	CTV, VCR, adapter, LCD TV	CTV, VCR, adapter	LCD TV, Audio and printer	Applications exceeding the max. power range of CoolSET: charger, adapter, auxiliary power supplies, low end CTV, set-top-box, DVD	Applications exceeding the max. power range of CoolSET: charger, adapter, auxiliary power supplies, low end CTV, set-top-box, DVD	Applications exceeding the max. power range of CoolSET: charger, adapter, auxiliary power supplies, low end CTV, set-top-box, DVD	Applications exceeding the max. power range of CoolSET: charger, adapter, auxiliary power supplies, low end CTV, set-top-box, DVD, LCD	Applications exceeding the max. power range of CoolSET: charger, adapter, auxiliary power supplies, low end CTV, set-top-box, DVD	Monitors, CTVs, adapters, chargers	Industrial aircon, motor drive, PC, server, adapter	PC, Server, Industrial aircon, motor drive, adapter	Industrial, PC, motor drive, white goods

General Features

Operating Mode	Quasi-resonant	Quasiresonant Fixed Frequency Synchronized	Quasi-resonant	Quasiresonant	Quasiresonant	Fixed Frequency	Fixed Frequency	Fixed Frequency	Fixed Frequency	Fixed Frequency	Fixed Frequency Synchronized	Fixed Frequency Continuous Conduction Mode	Fixed Frequency Continuous Conduction Mode	Continuous Conduction Mode
Switching Frequency	<200kHz	<250kHz adjustable in fixed frequency mode	<250kHz	<200kHz	<200kHz	65kHz	100kHz (67kHz)	100kHz (67kHz)	110 kHz	100kHz (67kHz)	60kHz fixed <130kHz synchr.	Up to 200kHz	External Synchronization: PFC 35kHz-75kHz/ PWM 70kHz-150kHz	Variable from 50 to 250 kHz with ICE1PCS01/ fixed at 65kHz with ICE1PCS02
Standby Frequency	Approx. 20kHz	Adjustable	20kHz	80kHz/active burst mode	not applicable					21.5kHz (20kHz)	20kHz	PWM 0kHz/ PFC 50%	PFC 35kHz-75kHz/ PWM 70kHz-150kHz	
Maximum Duty Cycle	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	72%	72%	72%	72%	72%	60%	PWM 50%/ PFC 94%	PWM 60%/PFC 94%	95% @ 125kHz
Primary Regulation without Additional Components	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Standby Power	5W/400mW	<1W/400mW	<1W/400mW	<1W/500mW	not applicable	<100mW/no load	<100mW/no load	<100mW/no load	100mW/no load	<1W/no load	<1W/no load	<1W/no load	<1W/no load	<1W/no load
Low Standby Power Mode Active Burst Mode						<700mW/500mW	<700mW/500mW	<700mW/500mW	480mW/300mW					
Soft Driving for Low EMI						✓	✓	✓	✓	✓	✓	✓	✓	✓
Maximum Drain-source Voltage @ 125°C Tj	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Power Output Range (85 ... 270V) without Heat Sink	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Power Output Range (85 ... 270V) with Heat Sink														
Integrated Auxiliary Power Supply											✓	✓	✓	
Integrated 500V Start-up Cell				✓		✓	✓	✓	✓		✓	✓	✓	
PFC Functionality		Charge Pump	Charge Pump	Charge Pump								✓	✓	✓

Protection Features

Undervoltage Lock-out	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Overload and Open Loop Correction Protection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Overload Protection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Secondary Undervoltage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cycle by Cycle Current Limitation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	PWM ✓ PFC ✓	PWM ✓ PFC ✓	✓
Sophisticated Power Limitation Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Temporary High-power Circuit		TDA16847				✓	✓	✓	✓	✓	✓			✓
Adjustable Peak Current Limitation via External Resistor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Current Limitation via Internal Sense Field														
Demagnetization Protection	✓	✓	✓	✓	✓									
Thermal Shut-down with Auto-restart								✓		✓	✓			
Thermal Shut-down with Latch off	✓	✓	✓	✓		✓	✓		✓					
Auto Restart Mode for all Protection Features				✓				✓		✓				
Auto Restart Mode for Overload, Open Loop, V _{in} Undervoltage, Short Optocoupler				✓		✓	✓		✓					
Latch-off Mode for V _{in} Overvoltage, Overtemperature and Short Winding/Short Diode				✓		✓	✓		✓					
Latch-off Enable Pin														
Brown Out Protection				✓										ICE1PCS02 ✓
Supply Current with Inactive Gate (typ.)	11mA	5mA	11mA	2.5mA	1.5mA	1.5mA	5.5mA	5.5mA	6.0mA	5.3mA	3 ... 10mA	15 ... 40mA	6mA	18mA
V _{in} Operating Range	7.5 ... 15.5V	8 ... 16V	9 ... 20V	11-25V	11-25V	8.5 ... 26V	8.5 ... 20V	8.5 ... 21V	8.5 ... 20V	8.5 ... 21V	8.5 ... 22V	14 ... 19V	11 ... 25V	10 ... 22V
DIP-package	DIP-8	DIP-14	DIP-8	DIP-8			DIP-8	DIP-8	DIP-8	DIP-8	DIP-8	DIP-20	DIP-16	DIP-8
SMD-package		SO-14	SO-8		SO-8	SO-8		SO-8	SO-8	SO-8		SO-20	DSO-16	SO-8
TO-220-package														

* Depending on topology and switching transistor

** Only available in ISODRAIN package



ICs

Gate Driver

TDA21102/TDA21106

- Drivers for N-Channel MOSFETs
- Shoot-through protection–adaptive dead-time control
- Tri-state PWM input
- Supply voltage UVLO–Under Voltage LockOut
- Compatible with standard multiphase PWM controllers
- Adjustable high side MOSFET gate driver voltage

Gate Driver	High Performance	
	TDA21106	TDA21102
Package	SO-8	SO-14
ROHS-compliant	✓	✓
Number of channels	1	2
Maximum junction temperature	-25 to 150°C	-25 to 150°C
Supply voltage, V_{CC}	25V	25V
BOOT to GND	45V	45V
PHASE to GND DC	-1 ~ 25V	-1 ~ 25V
PHASE to GND dynamic	-20 ~ 30V ¹⁾	-20 ~ 30V ¹⁾
Switching frequency	2MHz	2MHz
Driving capability -HS	Source: 4A Sink: 4A	Source: 4A Sink: 4A
Driving capability -LS	Source: 4A Sink: 4A	Source: 4A Sink: 4A
Typical propagation delay time	10 ~ 20ns	15 ~ 20ns
Power on overvoltage protection	–	–
Integrated bootstrap diode	✓	✓
Product status	Production	Production

1) $t_{\text{pulse max}} = 500\text{ns}$, Maximum Duty Cycle = 2%

2) $t_{\text{pulse max}} = 200\text{ns}$

TDA21801–Fan Speed Controller

With the new fan speed controller TDA21801, essential system monitoring features of switched mode power supplies (SMPS) such as adjustable minimum fan speed, fan ON/OFF and overtemperature protection (OTP) can be easily implemented. Only few external components added to the IC are necessary for it.

The TDA21801 is designed for applications using 3- or 4-wire fan solutions like PC silver boxes, Server silver box AC/DC converter and industrial/medical power supplies.

Benefits

- Full control over fan speed due to precision reference
- Low system cost when replacing 4-wire fans
- Reduced noise level
- Increased safety of power supplies

Features

- In combination with 2-wire fans same functionality as 4-wire fan solution
- Overtemperature protection feature to protect system and power supply
- Adjustable minimum fan speed (750 to 4000rpm)
- Fan speed can be increased by external PWM or analogue signal
- SO-8 Package/RoHS compliant

PWM Controller

TDA4605-2/TDA4605-3

Control IC for Switched-Mode Power Supplies using MOS Transistor

- Fold-back characteristic protects external components
- Burst mode at secondary short-circuit
- Protection against open or a short of the control loop
- Mains undervoltage lock-out
- Soft-start for quiet start-up without noise
- Chip-over temperature protection
- Not for new designs, replaced by TDA16846

TDA16846/TDA16847

SMPS Controller Supporting Low-power Standby and Power Factor Correction

- Line current consumption with PFC
- Stable and adjustable standby frequency
- Very low start-up current
- Soft-start for quiet start-up
- Freely usable fault comparators
- Synchronization and fixed frequency facility
- Over and undervoltage lock-out
- Switch off at mains undervoltage
- Temporary high-power circuit (only TDA16847)
- Mains voltage dependent fold-back point correction
- Continuous frequency reduction with decreasing load
- Adjustable ringing suppression time

TDA16850-2

SMPS Controller for CRT Monitors

- Controller for fly-back topology
- Current mode PWM with spike blanking
- Leading edge triggered pulse with modulation
- Fast, soft switching totem pole gate drive (1A)
- Soft-start management for safe start-up
- Off mode with power consumption less than 1W
- Fast and slow peak current limitation
- All protection features available

ICE1QS01

SMPS Controller with very few peripheral components, featuring Advanced Burst Mode, Frequency Reduction and Power Factor Correction

- Line current consumption with PFC
- Stable standby frequency of 20kHz
- Advanced burst mode < 1W @ 350mW sec. power
- Soft-start for noiseless start-up
- Digital frequency reduction for higher efficiency and no-jitter designs
- Over and undervoltage protection
- Fold-back point correction for stable output power independent of line voltage variations
- Ringing suppression time controlled by output power
- Additional fault comparator optionally useable

ICE2AS01/ICE2BS01

Off-line SMPS Current Mode Controller

- PWM–Current Mode Controller
- 67kHz and 100kHz fixed frequency operation
- Max duty cycle up to 72%
- Frequency reduction for low standby
- Adjustable soft-start
- Propagation delay compensation
- Internal leading edge blanking
- Fully protected
- DIP-8/SO-8

ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

PWM Controller

ICE2QS01

ICE2QS01 is a quasi-resonant PWM controller optimized for off-line switch power supply applications such as LCD TV, CRT TV and notebook adapter.

- Quasiresonant operation till very low load
- Active burst mode operation at light load for low standby input power (< 1W)
- Digital frequency reduction with decreasing load
- Power cell for V_{CC} pre-charging and IC power supply during latch-off, or standby mode operation when it is necessary
- Built-in digital soft-start
- Foldback correction and cycle-by-cycle peak current limitation
- Auto restart mode for V_{CC} overvoltage protection
- Auto restart mode for V_{CC} undervoltage protection
- Auto restart mode for openloop/overload protection
- Latch-off mode for adjustable output overvoltage protection
- Latch-off mode for Short-winding protection

ICE2QS02 G

ICE2QS02 G is a second generation quasi-resonant PWM controller optimized for off-line power supply applications such as LCD TV, audio and printers, where an auxiliary power supply for the IC is provided.

- Quasi-resonant operation
- Load dependent digital frequency reduction
- Built-in digital soft-start
- Cycle-by-cycle peak current limitation with built-in leading edge blanking time
- V_{CC} undervoltage protection
- Mains undervoltage protection with adjustable hysteresis
- Foldback Point Correction with digitalized sensing and control circuits
- Overload Protection with adjustable blanking time
- Adjustable restart time after Overload Protection
- Adjustable output overvoltage protection with Latch mode
- Short-winding protection with Latch mode
- Maximum on time limitation
- Maximum switching period limitation

ICE3DS01

Off-line SMPS Current Mode Controller

- PWM and 500V start-up cell in one package
- Active burst mode for ultra-low standby power ($P_{IN} < 100mW$)
- Short-term overload function
- New protection: latched OFF or auto restart
- 110kHz fixed frequency operation
- Duty cycle up to 72%
- Adjustable soft-start
- Propagation delay compensation
- Internal leading edge blanking
- Fully protected
- DIP-8/SO-8

ICE3AS02

Additional features to ICE3DS01

- 100kHz
- All protections: auto-restart

ICE3BS02

Additional features to ICE3DS01

- 67kHz
- All protections: auto-restart

ICE3BS02L

Additional features to ICE3DS01

- 67kHz
- Protections: auto-restart or latch off
- DIP-8

ICE3AS03LJ G/ICE3BS03LJ G

Additional features to ICE3BS02L

- 100kHz/65kHz
- Built-in soft start time
- Protections: auto-restart or latch off
- Latch off enable pin
- Frequency jittering
- SO-8

Di-POL™ Power ICs



Digital Integrated Point-of-load (Di-POL™) power ICs are designed for use in a synchronous buck converter. Applications include low-voltage distributed power supplies required to power ASICs, FPGAs, DSPs, Memory, etc., for telecom, datacom, server and storage equipment.

The PX75xx utilizes state-of-the-art digital technology to implement all control and management functions, providing the ultimate in flexibility and stability. The PX75xx incorporates industry standard I²C serial interface for real-time system control, which allows the power supply designer to quickly optimize designs and monitor system performance.

Di-POL™ Advantage

- Single chip delivering power conversion + power management
- Flexibility and adaptability
 - Customize controller without the silicon spins
 - Programmable configuration, fault setting, calibration
 - Use integrated or discrete power stages
- Testability and telemetry
 - Digitally monitor I, V, T, faults
 - GUI-driven system level enhanced testability and control
- On-chip NVM
 - Storage of ATE trimmed & calibration values, configurations, etc.
- Cost competitive/effective
 - Pricing competitive with analog solutions
 - Lowest system solution with NVM available
- I²C communication for monitoring and control
- PMBus™ compliant

Di-POL™ Features

- Wide output voltage range
- Up to 1.5MHz switching frequency
- Digital control loop with Proportional, Integral and Derivative (PID) compensation
- Up to four controllers can be interleaved for multiphase operation
- Extensive fault detection and handling capability with user configurable output fault pins
- Inductor DCR current sense with digital temperature compensation
- Compatible with both tri-state and non-tri-state FET drives
- Resistor-based PMBus™ address
- Current sharing
- Adjustable Active Voltage Positioning (AVP) control
- Soft-start into pre-biased load
- Single +5.0V supply operation
- RoHS compliant MLF plastic package

Part Number	Description	Phases	Outputs
PX7510	Single-Phase Digital Integrated POL Power Conversion & Management IC	1	1
PX7520	Dual-Phase Digital Integrated POL Power Conversion & Management IC	1 to 2	1
PX7522	Dual-Output Dual-Phase Digital Integrated POL Power Conversion & Management IC	1 to 2	2
PX7542	Dual-Output Multi-Phase Digital Integrated POL Power Conversion & Management IC	Up to 4	2

Di-POL™ is a registered trademark of Primarion [www.primarion.com].

ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

Digital Multiphase Controller for Core Power



As microprocessors and ASICs have grown in power and complexity, their voltage regulation requirements have become increasingly demanding. This growing complexity has led to the introduction of Primarion Digital Power Management (DPM) solutions with increased accuracy, real-time monitoring and control capabilities via digital communications bus. The simplified system design the DPM solution provides leads to lower cost and higher performance implementations.

Primarion's Core Power ICs are designed into voltage regulator modules (VRMs) and motherboards for leading server original equipment manufacturers (OEMs) and are currently shipping into major server OEM systems to power CPU and GPU.

Primarion's digital power system-level solutions enable improved digital control features: better accuracy and use of lower cost passive components through adaptive digital calibration, improved ability to respond to fast changes in power requirements (transients) using fewer external capacitors with proprietary Active Transient Response (ATR), and easier design-in with a graphical user interface. Primarion's overall solution requires substantially fewer components and associated costs as compared to current analog power solutions.

VR11.1 Digital Multiphase Controller

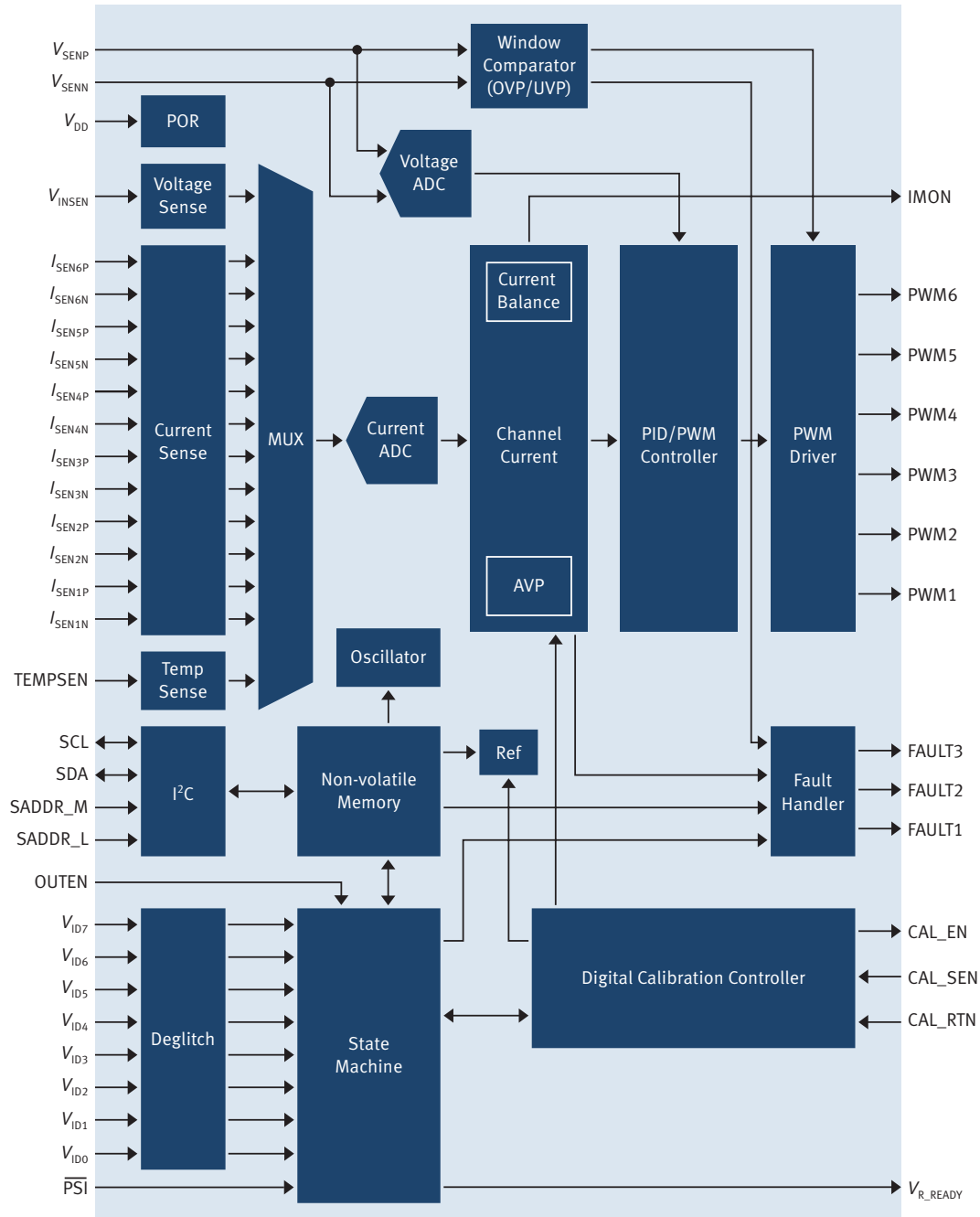
- Compliant to Intel® VR11.1 specifications
 - Power Stage Indicator (PSI) mode for improved light load efficiency
 - Output Current Monitor (iMON)
- Up to 1MHz switching frequency
- Achieves highest efficiency and lowest output caps with advanced non-linear control
- Improved Active Transient Response (ATR2) enables benchmark transient response with reduced output caps
- I²C interface for monitoring, configuration and control
- Extensive fault detection and protection
- Differential output voltage sense
- Differential DCR output current sense with precise digital current sense calibration
- Digital current balancing with programmable offsets for thermal balancing
- Digitally programmable PID loop compensation
- Internal non-volatile memory (NVM) to store custom configurations

VR11 Digital Multiphase Controller

- Supports Intel® VR10.x and VR 11.0 VID codes
- Supports AMD® 5-bit and 6-bit VID codes
- Up to 2MHz switching frequency
- Digitally programmable loadline and loop compensation
- Precision digital current sense calibration
- Precise digital current balancing with programmable offsets for thermal balancing
- I²C interface for monitoring, control and configuration
- Internal non-volatile memory (NVM) to store custom configurations with eight programmable active voltage position (AVP) system configurations
- Configurable latched fault or autonomous recovery shutdown
- Extensive fault detection and handling capability with user configurable output fault pins
- Single +3.3V supply operation
- RoHS compliant 48-lead MLF plastic package

Part Number	Description	Phases	Outputs
PX3560	6-Phase Digital PWM Controller–VR11.1 Compliant	1 to 6	1
PX3538	6-Phase Digital PWM Controller–VR11 Compliant	1 to 6	1
PX3539	4-Phase Digital PWM Controller–VR11 Compliant	1 to 4	1

[www.primarion.com]



ICs

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Packages

Type List

Digital Multiphase Controller for Memory Power



Digital multiphase controllers with dynamic phasing address smart power needs for memory, ASICs, FPGAs within the computing, graphics and datacom markets.

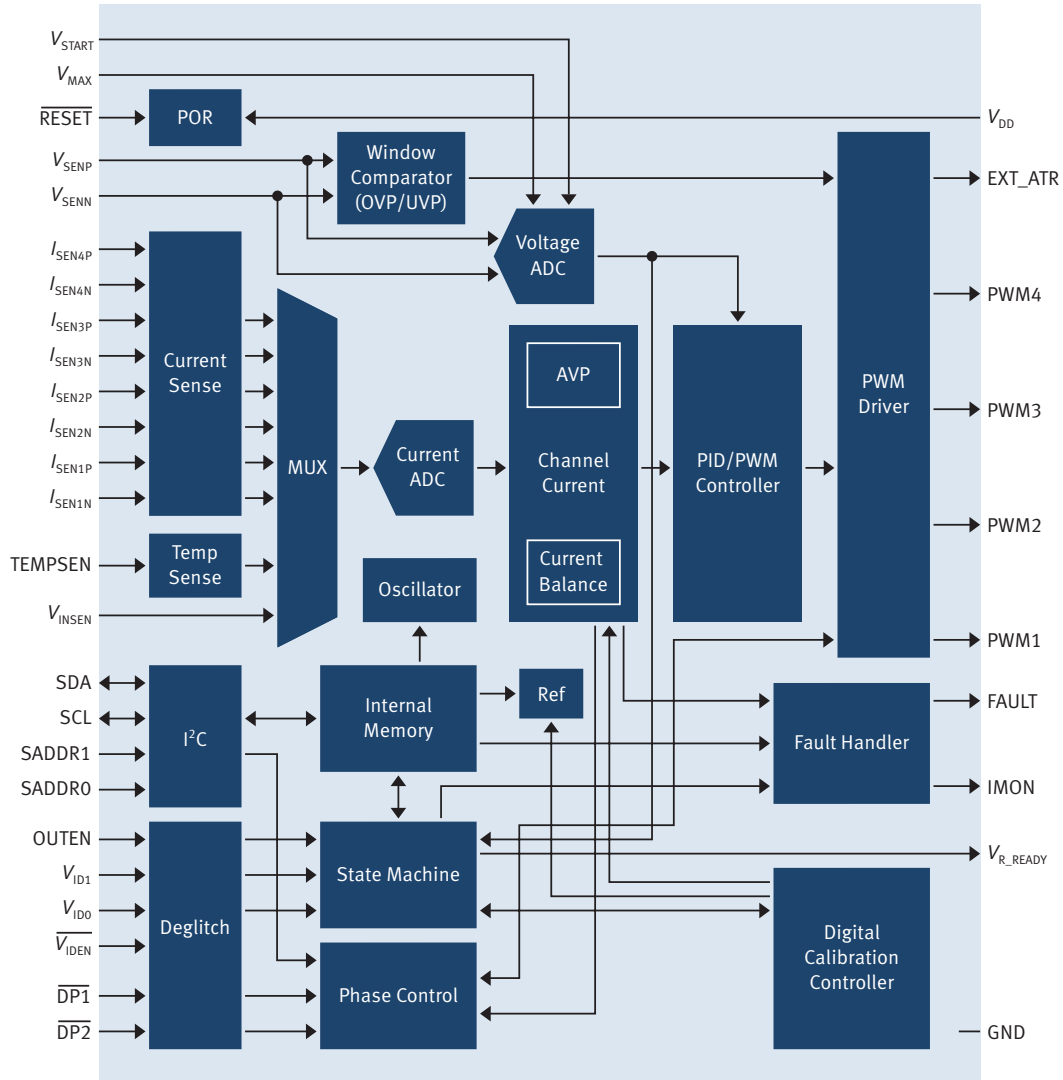
Phasing control for the PX3684/PX366x is based on the number of dual in-line memory modules (DIMMS) populated, which optimizes system efficiency when the number of DIMMS is below the maximum allowed number. When DIMMS are added, additional phases can be enabled so that the current handling capability of the PX3684-based system will increase, thus driving the additional DIMM populated sockets. Dynamic phasing capability dramatically increases efficiency at light loads.

Features

- More than 90 percent across entire operating range
- Dynamic phasing in two modes
 - User controlled via I²C interface
 - Autonomous operating by detecting average output current level
- Energy saving without steep costs
- Up to 2MHz switching frequency
- 2-bit VID input for additional voltage control/margining
- Driver detect prior to soft-start disables unpopulated phases
- Extensive fault detection and handling capability with user configurable output fault pin
- I²C interface for monitoring, configuration and control
- Precise digital current balancing with programmable offsets for thermal balancing
- Internal non-volatile memory (NVM) to store custom configurations
- Single +3.3V supply operation
- RoHS compliant 48-lead MLF plastic package

Part Number	Description	Phases	Outputs
PX3684	Digital Multiphase Controller with Dynamic Phasing	1 to 4	1
PX3666	Digital Multiphase Controller with Dynamic Phasing	1 to 6	1
PX3664	Digital Multiphase Controller with Dynamic Phasing	1 to 4	1

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ICs

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Type List

Digital Multiphase Controller for Graphics Processors



The PX3584/PX354x Digital Multiphase Controller provides core power for today's high current graphic processors by driving up to six synchronous-rectified buck-converter channels in parallel. Interleaved timing of the channels results in a higher ripple frequency, which minimizes both input and output voltage ripple.

The PX3584/PX354x utilizes digital technology to implement all control functions, providing the ultimate in flexibility and stability. An industry standard I²C serial interface provides real-time system control, which allows the power supply designer to quickly optimize designs and monitor system performance.

Features

- Dynamic phasing for improved efficiency at light load
- Supports multiple input voltage supplies:
 - 1 main, 2 auxiliary with programmable phase mapping
- 2-bit VID input for additional voltage control
- Up to 1MHz switching frequency
- Analog current monitor output (IMON) indicates current load
- Improved active transient response (ATR2) further reduces output cap bank
- Extensive fault detection and handling capability with user configurable output fault pin
- Support I²C communication for programming and telemetry
- Precision digital current sense calibration
- Internal non-volatile memory (NVM) to store custom configurations
- Precise digital current balancing with programmable offsets for thermal balancing
- Digitally programmable loadline and loop compensation
- Resistor programmable max and initial voltage
- Internal high precision voltage reference

Part Number	Description	Phases	Outputs
PX3584	Digital 4-Phase Power Controller for Graphics Processors (2nd Gen)	1 to 4	1
PX3540	Digital 6-Phase Power Controller for Graphics Processors	1 to 6	1
PX3544	Digital 4-Phase Power Controller for Graphics Processors	1 to 4	1

40A Integrated Power Stage IC



The PX4642 is a member of Primarion's family of high performance integrated power stages (iPS™) targeted for high density voltage regulation applications. When combined with Primarion's Digital Multiphase or Di-POL™ controllers, the PX4642 offers a complete high current, small form factor regulator solution with superior accuracy, transient response, and protection features.

The PX4642 integrates low $R_{DS(on)}$ MOSFETs for both high-side and low-side output devices together with high-side and low-side MOSFET drivers. The PX4642 can support an average output current of up to 40A in an area of 20mm², which is significantly smaller than discrete driver + power MOSFETs solutions.

The PX4642 contains self-protection features including pulse-by-pulse peak current limiting, Input Under Voltage Protection (IUVP) and integrated over-temperature protection.

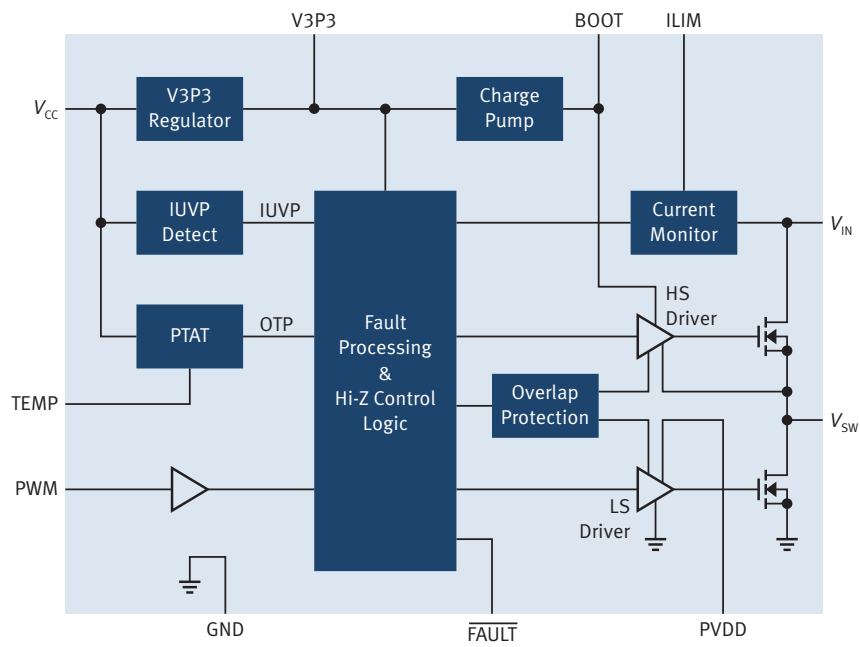
A fault status pin provides a digital output signal alert if either an over-temperature or input under-voltage condition occurs. The FAULT# pin can also be driven externally to disable the output FETs. For multi-phase applications, the FAULT# pins from each PX4642 can be tied together to turn off all phases should any one iPS device shut down.

The PX4642 is offered in a 18-lead QFN package to provide ease of manufacturability and small footprint.

Features

- Fully integrated drivers with high-side and low-side output MOSFETs
- Highest power density solution when combined with the Primarion Digital Multiphase or Di-POL™ Controllers
- 50A output current carrying capability
- Enables > 90% efficiency solutions
- Input Under Voltage Protection (IUVP)
- Integrated Pulse-by-Pulse Peak Current Limit (P²CL)
- Average Current Limit protection when combined with a Primarion Digital Controller
- Switching Frequency 200kHz – 1.3MHz
- Input Voltage Range 10.8 to 13.2V with extended lower voltage range possible
- Chip architecture optimized for maximum efficiency when operated at an output voltage between 0.8V and 1.8V
- Three-state PWM input compatible (3.3V or 5.0V)
- RoHS compliant 4mm x 6mm QFN package provides high density and ease of manufacture
- Temperature monitor

[www.primarion.com]



50A Integrated Power Stage IC



The PX4652 is a member of Primarion's family of high performance integrated power stages (iPS™) targeted for high density voltage regulation applications. When combined with Primarion's Digital Multiphase or Di-POL™ controllers, the PX4652 offers a complete high current, small form factor regulator solution with superior accuracy, transient response, and protection features.

The PX4652 integrates low $R_{DS(on)}$ MOSFETs for both high-side and low-side output devices together with high-side and low-side MOSFET drivers. The PX4652 can support an average output current of up to 50A in an area of 24mm², which is significantly smaller than discrete driver + power MOSFETs solutions.

The PX4652 contains self-protection features including pulse-by-pulse peak current limiting, Input Under Voltage Protection (IUV) and integrated over-temperature protection.

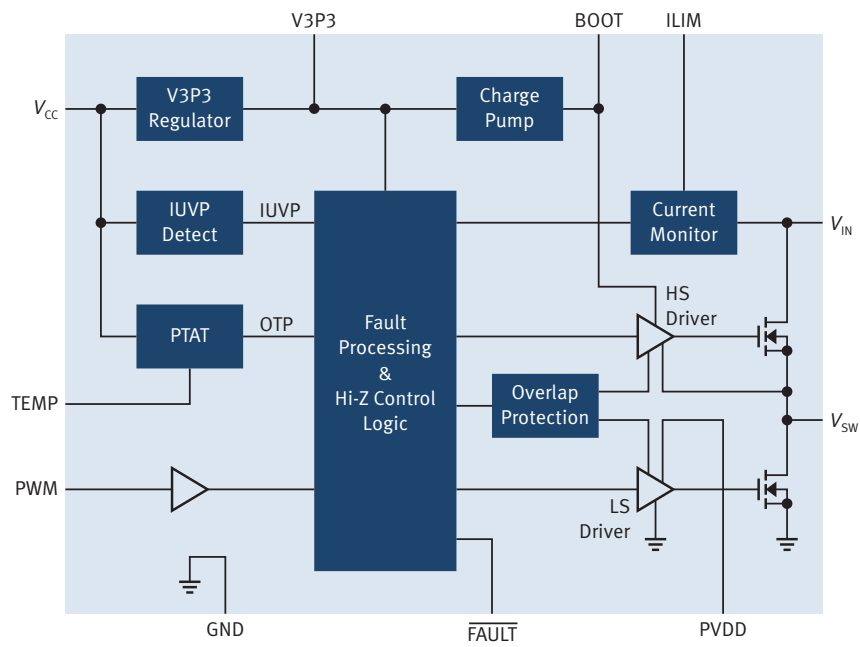
A fault status pin provides a digital output signal alert if either an over-temperature or input under-voltage condition occurs. The FAULT# pin can also be driven externally to disable the output FETs. For multi-phase applications, the FAULT# pins from each PX4652 can be tied together to turn off all phases should any one iPS device shut down.

The PX4652 is offered in a 20-lead QFN package to provide ease of manufacturability and small footprint.

Features

- Fully integrated drivers with high-side and low-side output MOSFETs
- Highest power density solution when combined with the Primarion Digital Multiphase or Di-POL™ Controllers
- 50A output current carrying capability
- Enables > 90% efficiency solutions
- Input Under Voltage Protection (IUV)
- Integrated Pulse-by-Pulse Peak Current Limit (P²CL)
- Average Current Limit protection when combined with a Primarion Digital Controller
- Switching Frequency 200kHz – 1.3MHz
- Input Voltage Range 10.8 to 13.2V with extended lower voltage range possible
- Chip architecture optimized for maximum efficiency when operated at an output voltage between 0.8V and 1.8V
- Three-state PWM input compatible (3.3V or 5.0V)
- RoHS compliant 4mm x 6mm QFN package provides high density and ease of manufacture
- Temperature monitor

[www.primarion.com]

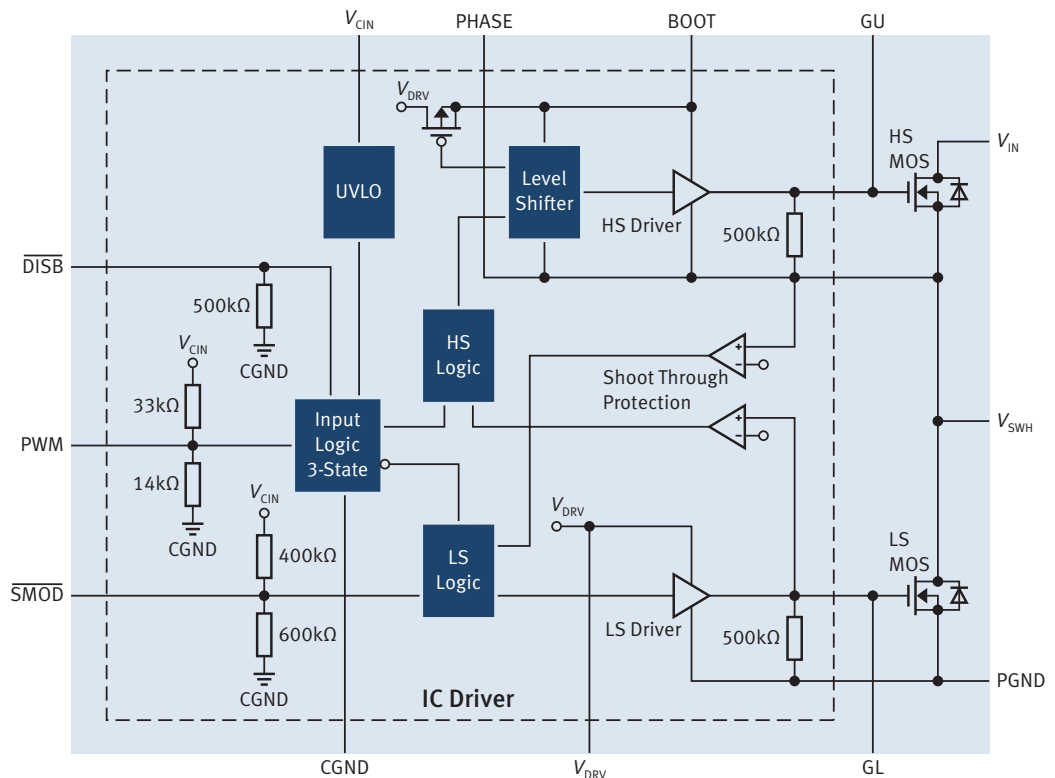


6 x 6 QFN High-Performance DrMOS (Driver+MOS)

TDA21211 / TDA21220

Features

- Intel compliant DrMOS, Power MOSFET and Driver in one package
- For Synchronous Buck - step down voltage applications
- Wide input voltage range 5V ... 25V
- Low power dissipation
- Extremely fast switching technology for improved performance at high switching frequencies
- Remote Driver Disable function
- SMOD—Switching Modulation of low side MOS
- Extremely Robust Switch Node -20V ... 30V for added reliability in noisy applications
- Includes active PMOS structure as integrated bootstrap circuit for reduced part count
- Adaptive Gate Drive for shoot through protection
- 5V High and Low Side Driving voltage
- Compatible to standard PWM controller ICs with 3.3V and 5V logic
- Three-State functionality
- Small Package: QFN-40 (6 x 6 x 0.8 mm³)
- RoHS Compliant (Pb Free)



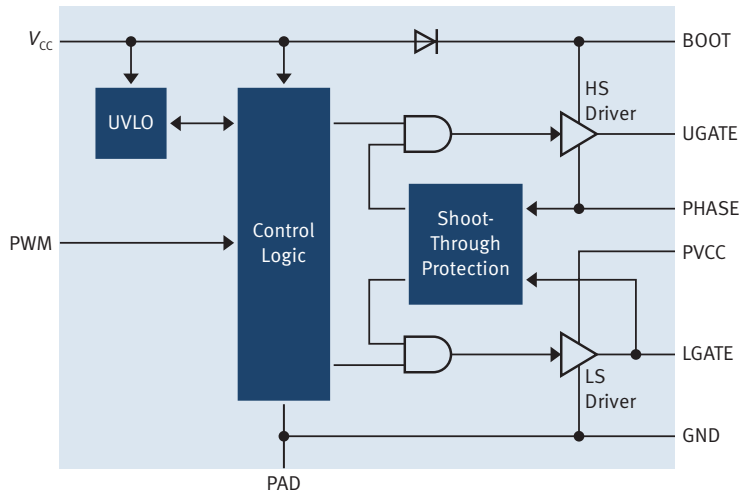
MOSFET Driver IC



The PX3515 is a dual high speed driver designed to drive a wide range of high-side and low-side power MOSFETs in synchronous rectified buck converters. When combined with the Primarion PX35XX family of Digital Multi-phase Controllers or PX75XX Digital Point of Load (Di-POL™) Controllers and N-channel MOSFETs, the PX3515 forms a complete core-voltage regulator solution for advanced micro- and graphic-processors as well as point-of-load applications

Features

- Dual MOSFET driver for synchronous rectified bridge converters
- Adjustable high-side and low-side MOSFET gate drive voltages for optimal efficiency
- Integrated bootstrap diode for reduced part count
- Adaptive gate drive control prevents cross-conduction
- Fast rise and fall times supports switching rates of up to 2MHz
- Capable of sinking more than 4A peak current for low switching losses
- Three-state PWM input for output stage shutdown
- V_{CC} under-voltage protection
- Lead-free (RoHS compliant) SOIC and DFN packages



Smart Ballast Controller

Smart Ballast Control IC's from Infineon integrate all of the lamp start, run and protection features required by current and future Fluorescent Lamp Ballasts. Digital Mixed Signal Power Control is employed enabling speedy, cost effective and stable ballast designs with the minimum of external components. Reliable and robust high voltage isolation is achieved using Infineon's proprietary Coreless Transformer Technology (CLT).

- Integrated High Performance PFC Stage
- Intelligent Digital/Mixed Signal Power Control
- Integrated High Voltage Half Bridge Driver
- All Parameters set using only resistors
- Highly accurate timing and frequency control over a wide temperature range

Feature Comparison 1st & 2nd Generation Smart Ballast Controllers

Feature	Benefit	ICB2FL01 G	ICB1FL02 G
Stable operation during ignition even close to magnetic saturation of the resonant choke.	Reduced Lamp Choke Size (BOM costs)	✓	–
Special In-circuit test mode for faster test time.	Dramatically reduced time for key tests such as End of Life detection, preheat / Ignition Timeout and Pre Run operation modes	✓	–
Separate adjustable levels of Lamp Overload and Rectifier Effect detection.	Enables Ballast compatibility with a wider range of lamp types. Enhanced functionality with series connected lamps	✓	Fixed
Adjustment of the preheat time	Flexible support of both Current and Voltage mode pre-heating	0-2500ms	0–2000ms
No High Voltage Capacitor required for detection of Lamp removal (Capacitive mode operation)	Reduced BOM costs	✓	–
Intelligent discrimination between Surge & EOL events	Lamp can automatically restart following surge events without compromising End of Life event handling	✓	–
Skipped preheating when line interruption < 500ms.	Meets standards for emergency lighting (according to DIN VDE 0108)	✓	–
Excellent dynamic PFC performance enables very low THD across wide load ranges	Suitable for Dimming & Multi Power Ballasts	✓	–
Self adapting Dead Time adjustment of the Half Bridge driver.	Eases design of Multi-Power Ballasts and reduces EMI	✓	Fixed
One single restart at fault mode	Enhanced reliability of ballast	✓	–



ICB2FL01 G

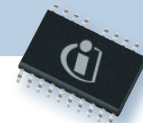
Smart Ballast Controller ICB2FL01 G is designed to control a Fluorescent Lamp Ballast including

- Discontinuous Conduction Mode Power Factor Correction (PFC)
- Lamp Inverter Control and
- High Voltage Level-Shift Half Bridge Driver with Corless Transformer Technology in one package

Product Highlights

- Critical Conduction Mode PFC with overcurrent and overvoltage protection and internal loop compensation
- Adjustable End-of-Life Detection in Multi Lamp Topologies and detection of Capacitive Mode Operation
- Improved Reliability and Minimized Spread due to Digital and optimized Analog Control Functions
- Meets Emergency Lighting Standards
- Suitable for Dimming
- Improved Ignition Control for an operation close to the magnetic saturation
- Improved THD and Harmonic Distortion for Low Power Application in DCM

Short Form Data	min.	typ.	max.
Package	SO-19		
Operating Voltage Range	10V	–	17.5V
Turn-on Threshold	–	14V	
Supply Current during UVLO and Fault Mode	–	110µA	170µA
Operating Frequency of Inverter during RUN Mode	20kHz	–	120kHz
Operating Frequency of Inverter during Preheating Mode	F_{RFRUN}	–	150kHz
Preheating Time	0ms	–	2500ms
Adjustable Self-adapting Deat Time max between LS and HS Gate Drive	2.25µs	2.50µs	2.75µs
Adjustable Self-adapting Deat Time min between LS and HS Gate Drive	1.00µs	1.25µs	1.50µs
Operating Voltage Range of floating HS Gate Drive	-900V	–	+900V
LS Current Limitation Threshold: Ignition/Start up/Soft Start/Pre Run	1.5V	1.6V	1.7V
LS Current Protection Threshold during RUN Mode and Preheating	0.75V	0.80V	0.85V
End-of-Life Detection Threshold	-40µA	–	+40µA
Detection of Non-ZVS Operation CapMode 1 & 2	–	–	–
PFC Preconverter Control with Cirtical and Discontinuous CM	–	–	–
Maximum Controlled On-time	18µs	22.7µs	26µs
Hysteresis of Zero Current Detector	–	1.0V	–
PFC Current Limitation Threshold	–	1.0V	–
Reference Voltage for Control of Bus Voltage	2.47V	2.5V	2.53V
Overvoltage Detection Threshold	2.68V	2.73V	2.78V
Undervoltage Detection Threshold	1.835V	1.88V	1.915V
Open Loop Detection	0.237V	0.31V	0.387V
Junction Operating Temperature Range	-25°C	–	+125°C
Pb-free Lead Plating RoHS Compliant	–	–	–



ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

Smart Ballast Controller

ICB2FL01 G

Features

- Special In-circuit test mode
- Enhanced dynamic PFC performance over wide load range
- Separate adjustable levels of Lamp Overload and Rectifier Effect detection
- Intelligent discrimination between Surge & Lamp End of Life (EOL) events
- Parameters set with resistors only
- Drives up to 4 lamps with few external components
- Adjustable lamp EOL & fault detection modes
- Automatic dead-time control of Half Bridge Driver
- Highly accurate timing and frequency control over wide temperature range (-25 to +125°C)

Benefits

- Having the time for key tests such as End of Life detection and preheat operation modes
- Very suitable for Dimming & Multi-Power Ballasts
- Enables Ballast compatibility with a wider range of lamp types. Enhanced functionality with series connected lamps
- Lamp can automatically restart following surge events and correctly handle EOL events
- Improved ballast stability and reduced system cost
- Reduced complexity & system costs
- Enables ballast compatibility with a wider range of lamps
- Eases design of Multi-Power ballasts and reduces EMI
- Reliable, stable ballast designs

ICB2FL02 G

The ICB2FL02 G is functionality identical to the ICB2FL01 G with adjustments to certain timings and parameters to further optimize performance in dimming ballasts.

Function	ICB2FL02G	ICB2FL01G
Cap load 1 protection	Deactivated	Activated
Suitable for Dimming	Optimized	Yes
Max adjustable run frequency	max. 140kHz	max. 120kHz
Adjustable dead time	1.05µs to 2.0µs	1.25µs to 2.5µs
Dead time detector level	-50mV	-100mV
Capacitive mode 2 detector level 3	-50mV	-100mV

ICB1FL02 G

Smart Ballast Controller ICB1FL02 G is designed to control a Fluorescent Lamp Ballast including

- Discontinuous Conduction Mode Power Factor Correction (PFC)
- Lamp Inverter Control and
- High Voltage Level-Shift Half Bridge Driver with Coreless Transformer Technology in one package

Product Highlights

- Critical conduction mode PFC with overcurrent and overvoltage protection and internal loop compensation
- End-of-life detection in multilamp topologies and detection of capacitive mode operation in T5 designs
- Improved reliability and minimized spread due to digital and optimized analog control functions

Short Form Data	min.	typ.	max.
Package	SO-18		
Operating Voltage Range	10.5V	–	17V
Turn-on Threshold	–	14V	–
Supply Current during UVLO and Fault Mode	–	–	150µA
Operating Frequency of Inverter during Run Mode	20kHz	–	100kHz
Operating Frequency of Inverter during Preheating Mode	F_{RERUN}	–	150kHz
Preheating Time	0ms	–	2000ms
Dead Time between LS and HS Gate drive	–	1750ns	–
Operating Voltage Range of floating HS Gate Drive	-900V	–	+900V
LS Current Limitation Threshold during Ignition	–	0.8V	–
LS Current Protection Threshold	–	1.6V	–
End-of-Life Detection Threshold	-230µA	–	+230µA
Amplitude Ratio for Detection of Rectifier Effect	0.85	–	1.15
Detection of Non-ZVS Operation CapMode 1 & 2	–	–	–
PFC Preconverter Control with Critical and Discontinuous CM	–	–	–
Maximum Controlled On-time	–	23.5µs	–
Hysteresis of Zero Current Detector	–	1V	–
PFC Current Limitation Threshold	–	1V	–
Reference Voltage for Control of Bus Voltage	2.47V	2.50V	2.53V
Overvoltage Detection Threshold	–	2.75V	–
Undervoltage Detection Threshold	–	1.83V	–
Open Loop Detection	–	0.375V	–
Junction Operating Temperature Range	-25°C	–	+125°C
Pb-free Lead Plating; RoHS compliant	–	–	–

ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

PFC and Combo Controller

ICE1CS02

High-performance Power Combi Controller

PFC Section

- Average Current Control without direct sine wave reference signal sensing
- Adjustable Soft-Start
- Enhanced Dynamic Response
- Enhanced protection features: Adjustable brownout Protection, Open-loop & Peak current limitation, Independent OVP

PWM Section

- Built in soft-start
- Adjustable maximum duty ratio (49%/65%)
- Pre-short protection and brownout protection

Overall

- Internal & External Synchronization for PFC & PWM
- Higher gate driving capability (+2A/-1.5A)

ICE1PCS01/ICE2PCS01/05

Stand-alone Power Factor Correction (PFC) Controller in Continuous Conduction Mode

- Easy to use with very few external components
- Average current control
- Programmable operating frequency:
 - 50 to 250kHz for ICE1PCS01
 - 20 to 250kHz for ICE2PCS05
- Unique set of protection features including brown-out protection and boost diode protection
- Precise internal reference voltage
- Unique soft-start
- Enhanced dynamic response
- Leading edge modulation

ICE1PCS02/ICE2PCS02/03/04

Additional features to ICE1PCS01

- Brown out protection
- Fixed Frequency

TDA4862

Power Factor Controller (PFC) IC for High-power Factor and Active Harmonic Filter

- IC for sinusoidal line-current consumption
- Power factor approaching 1
- Controls boost converter as an active harmonics filter
- Internal start-up with low current consumption
- Zero current detector for discontinuous operation mode
- High current totem pole gate driver
- Trimmed $\pm 1.4\%$ internal reference
- Undervoltage lock out with hysteresis
- Very low start-up current consumption
- Pin compatible with world standard
- Output overvoltage protection
- Current sense input with internal low pass filter
- Totem pole output with active shutdown during UVLO
- Junction temperature range -40 to +150°C
- Available in DIP-8 and SO-8 packages

TDA4863/TDA4863-2

Power Factor Controller IC for High-power Factor and Low THD Additional Features to TDA4862

- Reduced tolerance of signal levels
- Improved light load behavior
- Open loop protection
- Current sense input with leading edge blanking LEB
- Undervoltage protection

TDA16888

High-performance Power Combi Controller

PFC Section

- IEC 1000-3 compliant
- Additional operation mode as auxiliary power supply
- Fast, soft switching totem pole gate drive (1A)
- Leading edge triggered pulse width modulation
- Peak current limitation
- Continuous/discontinuous mode possible
- 94% maximum duty cycle

PWM Section

- Improved current mode control
- Fast, soft switching totem pole gate drive (1A)
- Soft-start management
- Topologies are forward or fly back
- 50% maximum duty cycle

Driver ICs

EiceDRIVER™ 600V and 1200V Gate Driver ICs

1ED020I12-F(A)

- 1200V Single Channel Isolated Gate Driver IC
- Automotive Qualified (-FA)
 - Galvanic Isolation acc. UL1577, IEC60747-5-2
 - Excellent performance in high ambient temperature and harsh EMI capability
 - No performance degradation overtime and temperature (vs.optocouplers)
 - Isolated Feedback status outputs
 - 2A rail-to-rail output
 - 150°C T_{jmax}
 - Fast switching speed
 - Protection features:
 - V_{CEsat} -detection
 - Active Miller Clamp
 - UVLO
 - Active shutdown
 - Watchdog timer

1ED020I12-FTA

- 2 Level Turn Off
- Automotive Qualified

2ED020I06-FI

- 600V Half-Bridge Driver
- Galvanic isolation on high-side driver
 - Extremely robust to neagtive transient voltages
 - Gate Driver currents of 1A/-2A
 - Interlocking inputs

2ED020I12-FI

- 1200V Half-Bridge Gate Driver IC
- 1200V Galvanic Isolation on high-side driver
 - Lower power losses compared to junction isolated ICs.
 - Gate drive currents of +1A/-2A
 - Tolerant to negative transient voltages
 - High EMI immunity
 - Integrated Op-Amp and comparator for current measurement and overcurrent detection.
 - Interlocking inputs

6ED003L02-F

- 200V 3-Phase Gate Driver IC
- Excellent ruggedness to negative transient voltages up to -50V
 - Smaller package (TSSOP-28)

6ED003L06-F

- 600V 3-Phase Gate Driver IC
- Excellent ruggedness to negative transient voltages up to -50V due to Silicon-On-Insulator (SOI) technology
 - Cross conduction prevention
 - Overcurrent protection and shut-down of all switches during error conditions
 - Programmable restart after overcurrent detection
 - High system reliability
 - Reduced component count



ISOFACE™ Driver and Power Switch for Automation

IISO1H801G / ISO1H802G

ISO1H811G / ISO1H812G

ISO1H815G / ISO1H816G

8-Channel Isolated High-Side Driver

- The one and only complete system integration of logic, isolation and power in the world
- No degradation over time and temperature compared to optocouplers
- Input 3.3/5V CMOS compatible
- Up to 1.2A Output current/channel possible
- Direct connection to μC with parallel or serial interface available
- Direct control mode
- High common mode transient immunity
- Short circuit protection
- Maximum current internally limited
- Overload protection
- Output voltage clamp for switching inductive loads
- 150°C Operating Junction Temperature
- 500V Isolation
- Common output disable pin
- Thermal shutdown with restart
- Common diagnostic output for over temperature
- Loss of GND_{bb} and loss of V_{bb} protection
- UL certification of compliance to UL 508
- VDE approval according to EN 60664

ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

CoolSET™

ICE2A and ICE2B Series

Off-line SMPS Controller with 650V/800V CoolMOS™ on Board

(High Protection & Energy Saving Solution)

- 650V or 800V avalanche rugged CoolMOS™
- Typical $R_{DS(on)} = 0.45 \dots 4.7\Omega$ at $T_j = 25^\circ\text{C}$

General Features

- Frequency reduction for lowest standby power (below 1W) to meet European requirements 100kHz/67kHz switching frequency
- Internal leading edge blanking
- Modulated gate drive for soft switching
- High peak power accuracy
- DIP-7, DIP-8 or TO-220, I²PAK, FullPAK package

ICE3A and ICE3B Series

Off-line SMPS Controller with 650V CoolMOS™ on Board (High Protection & Energy Saving Solution)

- Typical $R_{DS(on)} = 0.65 \dots 6.45\Omega$ at $T_j = 25^\circ\text{C}$

Additional Features to ICE2A and ICE2B Series

- Startup cell
- Active burst mode
- Lowest standby power < 0.1W
- Adjustable blanking window for load jump
- Latch off mode protection (for L, LJ and ELJ versions)
- Frequency jittering (for J, LJ and ELJ versions)
- Latch enable pin (for LJ and ELJ versions)

ICE3BR Series

Off-line SMPS Controller with 650V CoolMOS™ on Board (High Protection & Energy Saving Solution)

- Typical $R_{DS(on)} = 0.59 \sim 4.7\Omega$ at $T_j = 25^\circ\text{C}$

Additional Features to ICE3A and ICE3B Series

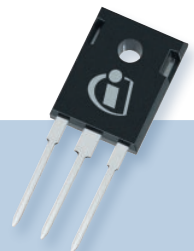
- Built-in soft start
- Auto-restart protection
- Frequency jittering
- Auto-restart enable pin



MOSFETs

TO-247

Voltage	$R_{DS(on)}$ (max.) [mΩ]	$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$					
500V	70	2.1 ... 3.9	52.0	290	SPW52N50C3	CoolMOS™C3
	110	2.1 ... 3.9	32.0	170	SPW32N50C3	CoolMOS™C3
	140	2.5 ... 3.5	23.0	48	IPW50R140CP	CoolMOS™CP
	190	2.1 ... 3.9	21.0	95	SPW21N50C3	CoolMOS™C3
	199	2.5 ... 3.5	17.0	34	IPW50R199CP	CoolMOS™CP
	250	2.5 ... 3.5	13.0	27	IPW50R250CP	CoolMOS™CP
	280	2.1 ... 3.9	16.0	66	SPW16N50C3	CoolMOS™C3
	299	2.5 ... 3.5	12.0	23	IPW50R299CP	CoolMOS™CP
	350	2.5 ... 3.5	10.0	19	IPW50R350CP	CoolMOS™CP
	380	2.1 ... 3.9	11.6	49	SPW12N50C3	CoolMOS™C3
	399	2.5 ... 3.5	9.0	17	IPW50R399CP	CoolMOS™CP
600V	45	2.5 ... 3.5	60.0	150.0	IPW60R045CP	CoolMOS™CP
	70	2.1 ... 3.9	47.0	252.0	ISPW47N60C3	CoolMOS™C3
	70	2.5 ... 3.5	53.0	170.0	IPW60R070C6	CoolMOS™C6
	75	2.5 ... 3.5	39.0	86.0	IPW60R075CP	CoolMOS™CP
	80	3.0 ... 5.0	46.0	248.0	SPW47N60CFD	CoolMOS™CFD
	99	2.5 ... 3.5	31.0	60.0	IPW60R099CP	CoolMOS™CP
	99	2.5 ... 3.5	38.0	119.0	IPW60R099C6	CoolMOS™C6
	100	2.1 ... 3.9	34.6	150.0	SPW35N60C3	CoolMOS™C3
	115	3.0 ... 5.0	34.1	163.0	SPW35N60CFD	CoolMOS™CFD
	125	2.5 ... 3.5	25.0	53.0	IPW60R125CP	CoolMOS™CP
	125	2.5 ... 3.5	30.0	96.0	IPW60R125C6	CoolMOS™C6
	160	2.1 ... 3.9	24.3	104.9	SPW24N60C3	CoolMOS™C3
	160	2.5 ... 3.5	23.8	75.0	IPW60R160C6	CoolMOS™C6
	165	2.5 ... 3.5	21.0	39.0	IPW60R165CP	CoolMOS™CP
	185	3.0 ... 5.0	21.7	110.0	SPW24N60CFD	CoolMOS™CFD
	190	2.1 ... 3.9	20.7	87.0	SPW20N60C3	CoolMOS™C3
	190	2.5 ... 3.5	20.2	58.0	IPW60R190C6	CoolMOS™C6
	199	2.5 ... 3.5	16.0	33.0	IPW60R199CP	CoolMOS™CP
	220	3.0 ... 5.0	20.7	95.0	SPW20N60CFD	CoolMOS™CFD
	250	2.5 ... 3.5	12.0	26.0	IPW60R250CP	CoolMOS™CP
	280	2.1 ... 3.9	15.0	63.0	SPW15N60C3	CoolMOS™C3
	280	2.5 ... 3.5	13.8	43.0	IPW60R280C6	CoolMOS™C6
	299	2.5 ... 3.5	11.0	22.0	IPW60R299CP	CoolMOS™CP
	330	3.0 ... 5.0	13.4	63.0	SPW15N60CFD	CoolMOS™CFD
	380	2.1 ... 3.9	11.0	45.0	SPW11N60C3	CoolMOS™C3
	380	2.5 ... 3.5	tbd	tbd	IPW60R380C6	CoolMOS™C6
440	3.0 ... 5.0	11.0	48.0	SPW11N60CFD	CoolMOS™CFD	
700	3.0 ... 5.0	6.6	35.0	SPW07N60CFD	CoolMOS™CFD	





TO-247

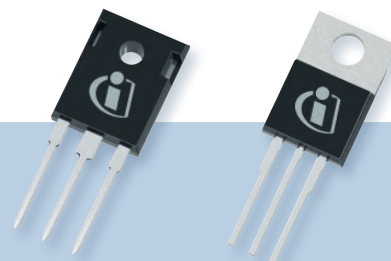
Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$						
650V	37		tbd	tbd	tbd	IPW65R037C6 ²⁾	CoolMOS™C6
	70		2.1 ... 3.9	47.0	252.0	SPW47N65C3	CoolMOS™C3
	70		tbd	tbd	tbd	IPW65R070C6 ¹⁾	CoolMOS™C6
	99		tbd	tbd	tbd	IPW65R099C6 ²⁾	CoolMOS™C6
	190		tbd	tbd	tbd	IPW65R190C6 ²⁾	CoolMOS™C6
800V	280		tbd	tbd	tbd	IPW65R280C6 ¹⁾	CoolMOS™C6
	290		2.1 ... 3.9	17.0	91	SPW17N80C3	CoolMOS™C3
800V	450		2.1 ... 3.9	11.0	50	SPW11N80C3	CoolMOS™C3
	900V	120		2.5 ... 3.5	36.0	260	IPW90R120C3
340			2.5 ... 3.5	15.0	93	IPW90R340C3	CoolMOS™C3
500			2.5 ... 3.5	10.0	67	IPW90R500C3	CoolMOS™C3
800			2.5 ... 3.5	6.7	42	IPW90R800C3	CoolMOS™C3
1000			2.5 ... 3.5	5.8	34	IPW90R1K0C3	CoolMOS™C3
1200			2.5 ... 3.5	5.1	29	IPW90R1K2C3	CoolMOS™C3

TO-247 MAX

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$						
650V	19		tbd	tbd	tbd	IPY019R019C6 ²⁾	CoolMOS™C6

TO-220

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
-100V	200	270	-2.0 ... -1.0	-15.0	-47	SPP15P10PL G	planar
	240		-4.0 ... -2.1	-15	-37	SPP15P10P G	planar
-60V	23		-4.0 ... -2.1	-80	-115	SPP80P06P	planar
	23		-4.0 ... -2.1	-80	-115	SPP80P06P G	
	130		-4.0 ... -2.1	-18.6	-22	SPP18P06P	planar
	130		-4.0 ... -2.1	-18.6	-22	SPP18P06P G	
	300		-4.0 ... -2.1	-8.8	-10	SPP08P06P	planar
	300		-4.0 ... -2.1	-8.8	-10	SPP08P06P G	

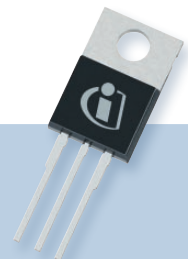


1) Available, Q2/2010
2) Available, Q3/2010

MOSFETs

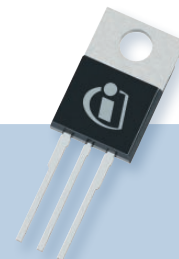
TO-220

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
30V	3.4	4.7	1.0 ... 2.2	80	25.0	IPP034N03L G	OptiMOS™
	4.2	6.0	1.2 ... 2.2	80	18.0	IPP042N03L G	OptiMOS™
	5.5	7.8	1.2 ... 2.2	50	15.0	IPP055N03L G	OptiMOS™
	6.5	9.5	1.0 ... 2.2	50	11.0	IPP065N03L G	OptiMOS™
	8.0	11.8	1.2 ... 2.2	50	9.7	IPP080N03L G	OptiMOS™
	9.6	14.1	1.0 ... 2.2	35	7.0	IPP096N03L G	OptiMOS™
	11.4	16.4	2.0 ... 2.2	30	7.0	IPP114N03L G	OptiMOS™
	14.7	21.7	1.0 ... 2.2	20	5.0	IPP147N03L G	OptiMOS™
40V	1.5		2.0 ... 4.0	120	188	IPP015N04N G	OptiMOS™
	2.3		2.0 ... 4.0	90	90	IPP023N04N G	OptiMOS™
	4.1		2.0 ... 4.0	80	42	IPP041N04N G	OptiMOS™
	4.8		2.0 ... 4.0	80	28	IPP048N04N G	OptiMOS™
	5.2	3.9	1.2 ... 2.0	80	28	IPP039N04L G	OptiMOS™
	6.5		2.0 ... 4.0	75	24	IPP065N04N G	OptiMOS™
60V	2.4		2.0 ... 4.0	120	206	IPP024N06N3 G	OptiMOS™
	3.2		2.0 ... 4.0	120	124	IPP032N06N3 G	OptiMOS™
	3.7	5.7	1.2 ... 2.2	90	59	IPP037N06L3 G	OptiMOS™
	4.0		2.0 ... 4.0	90	98	IPP040N06N3 G	OptiMOS™
	4.7	5.7	1.2 ... 2.0	100	169	IPP048N06L G	OptiMOS™
	5.0		2.1 ... 4.0	100	126	IPP050N06N G	OptiMOS™
	5.2	8.3	1.2 ... 2.0	80	320	IPP052N06L3 G	OptiMOS™
	5.7		2.0 ... 4.0	80	61	IPP057N06N3 G	OptiMOS™
	6.5	8.4	1.2 ... 2.0	80	118	IPP065N06L G	OptiMOS™
	7.0	10.0	1.2 ... 2.0	80	95	IPP070N06L G	OptiMOS™
	7.0		2.1 ... 4.0	80	89	IPP070N06N G	OptiMOS™
	8.0		2.1 ... 4.0	80	70	IPP080N06N G	OptiMOS™
	8.4	14.3	1.2 ... 2.0	50	200	IPP084N06L3 G	OptiMOS™
	8.5	12.0	1.2 ... 2.0	80	78	IPP085N06L G	OptiMOS™
	9.1		2.1 ... 4.0	80	61	IPP091N06N G	OptiMOS™
	9.3		2.0 ... 4.0	50	36	IPP093N06N3 G	OptiMOS™
	11.3	15.0	1.2 ... 2.0	78	59	IPP110N06L G	OptiMOS™
	12.0		2.1 ... 4.0	75	46	IPP120N06N G	OptiMOS™
23.0	40.8	1.2 ... 2.0	30	120	IPP230N06L3 G	OptiMOS™	
26.0		2.0 ... 4.0	27	11	IPP260N06N3 G	OptiMOS™	
75V	2.3		2.2 ... 3.8	80	52	IPP023NE7N3 G	OptiMOS™
	3.4		2.2 ... 3.8	100	155	IPP034NE7N3 G	OptiMOS™
	5.2		2.2 ... 3.8	80	52	IPP052NE7N3 G	OptiMOS™3



TO-220

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
80V	2.8		2.0 ... 3.5	100	155	IPP028N08N3 G	OptiMOS™
	3.7		2.0 ... 3.5	100	88	IPP037N08N3 G	OptiMOS™
	5.7		2.0 ... 3.5	80	52	IPP057N08N3 G	OptiMOS™
	7.0		2.0 ... 3.5	80	42	IPP070N08N3 G	OptiMOS™
	10.0		2.0 ... 3.5	70	26	IPP100N08N3 G	OptiMOS™
	13.9		2.0 ... 3.5	45	19	IPP139N08N3 G	OptiMOS™
100V	3.0		2.0 ... 3.5	100	155	IPP030N10N3 G	OptiMOS™
	4.2		2.0 ... 4.0	100	158	IPP04CN10N G	OptiMOS™
	4.5		2.0 ... 3.5	100	88	IPP045N10N3 G	OptiMOS™
	5.1	6.4	1.2 ... 2.4	100	163	IPP05CN10L G	OptiMOS™
	5.4		2.0 ... 4.0	100	136	IPP05CN10N G	OptiMOS™
	6.2	7.9	1.2 ... 2.4	100	124	IPP06CN10L G	OptiMOS™
	6.5		1.2 ... 2.4	100	104	IPP06CN10N G	OptiMOS™
	7.2		2.0 ... 3.5	80	51	IPP072N10N3 G	OptiMOS™
	8.0	10.4	1.2 ... 2.4	98	90	IPP08CN10L G	OptiMOS™
	8.5		2.0 ... 4.0	95	75	IPP08CN10N G	OptiMOS™
	8.6		2.0 ... 3.5	80	42	IPP086N10N3 G	OptiMOS™
	12.0	15.8	1.2 ... 2.4	69	58	IPP12CN10L G	OptiMOS™
	12.6		2.0 ... 3.5	58	26	IPP126N10N3 G	OptiMOS™
	12.9		2.0 ... 4.0	67	49	IPP12CN10N G	OptiMOS™
	15.7	20.8	1.2 ... 2.4	54	44	IPP16CN10L G	OptiMOS™
	16.5		2.0 ... 4.0	53	36	IPP16CN10N G	OptiMOS™
	18.0		2.0 ... 3.5	43	19	IPP180N10N3 G	OptiMOS™
	26.0		2.0 ... 4.0	35	23	IPP26CN10N G	OptiMOS™
35.0		2.0 ... 4.0	27	18	IPP35CN10N G	OptiMOS™	
50.0		2.0 ... 4.0	20	12	IPP50CN10N G	OptiMOS™	
80.0		2.0 ... 4.0	13	8	IPP80CN10N G	OptiMOS™	
120V	4.1		2.0 ... 6.0	120	137	IPP041N12N3 G	OptiMOS™
	4.8		2.0 ... 4.0	100	137	IPP048N12N3 G	OptiMOS™
	7.6		2.0 ... 4.0	100	76	IPP076N12N3 G	OptiMOS™
	11.4		2.0 ... 4.0	75	49	IPP114N12N3 G	OptiMOS™
	14.7		2.0 ... 4.0	59	49	IPP147N12N3 G	OptiMOS™
150V	7.5		2.0 ... 4.0	100	23	IPP075N15N3 G	OptiMOS™
	11.1		2.0 ... 4.0	83	41	IPP111N15N3 G	OptiMOS™
	20.0		2.0 ... 4.0	50	70	IPP200N15N3 G	OptiMOS™
	53.0		2.0 ... 4.0	21	8.7	IPP530N15N3 G	OptiMOS™



ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

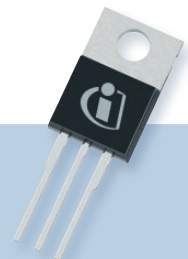
Packages

Type List

MOSFETs

TO-220

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
200V	11		2.0 ... 4.0	88.0	65.0	IPP110N20N3 G	OptiMOS™
	32		2.0 ... 4.0	34.0	22.0	IPP320N20N3 G	OptiMOS™
	130		2.1 ... 4.0	21.0	65.0	BUZ30	planar
	200		2.1 ... 4.0	14.5	52.0	BUZ31	planar
	400		2.1 ... 4.0	9.5	25.0	BUZ32	planar
	400		2.1 ... 4.0	7.0	24.5	BUZ73	planar
	600		2.1 ... 4.0	5.5	25.0	BUZ73 E3046	planar
		200	1.2 ... 2.0	13.5	92.0	BUZ31L	planar
	400	1.2 ... 2.0	7.0	56.0	BUZ73L	planar	
250V	20		2.0 ... 4.0	64	64	IPP200N25N3 G	OptiMOS™
	60		2.0 ... 4.0	25	22	IPP600N25N3 G	OptiMOS™
500V	140		2.5 ... 3.5	23.0	48.0	IPP50R140CP	CoolMOS™CP
	190		2.1 ... 3.9	21.0	95.0	SPP21N50C3	CoolMOS™C3
	199		2.5 ... 3.5	17.0	33.0	IPP50R199CP	CoolMOS™CP
	250		2.5 ... 3.5	13.0	27.0	IPP50R250CP	CoolMOS™CP
	280		2.1 ... 3.9	16.0	66.0	SPP16N50C3	CoolMOS™C3
	299		2.5 ... 3.5	12.0	23.0	IPP50R299CP	CoolMOS™CP
	350		2.5 ... 3.5	10.0	19.0	IPP50R350CP	CoolMOS™CP
	380		2.1 ... 3.9	11.6	49.0	SPP12N50C3	CoolMOS™C3
	399		2.5 ... 3.5	9.0	17.0	IPP50R399CP	CoolMOS™CP
	520		2.5 ... 3.5	7.1	13.0	IPP50R520CP	CoolMOS™CP
	600		2.1 ... 3.9	7.6	32.0	SPP08N50C3	CoolMOS™C3
950		2.1 ... 3.9	4.5	22.0	SPP04N50C3	CoolMOS™C3	
600V	99		2.5 ... 3.5	31.0	60.0	IPP60R099CP	CoolMOS™CP
	99		2.5 ... 3.5	38.0	119.0	IPP60R099C6	CoolMOS™C6
	125		2.5 ... 3.5	25.0	53	IPP60R125CP	CoolMOS™CP
	125		2.5 ... 3.5	30.0	96.0	IPP60R125C6	CoolMOS™C6
	160		2.1 ... 3.9	24.3	104.9	SPP24N60C3	CoolMOS™C3
	160		2.5 ... 3.5	23.8	75.0	IPP60R160C6	CoolMOS™C6
	165		2.5 ... 3.5	21.0	39	IPP60R165CP	CoolMOS™CP
	185		3.0 ... 5.0	21.7	67.0	SPP24N60CFD	CoolMOS™CFD
	190		2.1 ... 3.9	20.7	87.0	SPP20N60C3	CoolMOS™C3
	190		2.5 ... 3.5	20.2	58.0	IPP60R190C6	CoolMOS™C6
	199		2.5 ... 3.5	16.0	33	IPP60R199CP	CoolMOS™CP
	220		3.0 ... 5.0	20.7	95	SPP20N60CFD	CoolMOS™CFD
	250		2.5 ... 3.5	12.0	26.0	IPP60R250CP	CoolMOS™CP
	280		2.1 ... 3.9	15.0	63.0	SPP15N60C3	CoolMOS™C3
	280		2.5 ... 3.5	13.8	43.0	IPP60R280C6	CoolMOS™C6
	299		2.0 ... 3.5	11.0	22.0	IPP60R299CP	CoolMOS™CP
	330		3.0 ... 5.0	13.4	70.0	SPP15N60CFD	CoolMOS™CFD
380		2.1 ... 3.9	11.0	45.0	SPP11N60C3	CoolMOS™C3	

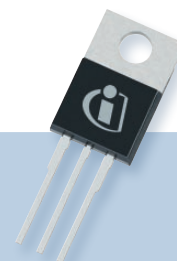




TO-220

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
600V	380		2.5 ... 3.5	10.6	32.0	IPP60R380C6	CoolMOS™C6
	385		2.5 ... 3.5	9.0	17.0	IPP60R385CP	CoolMOS™CP
	440		3.0 ... 5.0	11.0	48.0	SPP11N60CFD	CoolMOS™CFD
	450		2.5 ... 3.5	tbd	tbd	IPP60R450C6	CoolMOS™C6
	520		2.5 ... 3.5	6.8	24.0	IPP60R520CP	CoolMOS™CP
	520		2.5 ... 3.5	8.1	23.4	IPP60R520C6	CoolMOS™C6
	600		2.5 ... 3.5	6.1	21.0	IPP60R600CP	CoolMOS™CP
	600		2.1 ... 3.9	7.3	21.0	SPP07N60C3	CoolMOS™C3
	600		2.5 ... 3.5	7.3	20.5	IPP60R600C6	CoolMOS™C6
	700		3.0 ... 5.0	6.6	35.0	SPP07N60CFD	CoolMOS™CFD
	750		2.1 ... 3.9	6.2	24.0	SPP06N60C3	CoolMOS™C3
	750		2.5 ... 3.5	tbd	tbd	IPP60R750C6	CoolMOS™C6
	950		2.1 ... 3.9	4.5	19.0	SPP04N60C3	CoolMOS™C3
	950		2.5 ... 3.5	4.4	13.0	IPP60R950C6	CoolMOS™C6
	1200		2.5 ... 3.5	tbd	tbd	IPP60RaK2C6	CoolMOS™C6
	1400		2.1 ... 3.9	3.2	13.0	SPP03N60C3	CoolMOS™C3
1400		2.5 ... 3.5	tbd	tbd	IPP60RaK4C6	CoolMOS™C6	
3000		2.1 ... 3.9	1.8	9.5	SPP02N60C3	CoolMOS™C3	
650V	99		tbd	tbd	tbd	IPP65R099C6 ²⁾	CoolMOS™C6
	190		tbd	tbd	tbd	IPP65R190C6 ²⁾	CoolMOS™C6
	190		2.1 ... 3.9	20.7	87	SPP20N65C3	CoolMOS™C3
	280		tbd	tbd	tbd	IPP65R280C6 ¹⁾	CoolMOS™C6
	280		2.1 ... 3.9	15.0	63	SPP15N65C3	CoolMOS™C3
	380		tbd	tbd	tbd	IPP65R380C6 ¹⁾	CoolMOS™C6
	380		2.1 ... 3.9	11.0	45	SPP11N65C3	CoolMOS™C3
	600		tbd	tbd	tbd	IPP65R600C6 ¹⁾	CoolMOS™C6
600		2.1 ... 3.9	7.3	21	SPP07N65C3	CoolMOS™C3	
800V	290		2.1 ... 3.9	17	91	SPP17N80C3	CoolMOS™C3
	450		2.1 ... 3.9	11	50	SPP11N80C3	CoolMOS™C3
	650		2.1 ... 3.9	8	40	SPP08N80C3	CoolMOS™C3
	900		2.1 ... 3.9	6	27	SPP06N80C3	CoolMOS™C3
	1300		2.1 ... 3.9	4	20	SPP04N80C3	CoolMOS™C3
	2700		2.1 ... 3.9	2	9	SPP02N80C3	CoolMOS™C3
900V	340		2.5 ... 3.5	15.0	93	IPP90R340C3	CoolMOS™C3
	500		2.5 ... 3.5	10.0	67	IPP90R500C3	CoolMOS™C3
	800		2.5 ... 3.5	6.7	42	IPP90R800C3	CoolMOS™C3
	1000		2.5 ... 3.5	5.8	34	IPP90R1K0C3	CoolMOS™C3
	1200		2.5 ... 3.5	5.1	29	IPP90R1K2C3	CoolMOS™C3

1) Available, Q2/2010
2) Available, Q3/2010



ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

MOSFETs

TO-220 FullPAK

Voltage	$R_{DS(on)}$ (max.) [mΩ]	$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$					
60V	3.2	2.0 ... 4.0	84	124	IPA032N06N3 G ¹⁾	OptiMOS™
	5.7	2.0 ... 4.0	60	61	IPA057N06N3 G ¹⁾	OptiMOS™
	9.3	2.0 ... 4.0	43	36	IPA093N06N3 G ¹⁾	OptiMOS™
80V	2.8	2.0 ... 3.5	89	155	IPA028N08N3 G	OptiMOS™
	3.7	2.0 ... 3.5	75	88	IPA037N08N3 G	OptiMOS™
	5.7	2.0 ... 3.5	60	52	IPA057N08N3 G	OptiMOS™
	10.0	2.0 ... 3.5	40	26	IPA100N08N3 G	OptiMOS™
100V	3.0	2.0 ... 3.5	79	155	IPA030N10N3 G	OptiMOS™
	4.5	2.0 ... 3.5	64	88	IPA045N10N3 G	OptiMOS™
	8.6	2.0 ... 3.5	45	42	IPA086N10N3 G	OptiMOS™
	12.6	2.0 ... 3.5	35	26	IPA126N10N3 G	OptiMOS™
	18.0	2.0 ... 3.5	28	19	IPA180N10N3 G	OptiMOS™
150V	10.5	2.0 ... 4.0	37	41	IPA105N15N3 G	OptiMOS™
500V	140	2.5 ... 3.5	23.0	48	IPA50R140CP	CoolMOS™CP
	190	2.1 ... 3.9	21.0	95	SPA21N50C3	CoolMOS™C3
	199	2.5 ... 3.5	17.0	34	IPA50R199CP	CoolMOS™CP
	250	2.5 ... 3.5	13.0	27	IPA50R250CP	CoolMOS™CP
	280	2.1 ... 3.9	16.0	66	SPA16N50C3	CoolMOS™C3
	299	2.5 ... 3.5	12.0	23	IPA50R299CP	CoolMOS™CP
	350	2.5 ... 3.5	10.0	19	IPA50R350CP	CoolMOS™CP
	380	2.1 ... 3.9	11.6	49	SPA12N50C3	CoolMOS™C3
	399	2.5 ... 3.5	9.0	17	IPA50R399CP	CoolMOS™CP
	520	2.5 ... 3.5	7.1	13	IPA50R520CP	CoolMOS™CP
	600	2.1 ... 3.9	7.6	32	SPA08N50C3	CoolMOS™C3
600V	99	2.5 ... 3.5	38.0	119.0	IPA60R099C6	CoolMOS™C6
	125	2.5 ... 3.5	25.0	53	IPA60R125CP	CoolMOS™CP
	125	2.5 ... 3.5	30.0	96.0	IPA60R125C6	CoolMOS™C6
	160	2.5 ... 3.5	23.8	75.0	IPA60R160C6	CoolMOS™C6
	165	2.5 ... 3.5	21.0	39	IPA60R165CP	CoolMOS™CP
	190	2.1 ... 3.9	20.7	87	SPA20N60C3	CoolMOS™C3
	190	2.5 ... 3.5	20.2	58.0	IPA60R190C6	CoolMOS™C6
	199	2.5 ... 3.5	16.0	33	IPA60R199CP	CoolMOS™CP
	220	3.0 ... 5.0	20.7	95	SPA20N60CFD	CoolMOS™CFD
	250	2.5 ... 3.5	12.0	26	IPA60R250CP	CoolMOS™CP
	280	2.1 ... 3.9	15.0	63	SPA15N60C3	CoolMOS™C3
	280	2.5 ... 3.5	13.8	43.0	IPA60R280C6	CoolMOS™C6
	299	2.5 ... 3.5	11.0	22	IPA60R299CP	CoolMOS™CP
	330	3.0 ... 5.0	13.4	63	SPA15N60CFD	CoolMOS™CFD

1) Coming soon



TO-220 FullPAK

Voltage	$R_{DS(on)}$ (max.) [mΩ]	$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$					
600V	380	2.1 ... 3.9	11.0	45	SPA11N60C3	CoolMOS™C3
	380	2.5 ... 3.5	10.6	32.0	IPA60R380C6	CoolMOS™C6
	385	2.5 ... 3.5	9.0	17	IPA60R385CP	CoolMOS™CP
	440	3.0 ... 5.0	11.0	48	SPA11N60CFD	CoolMOS™CFD
	450	2.5 ... 3.5	11.0	tbd	IPA60R450C6	CoolMOS™C6
	520	2.5 ... 3.5	6.8	24	IPA60R520CP	CoolMOS™CP
	520	2.5 ... 3.5	8.1	23.4	IPA60R520C6	CoolMOS™C6
	600	2.5 ... 3.5	6.1	21	IPA60R600CP	CoolMOS™CP
	600	2.1 ... 3.9	7.3	21	SPA07N60C3	CoolMOS™C3
	600	2.5 ... 3.5	7.3	20.5	IPA60R600C6	CoolMOS™C6
	700	3.0 ... 5.0	6.6	35	SPA07N60CFD	CoolMOS™CFD
	750	2.1 ... 3.9	6.2	24	SPA06N60C3	CoolMOS™C3
	750	2.5 ... 3.5	tbd	tbd	IPA60R750C6	CoolMOS™C6
	950	2.1 ... 3.9	4.5	19	SPA04N60C3	CoolMOS™C3
	950	2.5 ... 3.5	4.4	13	IPA60R950C6	CoolMOS™C6
1200	2.5 ... 3.5	tbd	tbd	IPA60R1K2C6	CoolMOS™C6	
1400	2.1 ... 3.9	3.2	13	SPA03N60C3	CoolMOS™C3	
650V	99	tbd	tbd	tbd	IPA65R099C6 ²⁾	CoolMOS™C6
	190	tbd	tbd	tbd	IPA190N65C6 ²⁾	CoolMOS™C6
	190	2.1 ... 3.9	20.7	87	SPA20N65C3	CoolMOS™C3
	280	tbd	tbd	tbd	IPA280N65C6 ¹⁾	CoolMOS™C6
	280	2.1 ... 3.9	15.0	63	SPA15N65C3	CoolMOS™C3
	380	tbd	tbd	tbd	IPA380N65C6 ¹⁾	CoolMOS™C6
	380	2.1 ... 3.9	11.0	45	SPA11N65C3	CoolMOS™C3
	600	tbd	tbd	tbd	IPA600N65C6 ¹⁾	CoolMOS™C6
600	2.1 ... 3.9	7.3	21	SPA07N65C3	CoolMOS™C3	
800V	290	2.1 ... 3.9	17	91	SPA17N80C3	CoolMOS™C3
	450	2.1 ... 3.9	11	50	SPA11N80C3	CoolMOS™C3
	650	2.1 ... 3.9	8	40	SPA08N80C3	CoolMOS™C3
	900	2.1 ... 3.9	6	27	SPA06N80C3	CoolMOS™C3
	1300	2.1 ... 3.9	4	20	SPA04N80C3	CoolMOS™C3
	2700	2.1 ... 3.9	2	9	SPA02N80C3	CoolMOS™C3
900V	340	2.5 ... 3.5	15.0	93	IPA90R340C3	CoolMOS™C3
	500	2.5 ... 3.5	10.0	67	IPA90R500C3	CoolMOS™C3
	800	2.5 ... 3.5	6.7	42	IPA90R800C3	CoolMOS™C3
	1000	2.5 ... 3.5	5.8	34	IPA90R1k0C3	CoolMOS™C3
	1200	2.5 ... 3.5	5.1	29	IPA90R1k2C3	CoolMOS™C3

- 1) Available, Q2/2010
2) Available, Q3/2010



ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

MOSFETs

D²PAK 7pin (TO-263 7pin)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
30V	0.95	1.3	1.0 ... 2.1	180	227	IPB009N03L G	OptiMOS™
40V	1.1	1.4	1.2 ... 2.0	180	260	IPB011N04L G	OptiMOS™
	1.1		2.0 ... 4.0	180	188	IPB011N04N G	OptiMOS™
	2.0		2.0 ... 4.0	140	90	IPB020N04N G	OptiMOS™
60V	1.6	2.7	1.2 ... 2.2	180	125	IPB016N06L3 G	OptiMOS™
	1.7		2.0 ... 4.0	180	206	IPB017N06N3 G	OptiMOS™
	2.3		2.0 ... 4.0	140	149	IPB023N06N3 G	OptiMOS™
	3.4		2.0 ... 4.0	100	98	IPB034N06N3 G	OptiMOS™
80V	1.9		2.0 ... 3.5	180	155	IPB019N08N3 G	OptiMOS™
	3.0		2.0 ... 3.5	160	88	IPB030N08N3 G	OptiMOS™
100V	2.5		2.0 ... 3.5	180	155	IPB025N10N3 G	OptiMOS™
	3.9		2.0 ... 3.5	160	88	IPB039N10N3 G	OptiMOS™
	6.9			tdb		IPB069N10N3 G	OptiMOS™
150V	6.5		2.0 ... 4.0	130	70	IPB065N15N3 G	OptiMOS™

D²PAK (TO-263)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
-60V	23.0		-4.0 ... -2.1	-80.0	-115	SPB80P06P G	planar
	130.0		-4.0 ... -2.1	-18.6	-22	SPB18P06P G	planar
	300.0		-4.0 ... -2.1	-8.8	-10	SPB08P06P G	planar
30V	0.95	1.3	1.0 ... 2.2	180	110	IPB009N03L G	OptiMOS™
	3.4	4.7	1.2 ... 2.0	80	25	IPB034N03L G	OptiMOS™
	5.5	7.8	1.2 ... 2.0	50	15	IPB055N03L G	OptiMOS™
	6.0	4.2	1.2 ... 2.0	70	18	IPB042N03L G	OptiMOS™
	6.5	9.5	1.2 ... 2.0	50	11	IPB065N03L G	OptiMOS™
	8.0	11.9	1.2 ... 2.0	50	9	IPB080N03L G	OptiMOS™
	9.6	14.1	1.2 ... 2.0	35	7	IPB096N03L G	OptiMOS™
	11.4	11.1	1.0 ... 2.2	30	66	IPB114N03L G	OptiMOS™
14.7	21.7	1.2 ... 2.0	20	5	IPB147N03L G	OptiMOS™	



D²PAK (TO-263)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_b [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
40V	1.1	1.4	1.2 ... 2.0	180	260	IPB011N04L G	OptiMOS™3
	1.1		2.0 ... 4.0	180	180	IPB011N04N G	OptiMOS™3
	1.5	1.8	1.2 ... 2.0	120	254	IPB015N04L G	OptiMOS™
	1.5		2.0 ... 4.0	120	188	IPB015N04N G	OptiMOS™
	2.0		2.0 ... 4.0	140	90	IPB020N04L G	OptiMOS™
	2.0		2.0 ... 4.0	140	90	IPB020N04N	OptiMOS™3
	2.2	2.9	1.2 ... 2.0	90	124	IPB022N04L G	OptiMOS™
	2.3		2.0 ... 4.0	90	90	IPB023N04N G	OptiMOS™
	3.9	5.2	1.2 ... 2.0	80	59	IPB039N04L G	OptiMOS™
	4.1		2.0 ... 4.0	80	42	IPB041N04N G	OptiMOS™
	5.2		2.0 ... 4.0	70	31	IPB052N04N G	OptiMOS™
7.5	10.5	1.2 ... 2.0	50	26	IPB075N04L G	OptiMOS™	
9.3	13.1	1.2 ... 2.0	50	21	IPB093N04L G	OptiMOS™	
60V	1.9	3	1.2 ... 2.2	120	125	IPB019N06L3 G	OptiMOS™
	2.1		2.0 ... 4.0	120	206	IPB021N06N3 G	OptiMOS™
	2.9		2.0 ... 4.0	120	124	IPB029N06N3 G	OptiMOS™
	3.4	5.4	1.2 ... 2.2	90	59	IPB034N06L3 G	OptiMOS™
	3.7		2.0 ... 4.0	90	98	IPB037N06N3 G	OptiMOS™
	4.4	5.4	1.2 ... 2.0	100	169	IPB048N06L G	OptiMOS™
	4.7		2.1 ... 4.0	100	126	IPB050N06N G	OptiMOS™
	4.8		1.2 ... 2.2	90	469	IPB048N06N3 G	OptiMOS™
	4.9	8.0	1.2 ... 2.2	80	37	IPB049N06L3 G	OptiMOS™
	5.0		2.0 ... 4.4	100	126	IPB050N06N3 G	OptiMOS™
	5.4		2.0 ... 4.0	80	61	IPB054N06N3 G	OptiMOS™
	6.5	8.1	1.2 ... 2.0	80	118	IPB065N06L G	OptiMOS™
	6.7	9.7	1.2 ... 2.0	80	95	IPB070N06L G	OptiMOS™
	7.0		2.1 ... 2.1	80	89	IPB070N06N G	OptiMOS™
	7.7		2.1 ... 4.0	80	70	IPB080N06N G	OptiMOS™
	8.1	14.0	1.2 ... 2.2	50	22	IPB081N06L3 G	OptiMOS™
	8.5	12.0	1.2 ... 2.0	80	78	IPB085N06L G	OptiMOS™
	9.0		2.0 ... 4.0	50	36	IPB090N06N3 G	OptiMOS™
	9.1		2.1 ... 4.0	80	61	IPB091N06N G	OptiMOS™
11.0	14.7	1.2 ... 2.0	78	59	IPB110N06L G	OptiMOS™	
11.7		2.1 ... 4.0	75	46	IPB120N06N G	OptiMOS™	
23.0	40.8	1.2 ... 2.2	30	7	IPB230N06L3 G	OptiMOS™	
26.0		2.0 ... 4.0	27	11	IPB260N06N3 G	OptiMOS™	
75V	2.0		2.0 ... 3.8	100	155	IPB020NE7N3 G	OptiMOS™3
	3.1		2.0 ... 3.8	100	88	IPB031NE7N3 G	OptiMOS™3
	4.9		2.0 ... 3.8	80	52	IPB049NE7N3 G	OptiMOS™3



MOSFETs

D²PAK (TO-263)

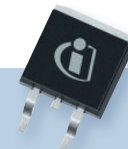
Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
80V	2.5		2.0 ... 3.5	120	155	IPB025N08N3 G	OptiMOS™
	3.5		2.0 ... 3.5	100	88	IPB035N08N3 G	OptiMOS™
	5.4		2.0 ... 3.5	80	52	IPB054N08N3 G	OptiMOS™
	6.7		2.0 ... 3.5	80	42	IPB067N08N3 G	OptiMOS™
	9.7		2.0 ... 3.5	70	260	IPB097N08N3 G	OptiMOS™
	13.6		2.0 ... 3.5	45	19	IPB136N08N3 G	OptiMOS™
100V	2.7		2.0 ... 3.5	120	155	IPB027N10N3 G	OptiMOS™3
	3.9		2.0 ... 4.0	100	158	IPB04CN10N G	OptiMOS™2
	4.2		2.0 ... 3.5	100	88	IPB042N10N3 G	OptiMOS™3
	5.1		2.0 ... 4.0	100	136	IPB05CN10N G	OptiMOS™2
	6.2		2.0 ... 4.0	100	104	IPB06CN10N G	OptiMOS™2
	8.2		2.0 ... 4.0	95	75	IPB08CN10N G	OptiMOS™2
	8.3		2.0 ... 3.5	80	42	IPB083N10N3 G	OptiMOS™3
	12.3		2.0 ... 3.5	58	26	IPB123N10N3 G	OptiMOS™3
	12.6		2.0 ... 4.0	67	49	IPB12CN10N G	OptiMOS™2
	16.2		2.0 ... 4.0	53	36	IPB16CN10N G	OptiMOS™2
	26.0		2.0 ... 4.0	35	23	IPB26CN10N G	OptiMOS™2
	34.0		2.0 ... 4.0	27	18	IPB34CN10N G	OptiMOS™2
	50.0		2.0 ... 4.0	20	12	IPB50CN10N G	OptiMOS™2
79.0		2.0 ... 4.0	13	8	IPB79CN10N G	OptiMOS™2	
120V	2.8		2.0 ... 6.0	120	158	IPB038N12N3 G	OptiMOS™3
	3.6		2.0 ... 5.0	180	158	IPB036N12N3 G	OptiMOS™3
	14.4		2.0 ... 4.0	60	49	IPB144N12N3 G	OptiMOS™3
150V	7.2		2.0 ... 4.0	100	70.0	IPB072N15N3 G	OptiMOS™3
	10.8		2.0 ... 4.0	83	41.0	IPB108N15N3 G	OptiMOS™
	20.0		2.0 ... 4.0	50	23.0	IPB200N15N3 G	OptiMOS™3
	53.0		2.0 ... 4.0	21	8.7	IPB530N15N3 G	OptiMOS™
200V	10.7		2.0 ... 4.0	88	65.0	IPB107N20N3 G	OptiMOS™
	32.0		2.0 ... 4.0	34	22.0	IPB320N20N3 G	OptiMOS™
	130		2.1 ... 4.0	21.0	65.0	BUZ30	planar
	200		2.1 ... 4.0	14.5	52.0	BUZ31	planar
	400		2.1 ... 4.0	9.5	24.0	BUZ32	planar
250V	20		2.0 ... 4.0	64	64	IPB200N25N3 G	OptiMOS™
	60		2.0 ... 4.0	25	22	IPB600N25N3 G	OptiMOS™



D²PAK (TO-263)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_b [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
500V	140		2.5 ... 3.5	23.0	48	IPB50R140CP	CoolMOS™CP
	190		2.1 ... 3.9	21.0	95	SPB21N50C3	CoolMOS™C3
	199		2.5 ... 3.5	17.0	34	IPB50R199CP	CoolMOS™CP
	250		2.5 ... 3.5	13.0	27	IPB50R250CP	CoolMOS™CP
	280		2.1 ... 3.9	16.0	66	SPB16N50C3	CoolMOS™C3
	299		2.5 ... 3.5	12.0	23	IPB50R299CP	CoolMOS™CP
	380		2.1 ... 3.9	11.6	49	SPB12N50C3	CoolMOS™C3
	950		2.1 ... 3.9	4.5	22	SPB04N50C3	CoolMOS™C3
600V	99		2.5 ... 3.5	31.0	60.0	IPB60R099CP	CoolMOS™CP
	99		2.5 ... 3.5	38.0	119.0	IPB60R099C6	CoolMOS™C6
	125		2.5 ... 3.5	25.0	53.0	IPB60R125CP	CoolMOS™CP
	125		2.5 ... 3.5	30.0	96.0	IPB60R125C6	CoolMOS™C6
	160		2.5 ... 3.5	23.8	75.0	IPB60R160C6	CoolMOS™C6
	165		2.5 ... 3.5	21.0	39.0	IPB60R165CP	CoolMOS™CP
	190		2.1 ... 3.9	20.7	87.0	SPB20N60C3	CoolMOS™C3
	190		2.5 ... 3.5	20.2	58.0	IPB60R190C6	CoolMOS™C6
	190		tbd	tbd	tbd	IP65N190C6 ²⁾	CoolMOS™C6
	199		2.5 ... 3.5	16.0	33.0	IPB60R199CP	CoolMOS™CP
	250		2.5 ... 3.5	12.0	26.0	IPB60R250CP	CoolMOS™CP
	280		2.5 ... 3.5	13.8	43.0	IPB60R280C6	CoolMOS™C6
	280		tbd	tbd	tbd	IP65N280C6 ¹⁾	CoolMOS™C6
	299		2.5 ... 3.5	11.0	22.0	IPB60R299CP	CoolMOS™CP
	380		2.1 ... 3.9	11.0	45.0	SPB11N60C3	CoolMOS™C3
	380		2.5 ... 3.5	10.6	32.0	IPB60R380C6	CoolMOS™C6
	380		tbd	tbd	tbd	IP65N380C6 ¹⁾	CoolMOS™C6
	385		2.5 ... 3.5	9.0	17.0	IPB60R385CP	CoolMOS™CP
	520		2.5 ... 3.5	6.8	24.0	IPB60R520CP	CoolMOS™CP
	600		2.5 ... 3.5	6.1	21.0	IPB60R600CP	CoolMOS™CP
	600		2.1 ... 3.9	7.3	21.0	SPB07N60C3	CoolMOS™C3
	600		2.5 ... 3.5	7.3	20.5	IPB60R600C6	CoolMOS™C6
	600		tbd	tbd	tbd	IP65N600C6 ¹⁾	CoolMOS™C6
950		2.1 ... 3.9	4.5	19.0	SPB04N60C3	CoolMOS™C3	
950		2.5 ... 3.5	4.4	13.0	IPB60R950C6	CoolMOS™C6	
1400		2.1 ... 3.9	3.2	13.0	SPB03N60C3	CoolMOS™C3	
3000		2.1 ... 3.9	1.8	9.5	SPB02N60C3	CoolMOS™C3	
800V	290		2.1 ... 3.9	17	91	SPB17N80C3	CoolMOS™C3

1) Available, Q2/2010
2) Available, Q3/2010

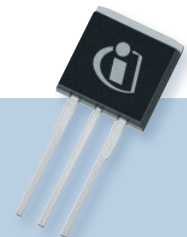


MOSFETs

I²PAK (TO-262)

Voltage	R _{DS(on)} (max.) [mΩ]		V _{GS(th)} [V]	I _D [A]	Q _g (typ.) [nC]	Type	Technology
	@ V _{GS} = 10V	@ V _{GS} = 4.5V					
60V	2.4		2.0 ... 4.0	120	206	IPI024N06N3 G	OptiMOS™3
	3.2		2.0 ... 4.0	120	124	IPI032N06N3 G	OptiMOS™3
	3.7	5.7	2.0 ... 4.0	90	59	IPI037N06L3 G	OptiMOS™
	4.0		1.2 ... 2.2	90	98	IPI040N06N3 G	OptiMOS™
	7.0		2.1 ... 4.0	80	89	IPI070N06N G	OptiMOS™2
75V	2.3		2.2 ... 3.8	100	155	IPI023NE7N3 G	OptiMOS™3
	3.4		2.2 ... 3.8	100	88	IPI034NE7N3 G	OptiMOS™3
	5.2		2.2 ... 3.8	80	52	IPI052NE7N3 G	OptiMOS™3
80V	2.8		2.0 ... 3.5	100	155	IPI028N08N3 G	OptiMOS™3
	3.7		2.0 ... 3.5	100	88	IPI037N08N3 G	OptiMOS™3
	5.7		2.0 ... 3.5	80	52	IPI057N08N3 G	OptiMOS™3
	7.0		2.0 ... 3.5	80	42	IPI070N08N3 G	OptiMOS™3
	10.0		2.0 ... 3.5	70	26	IPI100N08N3 G	OptiMOS™
	13.9		2.0 ... 3.5	45	19	IPI139N08N3 G	OptiMOS™3
100V	3.0		2.0 ... 3.5	100	155	IPI030N10N3 G	OptiMOS™3
	4.2		2.0 ... 4.0	100	158	IPI04CN10N G	OptiMOS™2
	4.5		2.0 ... 3.5	100	88	IPI045N10N3 G	OptiMOS™3
	5.4		2.0 ... 4.0	100	136	IPI05CN10N G	OptiMOS™2
	6.5		2.0 ... 4.0	100	104	IPI06CN10N G	OptiMOS™2
	7.2		2.0 ... 3.5	80	51	IPI072N10N3 G	OptiMOS™3
	8.5		2.0 ... 4.0	95	75	IPI08CN10N G	OptiMOS™2
	8.6		2.0 ... 3.5	80	42	IPI086N10N3 G	OptiMOS™3
	12.6		2.0 ... 3.5	58	26	IPI126N10N3 G	OptiMOS™3
	12.9		2.0 ... 4.0	67	49	IPI12CN10N G	OptiMOS™2
	16.2		2.0 ... 4.0	53	36	IPI16CN10N G	OptiMOS™2
	18.0		2.0 ... 3.5	43	19	IPI180N10N3 G	OptiMOS™3
	26.0		2.0 ... 4.0	35	23	IPI26CN10N G	OptiMOS™2
	35.0		2.0 ... 4.0	27	18	IPI35CN10N G	OptiMOS™2
50.0		2.0 ... 4.0	20	12	IPI50CN10N G	OptiMOS™2	
80.0		2.0 ... 4.0	13	8	IPI80CN10N G	OptiMOS™2	
120V	4.1		2.0 ... 6.0	120	137	IPI041N12N3 G	OptiMOS™3
	7.6		2.0 ... 4.0	100	76	IPI076N12N3 G	OptiMOS™3
	14.7		2.0 ... 4.0	59	49	IPI147N12N3 G	OptiMOS™3
150V	7.5		2.0 ... 4.0	100	70	IPI075N15N3 G	OptiMOS™3
	11.1		2.0 ... 4.0	83	41	IPI111N15N3 G	OptiMOS™
	20.0		2.0 ... 4.0	50	23	IPI200N15N3 G	OptiMOS™3

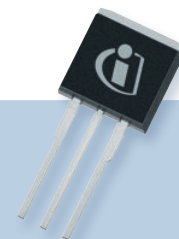
1) Coming soon





I²PAK (TO-262)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_b [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
200V	11		2.0 ... 4.0	88.0	65.0	IPI110N20N3 G	OptiMOS™
	32		2.0 ... 4.0	34.0	22.0	IPI320N20N3 G	OptiMOS™
	200		2.1 ... 4.0	14.5	50.0	BUZ31	planar
	400		2.1 ... 4.0	7.0	24.0	BUZ73	planar
	600		2.1 ... 4.0	5.5	24.0	BUZ73A	planar
	600		2.1 ... 4.0	5.5	24.0	BUZ73AL H	planar
250V	20		2.0 ... 4.0	64	64	IPI200N25N3 G	OptiMOS™
	60		2.0 ... 4.0	25	22	IPI600N25N3 G	OptiMOS™
500V	140		2.5 ... 3.5	23.0	48	IPI50R140CP	CoolMOS™ CP
	190		2.1 ... 3.9	21.0	95	SPI21N50C3	CoolMOS™ C3
	199		2.5 ... 3.5	17.0	34	IPI50R199CP	CoolMOS™ CP
	250		2.5 ... 3.5	13.0	27	IPI50R250CP	CoolMOS™ CP
	280		2.1 ... 3.9	16.0	66	SPI16N50C3	CoolMOS™ C3
	299		2.5 ... 3.5	11.0	22	IPI50R299CP	CoolMOS™ CP
	350		2.5 ... 3.5	10.0	19	IPI50R350CP	CoolMOS™ CP
	380		2.1 ... 3.9	11.6	49	SPI12N50C3	CoolMOS™ C3
	399		2.5 ... 3.5	9.0	17	IPI50R399CP	CoolMOS™ CP
600		2.1 ... 3.9	7.6	32	SPI08N50C3	CoolMOS™ C3	
600V	99		2.5 ... 3.5	31.0	60	IPI60R099CP	CoolMOS™ CP
	125		2.5 ... 3.5	25.0	53	IPI60R125CP	CoolMOS™ CP
	165		2.5 ... 3.5	21.0	39	IPI60R165CP	CoolMOS™ CP
	190		2.1 ... 3.9	20.7	87	SPI20N60C3	CoolMOS™ C3
	190		2.5 ... 3.5	20.2	58	IPI60R190C6	CoolMOS™ C6
	199		2.5 ... 3.5	16.0	33	IPI60R199CP	CoolMOS™ CP
	220		3.0 ... 5.0	20.7	95	SPI20N60CFD	CoolMOS™ CFD
	250		2.5 ... 3.5	12.0	26	IPI60R250CP	CoolMOS™ CP
	280		2.1 ... 3.9	15.0	63	SPI15N60C3	CoolMOS™ C3
	280		2.5 ... 3.5	13.8	43	IPI60R280C6	CoolMOS™ C6
	299		2.5 ... 3.5	11.0	22	IPI60R299CP	CoolMOS™ CP
	330		3.0 ... 5.0	13.4	63	SPI15N60CFD	CoolMOS™ CFD
	380		2.1 ... 3.9	11.0	45	SPI11N60C3	CoolMOS™ C3
	380		2.5 ... 3.5	10.6	32	IPI60R380C6	CoolMOS™ C6
	385		2.5 ... 3.5	9.0	17	IPI60R385CP	CoolMOS™ CP
	440		3.0 ... 5.0	11.0	48	SPI11N60CFD	CoolMOS™ CFD
	520		2.5 ... 3.5	6.8	24	IPI60R520CP	CoolMOS™ CP
	600		2.5 ... 3.5	6.1	21	IPI60R600CP	CoolMOS™ CP
600		2.1 ... 3.9	7.3	21	SPI07N60C3	CoolMOS™ C3	



ICs

MOSFETs

Power Diodes

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Naming System

Packages

Type List

MOSFETs

I²PAK (TO-262)

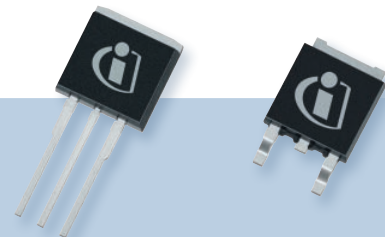
Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
650V	190		tbd	tbd	tbd	IPA190N65C6 ²⁾	CoolMOS™C6
	190		2.1 ... 3.9	20.7	87	SPI20N65C3	CoolMOS™C3
	280		tbd	tbd	tbd	IPA280N65C6 ¹⁾	CoolMOS™C6
	280		2.1 ... 3.9	15.0	63	SPI15N65C3	CoolMOS™C3
	380		tbd	tbd	tbd	IPA380N65C6 ¹⁾	CoolMOS™C6
	380		2.1 ... 3.9	11.0	45	SPI11N65C3	CoolMOS™C3
	600		tbd	tbd	tbd	IPA600N65C ¹⁾	CoolMOS™C6
800V	650		2.1 ... 3.9	7.3	21	SPI07N65C3	CoolMOS™C3
900V	340		2.5 ... 3.5	8	40	SPI08N80C3	CoolMOS™C3
	500		2.5 ... 3.5	15.0	93	IPI90R340C3	CoolMOS™C3
	800		2.5 ... 3.5	10.0	67	IPI90R500C3	CoolMOS™C3
	1000		2.5 ... 3.5	6.7	42	IPI90R800C3	CoolMOS™C3
	1200		2.5 ... 3.5	5.8	34	IPI90R1k0C3	CoolMOS™C3
			2.5 ... 3.5	5.1	29	IPI90R1k2C3	CoolMOS™C3

DPAK (TO-252)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
-100V	200	270	-2.0 ... -1.0	-15.0	-47	SPD15P10PL G	planar
	240		-4.0 ... -2.1	-15.0	-37	SPD15P10P G	planar
	850	1.050	-2.0 ... -1.0	-4.2	-12	SPD04P10PL G	planar
	1000		-4.0 ... -2.1	-4.0	-9	SPD04P10P G	planar
-60V	75		-4.0 ... -2.1	-30.0	-32	SPD30P06P G	planar
	130		-4.0 ... -2.1	-18.6	-22	SPD18P06P G	planar
	250	400	-2.0 ... -1.0	-9.7	-14	SPD09P06PL G	planar
	300		-4.0 ... -2.1	-8.8	-10	SPD08P06P G	planar
-30V	4.2	6.8	2.0 ... -1.0	-70	131	IPD042P03L3 G	OptiMOS™
	6.8	11.0	2.0 ... -1.0	-70	68	IPD068P03L3 G	OptiMOS™
30V	3.1	4.4	1.0 ... 2.2	90	25.0	IPD031N03L G	OptiMOS™
	4.0	5.9	1.0 ... 2.2	90	18.2	IPD040N03L G	OptiMOS™
	5.0	7.3	1.0 ... 2.2	50	15.0	IPD050N03L G	OptiMOS™
	6.0	9.0	1.0 ... 2.2	50	11.3	IPD060N03L G	OptiMOS™
	7.5	11.4	1.0 ... 2.2	50	8.7	IPD075N03L G	OptiMOS™
	9.0	13.5	1.0 ... 2.2	40	7.4	IPD090N03L G	OptiMOS™
	10.5	15.5	1.0 ... 2.2	35	6.6	IPD105N03L G	OptiMOS™
	13.5	20.5	1.0 ... 2.2	30	4.8	IPD135N03L G	OptiMOS™

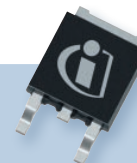
1) Available, Q2/2010

2) Available, Q3/2010



DPAK (TO-252)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
40V	3.6	4.9	1.2 ... 2.0	90	59.0	IPD036N04L G	OptiMOS™
	3.8		2.0 ... 4.0	90	42	IPD038N04N G	OptiMOS™
	8.8	12.6	1.2 ... 2.0	50	20.7	IPD088N04L G	OptiMOS™
	10.5	15.0	1.2 ... 2.0	40	18.0	IPD105N04L G	OptiMOS™
	16.0	23.0	1.2 ... 2.0	30	11.0	IPD160N04L G	OptiMOS™
	17.0		2.0 ... 4.0	30	7.9	IPD170N04N G	OptiMOS™
60V	3.1	5.2	1.2 ... 2.0	100	59	IPD031N06L3 G	OptiMOS™
	3.4		2.0 ... 4.0	100	98	IPD034N06N3 G	OptiMOS™
	3.5	5.5	1.2 ... 2.2	90	59	IPD035N06L3 G	OptiMOS™
	3.8		2.0 ... 4.0	90	98	IPD038N06N3 G	OptiMOS™
	4.8	8.2	1.2 ... 2.0	90	37	IPD048N06L3 G	OptiMOS™
	5.3		2.0 ... 4.0	90	61	IPD053N06N3 G	OptiMOS™
	7.9	13.5	1.2 ... 2.0	50	22	IPD079N06L3 G	OptiMOS™
	8.8		2.0 ... 4.0	50	36	IPD088N06N3 G	OptiMOS™
	12.7	16.7	1.2 ... 2.0	50	52	IPD127N06L G	OptiMOS™
	14.4		2.1 ... 4.0	50	41	IPD144N06N G	OptiMOS™
	22.0	39.8	1.2 ... 2.0	30	7	IPD220N06L3 G	OptiMOS™
	23.0	30.0	1.2 ... 2.0	30	31	IPD230N06L G	OptiMOS™
	23.0		2.1 ... 4.0	30	23	IPD230N06N G	OptiMOS™
	25.0		2.0 ... 4.0	28	11	IPD250N06N3 G	OptiMOS™
	35.0	47.0	1.2 ... 2.0	29	10	IPD350N06L G	OptiMOS™
40.0		2.0 ... 4.0	27	13	IPD400N06N G	OptiMOS™	
64.0	85.0	1.2 ... 2.0	18	10	IPD640N06L G	OptiMOS™	
80.0		2.1 ... 4.0	16	7	IPD800N06N G	OptiMOS™	
80V	5.3		2.0 ... 3.5	90	52	IPD053N08N3 G	OptiMOS™
	9.6		2.0 ... 3.5	73	26	IPD096N08N3 G	OptiMOS™
	13.5		2.0 ... 3.5	45	19	IPD135N08N3 G	OptiMOS™
100V	6.8		2.0 ... 3.5	90	51	IPD068N10N3 G	OptiMOS™
	8.2		2.0 ... 3.5	80	42	IPD082N10N3 G	OptiMOS™
	12.2		2.0 ... 3.5	58	26	IPD122N10N3 G	OptiMOS™
	12.4		2.0 ... 4.0	67	49	IPD12CN10N G	OptiMOS™
	16.0		2.0 ... 4.0	53	36	IPD16CN10N G	OptiMOS™
	18.0		2.0 ... 3.5	43	19	IPD180N10N3 G	OptiMOS™
	25.0		2.0 ... 4.0	35	23	IPD25CN10N G	OptiMOS™
	33.0		2.0 ... 4.0	27	18	IPD33CN10N G	OptiMOS™
	49.0		2.0 ... 4.0	20	12	IPD49CN10N G	OptiMOS™
	64.0		2.0 ... 4.0	17	6	IPD64CN10N G	OptiMOS™
78.0		2.0 ... 4.0	13	8	IPD78CN10N G	OptiMOS™	
120V	11		2.0...4.0	75	49	IPD110N12N3 G	OptiMOS™
150V	20		2.0 ... 4.0	50	23	IPD200N15N3 G	OptiMOS™
	53		2.0 ... 4.0	21	8.7	IPD530N15N3 G	OptiMOS™



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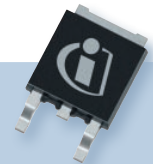
Type List

MOSFETs

DPAK (TO-252)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
200V	320		2.0 ... 4.0	34	22	IPD320N20N3 G	OptiMOS™
	400		2.0 ... 4.0	7	21	SPD07N20	planar
250V	60		2.0 ... 4.0	25	22	IPD600N25N3 G	OptiMOS™
500V	399		2.5 ... 3.5	9.0	17	IPD50R399CP	CoolMOS™CP
	520		2.5 ... 3.5	7.0	13	IPD50R520CP	CoolMOS™CP
	600		2.1 ... 3.9	7.6	32	SPD08N50C3	CoolMOS™C3
	950		2.1 ... 3.9	4.5	22	SPD04N50C3	CoolMOS™C3
	1400		2.1 ... 3.9	3.2	15	SPD03N50C3	CoolMOS™C3
	3000		2.1 ... 3.9	1.8	9	SPD02N50C3	CoolMOS™C3
600V	380		2.5 ... 3.5	10.6	32	IPD60R380C6	CoolMOS™C6
	385		2.5 ... 3.5	9.0	17.0	IPD60R385CP	CoolMOS™CP
	450		2.5 ... 3.5	tbd	tbd	IPD60R450C6	CoolMOS™C6
	520		2.5 ... 3.5	6.8	24.0	IPD60R520CP	CoolMOS™CP
	520		2.5 ... 3.5	8.1	23.4	IPD60R520C6	CoolMOS™C6
	600		2.5 ... 3.5	6.1	21.0	IPD60R600CP	CoolMOS™CP
	600		2.1 ... 3.9	7.3	21.0	SPD07N60C3	CoolMOS™C3
	600		2.5 ... 3.5	7.3	20.5	IPD60R600C6	CoolMOS™C6
	750		2.1 ... 3.9	6.2	24.0	SPD06N60C3	CoolMOS™C3
	750		2.5 ... 3.5	tbd	tbd	IPD60R750C6	CoolMOS™C6
	950		2.1 ... 3.9	4.5	19.0	SPD04N60C3	CoolMOS™C3
	950		2.5 ... 3.5	4.4	13.0	IPD60R950C6	CoolMOS™C6
	1200		2.5 ... 3.5	tbd	tbd	IPD60R1K2C6	CoolMOS™C6
	1400		2.1 ... 3.9	3.2	13.0	SPD03N60C3	CoolMOS™C3
	1400		2.5 ... 3.5	1.8	9.5	IPD60R1K4C6	CoolMOS™C6
	3000		2.1 ... 3.9	1.8	9.5	SPD02N60C3	CoolMOS™C3
3300		2.5 ... 3.5	tbd	tbd	IPD60R3K3C6	CoolMOS™C6	
6000		2.1 ... 3.9	0.8	3.9	SPD01N60C3	CoolMOS™C3	
650V	380		tbd	tbd	tbd	IPA380N65C6 ¹⁾	CoolMOS™C6
	600		tbd	tbd	tbd	IPA600N65C6 ¹⁾	CoolMOS™C6
800V	900		2.1 ... 3.9	6.0	27	SPD06N80C3	CoolMOS™C3
	1300		2.1 ... 3.9	4.0	20	SPD04N80C3	CoolMOS™C3
	2700		2.1 ... 3.9	2.0	9	SPD02N80C3	CoolMOS™C3
900V	1200		2.5 ... 3.5	5.1	29	IPD90R1k2C3	CoolMOS™C3

1) Available, Q2/2010





DPAK 5pin (TO-252 5pin)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
-30V	7.0	12.5	-2.0 ... -1.0	-50	-95	SPD50P03L G	OptiMOS™P

Reverse DPAK (Reverse TO-252)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
30V	3.9	5.2	1.0 ... 2.2	50	25.0	IPF039N03L G	OptiMOS™
	5.0	7.3	1.0 ... 2.2	50	15.0	IPF050N03L G	OptiMOS™
	6.0	9.0	1.0 ... 2.2	50	11.3	IPF060N03L G	OptiMOS™
	7.5	11.4	1.0 ... 2.2	50	8.7	IPF075N03L G	OptiMOS™
	9.0	13.5	1.0 ... 2.2	40	7.4	IPF090N03L G	OptiMOS™
	10.5	15.5	1.0 ... 2.2	35	6.6	IPF105N03L G	OptiMOS™
	13.5	20.5	1.0 ... 2.2	30	4.8	IPF135N03L G	OptiMOS™

ICs

MOSFETs

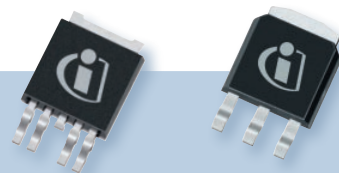
Power Diodes

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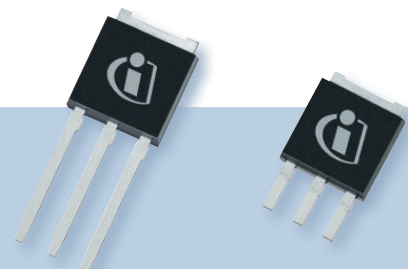
MOSFETs

IPAK (TO-251)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
30V	3.9	5.2	1.0 ... 2.2	50	25.0	IPU039N03L G	OptiMOS™
	5.0	7.3	1.0 ... 2.2	50	15.0	IPU050N03L G	OptiMOS™
	6.0	9.0	1.0 ... 2.2	50	11.3	IPU060N03L G	OptiMOS™
	7.5	11.4	1.0 ... 2.0	50	8.7	IPU075N03L G	OptiMOS™
	9.0	13.5	1.0 ... 2.2	40	7.4	IPU090N03L G	OptiMOS™
	10.5	15.5	1.0 ... 2.2	35	6.6	IPU105N03L G	OptiMOS™
80V	13.5		1.0 ... 2.2	30	4.8	IPU135N03L G	OptiMOS™
	10.3		2.0 ... 3.5	50	26	IPU103N08N3 G	OptiMOS™
600V	13.5		2.0 ... 3.5	50	19	IPU135N08N3 G	OptiMOS™
	600		2.1 ... 3.9	7.3	21.0	SPU07N60C3	CoolMOS™C3
	950		2.1 ... 3.9	4.5	19.0	SPU04N60C3	CoolMOS™C3
	1.400		2.1 ... 3.9	3.2	13.0	SPU03N60C3	CoolMOS™C3
	3.000		2.1 ... 3.9	1.8	9.5	SPU02N60C3	CoolMOS™C3
	6.000		2.1 ... 3.9	0.8	3.9	SPU01N60C3	CoolMOS™C3

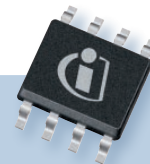
IPAK Short Leads (TO-251 Short Leads)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
30V	3.1	4.4	1.0 ... 2.2	90	25.0	IPS031N03L G	OptiMOS™
	4.0	5.9	1.0 ... 2.2	90	18.2	IPS040N03L G	OptiMOS™
	5.0	7.3	1.0 ... 2.2	50	15.0	IPS050N03L G	OptiMOS™
	6.0	9.0	1.0 ... 2.2	50	11.3	IPS060N03L G	OptiMOS™
	7.5	11.4	1.0 ... 2.2	50	8.7	IPS075N03L G	OptiMOS™
	9.0	13.5	1.0 ... 2.2	40	7.4	IPS090N03L G	OptiMOS™
	9.3	14.4	1.2 ... 2.0	50	10.0	IPS09N03LB G	OptiMOS™
	10.5	15.5	1.0 ... 2.2	35	6.6	IPS105N03L G	OptiMOS™
100V	13.5	20.5	1.0 ... 2.2	30	4.8	IPS135N03L G	OptiMOS™
	11.8	15.8	1.2 ... 2.4	69	58	IPS12CN10L G	OptiMOS™
	11.8		2.0 ... 4.0	75	49	IPS118N10N G	OptiMOS™
120V	11		2.0 ... 4.0	75	49	IPS110N12N3 G	OptiMOS™
500V	520		2.5 ... 3.5	7.1	13	IPS50R520CP	CoolMOS™CP
600V	950		2.1 ... 3.9	4.5	19.0	SPS04N60C3	CoolMOS™C3
	1400		2.1 ... 3.9	3.2	13.0	SPS03N60C3	CoolMOS™C3
	3000		2.1 ... 3.9	1.8	9.5	SPS02N60C3	CoolMOS™C3
	3300		2.5 ... 3.5	tbd	tbd	IPS60R3K3C6	CoolMOS™C6
	6000		2.1 ... 3.9	0.8	3.9	SPS01N60C3	CoolMOS™C3



S0-8

Voltage	$R_{DS(on)}$ (max.) [mΩ]	$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$					
-60V	130	-4.0 ... -2.1	-3.44	-20	BSO613SPV G	planar
-30V	5.3	-3.1 ... -1.9	-13.9		BSO053P03NS3E G	OptiMOS™P
	8.0	-3.1 ... -1.9	-11.3		BSO080P03NS3 G	OptiMOS™P
	8.0	-3.1 ... -1.9	-11.3		BSO080P03NS3E G	OptiMOS™P
	8.0	-2.2 ... -1.0	-14.9	-102.0	BSO080P03S	OptiMOS™P
	8.0	-2.0 ... -1.0	-14.9	-121.0	BSO301SP	OptiMOS™P
	13.0	-2.2 ... -1.0	-11.3	-61.0	BSO130P03S	OptiMOS™P
	20.0	-2.2 ... -1.0	-9.1	-40.0	BSO200P03S	OptiMOS™P
	21.0	-2.0 ... -1.0	-8.9	-46.0	BSO303SP	OptiMOS™P
	21.0	-2.0 ... -1.0	-8.2	-48.3	BSO303P	
-20V		-1.2 ... -0.6	-14.9	-85.5	BSO201SP	OptiMOS™P
		-1.2 ... -0.6	-9.0	-33.6	BSO203SP	OptiMOS™P
	21	-1.2 ... -0.6	-8.2	-32.4	BSO203P	OptiMOS™P
	30	-1.2 ... -0.6	-7.0	-23.9	BSO204P	OptiMOS™P
	45	-1.2 ... -0.6	-5.7	-15.6	BSO207P	OptiMOS™P
	67	-1.2 ... -0.6	-4.7	-15.9	BSO211P	OptiMOS™P
30V	3.3	1.0 ... 2.0	17.0	44.9	BSO033N03MS G	OptiMOS™
	4.0	1.0 ... 2.0	16.0	26.7	BSO040N03MS G	OptiMOS™
	5.1	1.0 ... 2.0	14.0	20.0	BSO051N03MS G	OptiMOS™
	5.2	1.2 ... 2.0	17.0	32.0	BSO052N03S	OptiMOS™
	6.4	1.2 ... 2.0	16.0	21.0	BSO064N03S	OptiMOS™
	6.5	1.0 ... 2.0	13.0	14.4	BSO065N03MS G	OptiMOS™
	6.8	1.2 ... 2.0	15.0	19.0	BSO072N03S	OptiMOS™
	8.3	1.0 ... 2.0	11.0	9.9	BSO083N03MS G	OptiMOS™
	9.1	1.2 ... 2.0	13.0	13.0	BSO094N03S	OptiMOS™
	9.7	1.2 ... 2.0	13.0	12.0	BSO104N03S	OptiMOS™
	11.0	1.0 ... 2.0	10.0	7.2	BSO110N03MS G	OptiMOS™
	13.0	1.0 ... 2.0	9.0	6.1	BSO130N03MS G	OptiMOS™
	15.0	1.2 ... 2.0	9.1	11.0	BSO150N03	OptiMOS™
	20.0	1.2 ... 2.0	7.9	6.0	BSO200N03	OptiMOS™P
	22.0	1.0 ... 2.0	7.0	3.8	BSO220N03MS G	OptiMOS™
30.0	1.2 ... 2.0	7.2	3.5	BSO300N03S	OptiMOS™	
35.0	1.2 ... 2.0	6.0	2.8	BSO350N03	OptiMOS™	
60V/ -60V	110	1.2 ... 2.0	3.1	13.5	BSO615C G	complementary
	150	1.2 ... 2.0	2.6	14.0	BSO615N G	complementary
	300	-2.0 ... -1.0	-2.0	-15.0	BSO615C G	complementary
	120	2.1 ... 4.0	3.0	10.5	BSO612CV G	complementary
	300	-4.0 ... -2.1	-2.0	-10.3	BSO612CV G	complementary



ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

MOSFETs

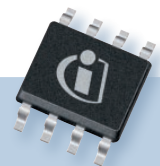
SO-8

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$						
80V	7		2.0 ... 3.5	14.5	42.0	BSO070N08NS3 G ¹⁾	OptiMOS™3
	14		2.0 ... 3.5	10.2	19.0	BSO140N08NS3 G ¹⁾	OptiMOS™3
	35		2.0 ... 3.5	6.5	6.8	BSO350N08NS3 G ¹⁾	OptiMOS™3
100V	18		tbd			BSO180N10NS3 G ¹⁾	OptiMOS™3
	44		tbd			BSO440N10NS3 G ¹⁾	OptiMOS™3
150V	50		2.0 ... 4.0	5.0	8.7	BSO500N15NS3 G ¹⁾	OptiMOS™3

SO-8 dual

Voltage	$R_{DS(on)}$ (max.) [mΩ]			$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$					
-30V	21	32		-2.0 ... -1.0	-8.2	-48.3	BSO303P	OptiMOS™P
-20V		21	35	-1.2 ... -0.6	-8.2	-32.4	BSO203P	OptiMOS™P
		30	42	-1.2 ... -0.6	-7.0	-23.9	BSO204P	OptiMOS™P
		45	70	-1.2 ... -0.6	-5.7	-15.6	BSO207P	OptiMOS™P
		67	110	-1.2 ... -0.6	-4.7	-15.9	BSO211P	OptiMOS™P
20V		30	50	0.7 ... 1.2	5.4	3.7	BSO330N02KS G	OptiMOS™
30V	15	19		1.2 ... 2.0	9.1	11.0	BSO150N03	OptiMOS™
	20	27		1.2 ... 2.0	7.9	6.0	BSO200N03	OptiMOS™
	35	52		1.2 ... 2.0	6.0	2.8	BSO350N03	OptiMOS™
60V	150			1.2 ... 2.0	2.6	14	BSO615N G	planar

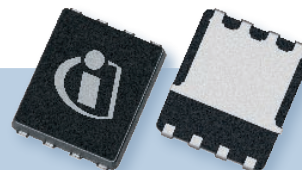
1) Coming soon



SuperS08

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
-30V	3.0		-3.1 ... -1.9	-100	137.0	BSC030P03NS3 G	OptiMOS™
	6.0		-3.1 ... -1.9	-100	61.0	BSC060P03NS3E G	OptiMOS™
	8.0		-1.0 ... -2.0	-30.0	-92.0	BSC080P03LS G	OptiMOS™
	8.4		-3.1 ... -1.9	-78.6	43.0	BSC084P03NS3E G	OptiMOS™
	8.4		-3.1 ... -1.9	-78.6	43.0	BSC084P03NS3 G	OptiMOS™
	13.0		-1.0 ... -2.0	-22.5	-55.0	BSC130P03LS G	OptiMOS™
	20.0		-1.0 ... -2.0	-12.5	-36.0	BSC200P03LS G	OptiMOS™
20V		1.95	0.7 ... 1.2	100	64	BSC019N02KS G	OptiMOS™
		2.6	0.7 ... 1.2	100	40	BSC026N02KS G	OptiMOS™
		4.6	0.7 ... 1.2	80	21	BSC046N02KS G	OptiMOS™
25V	1.0	tbd	tbd	tbd	tbd	BSC010NE2LS ¹⁾	OptiMOS™
	1.8	tbd	tbd	tbd	tbd	BSC018NE2LS ¹⁾	OptiMOS™
	2.4	tbd	tbd	tbd	tbd	BSC024NE2LS ¹⁾	OptiMOS™
	5.0	tbd	tbd	tbd	tbd	BSC050NE2LS ¹⁾	OptiMOS™
30V	1.4	1.2	1.0 ... 2.2	100	47.0	BSC014N03LS G	OptiMOS™
	1.4	1.75	1.0 ... 2.0	100	63.0	BSC014N03MS G	OptiMOS™
	1.6	2.0	1.0 ... 2.0	100	63.0	BSC016N03MS G	OptiMOS™
	1.6	2.3	1.0 ... 2.2	100	56.0	BSC016N03LS G	OptiMOS™
	2.0	2.5	1.0 ... 2.0	100	45.0	BSC020N03MS G	OptiMOS™
	2.0	2.9	1.0 ... 2.2	100	34.0	BSC020N03LS G	OptiMOS™
	2.0	tbd	tbd	tbd	tbd	BSC0901NS ¹⁾	OptiMOS™
	2.5	3.0	1.0 ... 2.0	100	36.0	BSC025N03MS G	OptiMOS™
	2.5	3.6	1.0 ... 2.2	100	27.0	BSC025N03LS G	OptiMOS™
	2.5	tbd	tbd	tbd	tbd	BSC0901NS ¹⁾	OptiMOS™
	2.6	tbd	tbd	tbd	tbd	BSC0902NS ¹⁾	OptiMOS™
	3.0	3.8	1.0 ... 2.0	100	55.0	BSC030N03MS G	OptiMOS™
	3.0	4.7	1.0 ... 2.2	100	20.0	BSC030N03LS G	OptiMOS™
	3.3	4.8	1.0 ... 2.0	100	20.0	BSC037N03MSCG	OptiMOS™
	3.4	5.1	1.0 ... 2.2	100	39.0	BSC034N03LS G	OptiMOS™
	3.5	tbd	tbd	tbd	tbd	BSC0905NS ¹⁾	OptiMOS™
	3.7	5.8	1.0 ... 2.2	100	16.5	BSC037N03LSC	OptiMOS™
	4.2	5.4	1.0 ... 2.0	93	20.0	BSC042N03MS G	OptiMOS™
	4.2	6.5	1.0 ... 2.2	93	15.0	BSC042N03LS G	OptiMOS™
	4.3	6.7	1.0 ... 2.2	87	13.7	BSC043N03LSC	OptiMOS™
	4.3	5.6	1.0 ... 2.0	87	16.6	BSC043N03MSCG	OptiMOS™
	4.9	6.4	1.0 ... 2.0	77	14.4	BSC049N03MSCG	OptiMOS™
	5.0	6.3	1.0 ... 2.0	80	17.0	BSC050N03MS G	OptiMOS™
5.0	7.5	1.0 ... 2.2	79	13.0	BSC050N03LS G	OptiMOS™	
5.5	tbd	tbd	tbd	tbd	BSC05xN03LS ¹⁾	OptiMOS™	
5.7	7.2	1.0 ... 2.0	71	14.0	BSC057N03MS G	OptiMOS™	
5.7	8.5	1.0 ... 2.2	71	11.0	BSC057N03LS G	OptiMOS™	

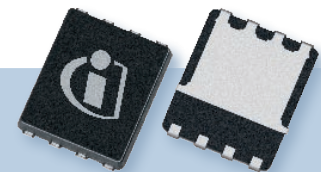
1) Available, Q2/2010



MOSFETs

SuperSO8

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
30V	7.9	12.7	1.0 ... 2.2	50	6.8	BSC079N03LSC	OptiMOS™
	8.0	10.2	1.0 ... 2.0	53	9.9	BSC080N03MS G	OptiMOS™
	8.0	12.0	1.0 ... 2.2	52	7.0	BSC080N03LS G	OptiMOS™
	9.0	11.2	1.0 ... 2.0	48	18.0	BSC090N03MS G	OptiMOS™
	9.0	13.3	1.0 ... 2.2	47	7.0	BSC090N03LS G	OptiMOS™
	9.1	12.1	1.0 ... 2.0	44	7.2	BSC091N03MSCG	OptiMOS™
	10.0	12.0	1.0 ... 2.0	44	17.0	BSC100N03MS G	OptiMOS™
	10.0	14.2	1.0 ... 2.2	44	6.0	BSC100N03LS G	OptiMOS™
	11.9	14.5	1.0 ... 2.2	39	5.4	BSC119N03LSC	OptiMOS™
	11.9	13.9	1.0 ... 2.0	39	7.2	BSC119N03MSCG	OptiMOS™
	12.0	14.0	1.0 ... 2.0	39	15.0	BSC120N03MS G	OptiMOS™
12.0	16.5	1.0 ... 2.2	39	5.0	BSC120N03LS G	OptiMOS™	
40V	1.6	2.3	1.2 ... 2.0	100	113	BSC016N04LS G	OptiMOS™
	1.7		2.0 ... 4.0	100	130	BSC017N04NS G	OptiMOS™
	1.8	2.5	1.2 ... 2.0	100	54	BSC018N04LS G	OptiMOS™
	1.9		2.0 ... 4.0	100	84	BSC019N04NS G	OptiMOS™
	2.7	4.1	1.2 ... 2.0	100	31	BSC027N04LS G	OptiMOS™
	3.0		2.0 ... 4.0	100	46	BSC030N04NS G	OptiMOS™
	3.5		1.2 ... 2.0	100	23	BSC035N04LS G	OptiMOS™
	5.0	7.2	1.2 ... 2.0	85	17	BSC050N04LS G	OptiMOS™
	5.4		2.0 ... 4.0	81	26	BSC054N04NS G	OptiMOS™
	5.9	8.5	1.2 ... 2.0	73	14	BSC059N04LS G	OptiMOS™
9.3	13.7	1.2 ... 2.0	49	18	BSC093N04LS G	OptiMOS™	
60V	2.8	4.8	1.2 ... 2.2	100	59.0	BSC028N06LS3 G	OptiMOS™
	3.1		2.0 ... 4.0	100	98.0	BSC031N06NS3 G	OptiMOS™
	6.7	12.1	1.2 ... 2.2	50	23.0	BSC067N06LS3 G	OptiMOS™
	7.6		2.0 ... 4.0	50	37.0	BSC076N06NS3 G	OptiMOS™
	10.0	17.9	1.2 ... 2.2	50	15.0	BSC100N06LS3 G	OptiMOS™
	11.0		2.0 ... 4.0	50	25.0	BSC110N06NS3 G	OptiMOS™
	12.3		2.0 ... 3.5	55	19.0	BSC123N08NS3 G	OptiMOS™
34.0		2.0 ... 3.5	23	6.8	BSC340N08NS3 G	OptiMOS™	
75V	4.2		2.2 ... 3.8	50	52	BSC042NE7NS3 G	OptiMOS™
80V	4.7		2.0 ... 4.0	100	69.0	BSC047N08NS3 G	OptiMOS™
	5.7		2.0 ... 4.0	100	56.0	BSC057N08NS3 G	OptiMOS™
	12.3		2.0 ... 4.0	55	25.0	BSC123N08NS3 G	OptiMOS™
	34.0		2.0 ... 4.0	23	9.1	BSC340N08NS3 G	OptiMOS™



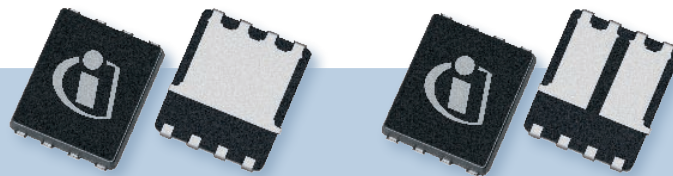
SuperS08

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
100V	6.0		2.0 ... 3.5	90	51	BSC060N10NS3 G	OptiMOS™
	7.9		2.0 ... 4.0	100	66	BSC079N10NS G	OptiMOS™
	8.2	11.0	1.2 ... 2.4	100	78	BSC082N10LS G	OptiMOS™
	10.0		2.0 ... 4.0	90	33	BSC100N10NSF G	OptiMOS™
	10.5	14.1	1.2 ... 2.4	90	40	BSC105N10LSF G	OptiMOS™
	11.8		2.0 ... 4.0	71	42	BSC118N10NS G	OptiMOS™
	12.3	16.6	1.2 ... 2.4	71	51	BSC123N10LS G	OptiMOS™
	15.2		2.0 ... 4.0	63	22	BSC152N10NSF G	OptiMOS™
	15.9	21.5	1.2 ... 2.4	63	26	BSC159N10LSF G	OptiMOS™
	16.0		2.0 ... 3.5	42	19	BSC160N10NS3 G	OptiMOS™
	19.6		2.0 ... 4.0	45	25	BSC196N10NS G	OptiMOS™
	20.5	28.0	1.2 ... 2.4	45	31	BSC205N10LS G	OptiMOS™
	25.2		2.0 ... 4.0	40	13	BSC252N10NSF G	OptiMOS™
	26.5	36.0	1.2 ... 2.4	40	16	BSC265N10LSF G	OptiMOS™
44.0		2.0 ... 3.5	18		BSC440N10NS3 G	OptiMOS™	
75.0		2.0 ... 4.0	13	8	BSC750N10ND G	OptiMOS™	
120V	7.7		2.0 ... 6.0	93	66	BSC077N12NS3 G	OptiMOS™
150V	19.0		2.0 ... 4.0	50	23.0	BSC190N15NS3 G ¹⁾	OptiMOS™
	53.0		2.0 ... 4.0	23	8.7	BSC530N15NS3 G	OptiMOS™
200V	32		2.0 ... 4.0	36	22	BSC320N20NS3 G	OptiMOS™
250V	60		2.0 ... 4.0	25	22	BSC600N25NS3 G	OptiMOS™

SuperS08 dual

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
30V	7.2	9.4	1.0 ... 2.2	20	15.0	BSC072N03LD G	OptiMOS™
	15.0	22.0	1.0 ... 2.2	20	4.8	BSC150N03LD G	OptiMOS™
100V	75		2.0 ... 4.0	13	8	BSC750N10ND G	OptiMOS™

1) Mobile Series: Optimized for 4.5V gate charge

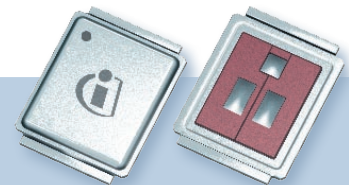


MOSFETs

CanPAK™ 1)

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_b [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
25V	0.3	tbd	tbd	tbd	tbd	BSF03xNE2LQ ²⁾	OptiMOS™
	1.2	tbd	tbd	tbd	tbd	BSB012NE2LX ³⁾	OptiMOS™
	1.3	tbd	tbd	tbd	tbd	BSB013NE2LXI ²⁾	OptiMOS™
	1.8	3.1	1.2 ... 2.0	179	45.6	BSB018NE2LX	OptiMOS™
	2.2	3.9	1.2 ... 2.0	151	35.7	BSB022NE2LX	OptiMOS™
	7.3	14.2	1.2 ... 2.0	50	8.9	BSF073NE2LQ	OptiMOS™
30V	1.2	1.8	1.0 ... 2.2	180	62.2	BSB012N03LX3 G	OptiMOS™
	1.2	1.5	1.0 ... 2.0	180	82.6	BSB012N03MX3 G	OptiMOS™
	1.7	2.5	1.0 ... 2.2	147	37.0	BSB017N03LX3 G	OptiMOS™
	1.9	3.1	1.2 ... 2.2	174	92.0	BSB019N03LX G	OptiMOS™
	2.4	3.2	1.0 ... 2.2	106	26.0	BSF024N03LT3 G	OptiMOS™
	2.4	4.2	1.2 ... 2.0	145	34.7	BSB024N03LX G	OptiMOS™
	4.5	5.9	1.0 ... 2.0	63	16.5	BSF045N03MQ3 G	OptiMOS™
	4.5	7.2	1.0 ... 2.2	63	12.4	BSF045N03LQ3 G	OptiMOS™
	5.0	8.0	1.0 ... 2.2	60	13.0	BSF050N03LQ3 G	OptiMOS™
	5.3	8.9	1.2 ... 2.2	71	29.0	BSB053N03LP G	OptiMOS™
	5.3	8.9	1.2 ... 2.2	71	29.0	BSF053N03LT G	OptiMOS™
8.3	14.2	1.2 ... 2.2	53	18.0	BSF083N03LQ G	OptiMOS™	
40V	1.4	2.0	1.2 ... 2.0	180	71.1	BSB014N04LX3 G	OptiMOS™
	1.5		2.0 ... 4.0	180	106.7	BSB015N04NX3 G	OptiMOS™
60V	2.8		2.0 ... 4.0	30	108	BSB028N06NN3 G ³⁾	OptiMOS™
	7.7		2.0 ... 4.0	30	34	BSF077N06NT3 G ³⁾	OptiMOS™
80V	4.4		2.0 ... 3.5	30	55	BSB044N08NN3 G ³⁾	OptiMOS™
	9.4		2.0 ... 3.5	30	25	BSF094N08NT3 G ³⁾	OptiMOS™
100V	5.6		tbd			BSB056N10NN3 G ³⁾	OptiMOS™
	13.4		tbd			BSF134N10NJ3 G ³⁾	OptiMOS™
150V	15.0		2.0 ... 4.0	50	28	BSB150N15NZ3 G ³⁾	OptiMOS™
	28.0		2.0 ... 4.0	30	15	BSB280N15NZ3G ³⁾	OptiMOS™

- 1) CanPAK™ uses DirectFET® technology licensed from International Rectifier Corporation. DirectFET® is a registered trademark of International Rectifier Corporation.
- 2) Available, Q2/2010
- 3) Coming soon





S308

Voltage	$R_{DS(on)}$ (max.) [mΩ]		$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$					
-30V	8.6		-3.1 ... -1.9	-40		BSZ086P03NS3 G	OptiMOS™P
	8.6		-3.1 ... -1.9	-40		BSZ086P03NS3E G	OptiMOS™P
	12.0		-3.1 ... -1.9	-40		BSZ120P03NS3E G	OptiMOS™P
	18.0		-3.1 ... -1.9	-40		BSZ180P03NS3E G	OptiMOS™P
25V	1.8	tbd	tbd	tbd	tbd	BSZ018NE2LS ²⁾	OptiMOS™
	6.0	tbd	tbd	tbd	tbd	BSZ060NE2LS ²⁾	OptiMOS™
30V	0.9	tbd	tbd	tbd	tbd	BSZ0901NS ²⁾	OptiMOS™
	2.0	tbd	tbd	tbd	tbd	BSZ020N03LS ²⁾	OptiMOS™
	3.3	4.1	1.0 ... 2.0	50	27.0	BSZ033N03MS G	OptiMOS™
	3.3	4.5	1.0 ... 2.2	50	22.3	BSZ033N03LSCG	OptiMOS™
	3.5	5.7	1.0 ... 2.2	40	20.0	BSZ035N03LS G	OptiMOS™
	3.5	4.3	1.0 ... 2.0	40	27.0	BSZ035N03MS G	OptiMOS™
	4.0	tbd	tbd	tbd	tbd	BSZ0902NS ¹⁾	OptiMOS™
	4.9	6.4	1.0 ... 2.0	50	14.4	BSZ049N03MS G	OptiMOS™
	4.9	7.7	1.0 ... 2.2	50	11.9	BSZ049N03LSCG	OptiMOS™
	5.0	7.8	1.0 ... 2.2	40	13.0	BSZ050N03LS G	OptiMOS™
	5.0	6.4	1.0 ... 2.0	40	34.0	BSZ050N03MS G	OptiMOS™
	5.8	8.9	1.0 ... 2.2	40	22.0	BSZ058N03LS G	OptiMOS™
	5.8	7.2	1.0 ... 2.0	40	14.0	BSZ058N03MS G	OptiMOS™
	8.8	11.0	1.0 ... 2.2	40	16.0	BSZ088N03LS G	OptiMOS™
	8.8	11.0	1.0 ... 2.0	40	9.9	BSZ088N03MS G	OptiMOS™
	10.0	15.0	1.0 ... 2.2	40	13.0	BSZ100N03LS G	OptiMOS™
	10.0	13.0	1.0 ... 2.0	40	8.3	BSZ100N03MS G	OptiMOS™
	11.5	17.6	1.0 ... 2.2	37	5.0	BSZ115N03LSCG	OptiMOS™
11.5	15.0	1.0 ... 2.0	37	6.1	BSZ115N03MSCG	OptiMOS™	
13.0	17.0	1.0 ... 2.2	35	5.0	BSZ130N03LS G	OptiMOS™	
13.0	17.0	1.0 ... 2.0	35	6.1	BSZ130N03MS G	OptiMOS™	
40V	4.0	5.6	1.2 ... 2.0	40	48.0	BSZ040N04LS G	OptiMOS™
	4.2		2.0 ... 4.0	40	35.0	BSZ042N04NS G	OptiMOS™
	9.7	14.2	1.2 ... 2.0	40	8.6	BSZ097N04LS G	OptiMOS™
	10.5		2.0 ... 4.0	40	13.0	BSZ105N04NS G	OptiMOS™
	16.5		2.0 ... 4.0	31	7.8	BSZ165N04NS G	OptiMOS™
60V	6.7	12.1	1.2 ... 2.0	20	39	BSZ067N06LS3 G	OptiMOS™3
	7.6		2.0 ... 4.0	20	32	BSZ076N06NS3 G	OptiMOS™3
	10.0	7.9	1.2 ... 2.0	20	20	BSZ100N06LS3 G	OptiMOS™3
	11.0		2.0 ... 4.0	20	33	BSZ110N06NS3 G	OptiMOS™3
80V	12.3	24	2.0 ... 4.0	40	25.0	BSZ123N08NS3 G	OptiMOS™3
	34.0	66	2.0 ... 4.0	23	9.1	BSZ340N08NS3 G ²⁾	OptiMOS™3

- 1) Available, Q2/2010
2) Coming soon



ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

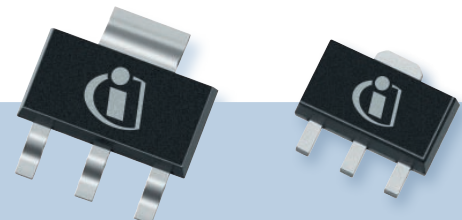
MOSFETs

SOT-223

Voltage	$R_{DS(on)}$ (max.) [mΩ]			$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$					
-250V	4000	5000		-2.0 ... -1.0	-0.43	-11.6	BSP317P	planar
	12000	15000		-2.0 ... -1.0	-0.26	-4.3	BSP92P	planar
-100V	800	1000		-2.0 ... -1.0	-1.0	-12.4	BSP322P	planar
	900			-4.0 ... -2.1	-0.98	-9.0	BSP321P	planar
	1800	2300		-2.0 ... -1.0	-0.68	-5.1	BSP316P	planar
-60V	130			-4.0 ... -2.1	-2.9	-22	BSP613P	planar
	300			-4.0 ... -2.1	-1.9	-10	BSP170P	planar
	300	450		-2.0 ... -1.0	-1.9	-13	BSP171P	planar
	800	1400		-2.0 ... -1.0	-1.17	-5.2	BSP315P	planar
60V	90	150		1.2 ... 2.0	2.6	14.0	BSP318S	planar
	120			2.1 ... 4.0	2.9	9.7	BSP320S	planar
	300	500		0.8 ... 1.8	1.8	14.0	BSP295	planar
100V	300			2.1 ... 4.0	1.7		BSP373	planar
		310@5V		0.8 ... 2.0	1.7		BSP372	planar
	700	1000		0.8 ... 1.8	1.1	13.8	BSP296	planar
	6000	10000	30000	0.8 ... 1.8	0.37	1.6	BSP123	planar
200V	1800	3000		0.8 ... 1.8	0.66	12.9	BSP297	planar
240V	6000	7500		0.8 ... 1.8	0.35	4.3	BSP89	planar
	6000	7500	15000	0.6 ... 1.4	0.35	4.5	BSP88	planar
400V	3000			2.1 ... 4.0	0.5		BSP298	planar
	25000	22000		1.3 ... 2.3	0.17	4.5	BSP324	planar
500V	4000			2.1 ... 4.0	0.4		BSP299	planar
600V	1400			2.1 ... 3.9	0.7	13.0	SPN03N60C3	CoolMOS™C3
	3000			2.1 ... 3.9	0.4	10.0	SPN02N60C3	CoolMOS™C3
	6000			2.1 ... 3.9	0.3	3.9	SPN01N60C3	CoolMOS™C3
	45000	60000		1.3 ... 2.3	0.12	4.4	BSP125	planar
800V	20			2.1 ... 4.0	0.19		BSP300	planar

SOT-89

Voltage	$R_{DS(on)}$ (max.) [mΩ]			$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$					
-250V	12000	15000	20000	-2.0 ... -1.0	-0.19	-4.9	BSS192P	planar
240V	6000	7500		0.8 ... 1.8	0.26	3.7	BSS87	planar
600V	45000			2.3	0.09	3.9	BSS225	planar



SOT-23

Voltage	$R_{DS(on)}$ (max.) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$	@ $V_{GS} = 1.8V$					
-60V	2000	3000			-2.0 ... -1.0	-0.33	-2.38	BSS83P	planar
	8000	12000			-2.0 ... -1.0	-0.17	-1.0	BSS84P	planar
-30V	80	130			-2.0 ... -1.0	-2.1	-5.2	BSS308PE	OptiMOS™P3
	140	230			-2.0 ... -1.0	-1.6		BSS314PE	
	150	270			-2.0 ... -1.0	-1.5	-2.3	BSS315P	OptiMOS™P2
-20V		150	280		-1.2	-1.5	-3.6	BSS215P	OptiMOS™2
20V			57	82	0.3 ... 0.75	2.3	1.7	BSS806N	OptiMOS™2
			50	85	1.2	2.5	2.1	BSS205N	OptiMOS™2
			140	250	1.2	1.5	0.8	BSS214N	OptiMOS™2
30V	57	93			2.0	2.3	1.5	BSS306N	OptiMOS™2
	160	280			1.2 ... 2.0	1.4	0.6	BSS316N	OptiMOS™2
55V	650	825			2.0	0.54	1.7	BSS670S2L	OptiMOS™
60V	57	93			1.2 ... 2.0	2.3	1.5	BSS306N	
	3000	4			1.5 ... 2.5	0.3	0.4	2N7002N	OptiMOS™
	3000	4000			1.5 ... 2.5	0.3	0.4	2N7002	
	3500	6000			0.6 ... 1.4	0.23	1.0	BSS138N	planar
	5000	7500			1.3 ... 2.3	0.2	1.0	BSS7728N	planar
	5000	7500			0.8 ... 1.8	0.2	1.0	SN7002N	planar
100V	6000	10000			0.8 ... 1.8	0.17	1.78	BSS123	planar
	6000	10000			1.3 ... 2.3	0.17	1.67	BSS119	planar
240V	14000	20000			0.8 ... 1.8	0.11	2.1	BSS131	planar
600V	500000				1.4 ... 2.6	0.023	1.4	BSS127	planar

SC59¹⁾

Voltage	$R_{DS(on)}$ (max) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 45V$	@ $V_{GS} = 25V$	@ $V_{GS} = 18V$					
-250V	11000	13000	20000		-2.0 ... -1.0	-0.14	3.6	BSR92P	planar
-100V	1800	2200			-2.0 ... -1.0	-0.36	-3.0	BSR316P	planar
-60V	800	1300			-2.0 ... -1.0	-0.62	-4.0	BSR315P	planar
20V		21	33		0.7 ... 1.2	3.8	5.8	BSR202N	OptiMOS™2
			23	32	0.3 ... 0.75	3.7	4.7	BSR802N	OptiMOS™2
30V	23	36			1.2 ... 2.0	3.7	4.4	BSR302N	OptiMOS™2

1) Footprint compatible to SOT-23



MOSFETs

SOT-323

Voltage	$R_{DS(on)}$ (max.) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$	@ $V_{GS} = 1.8V$					
-60V	8000	12000	25000		-2.0 ... -1.0	-0.15	-1.0	BSS84PW ¹⁾	planar
-20V		550	900		-1.2	-0.58	-0.92	BSS209PW	OptiMOS™2
		1200	2100		-1.2	-0.39	-0.5	BSS223PW	OptiMOS™2
20V		140	250		1.2	1.5	0.8	BSS214NW	OptiMOS™2
			160	240	0.3 ... 0.75	1.4	0.6	BSS816NW	OptiMOS™2
60V	3500	6000			0.6 ... 1.4	0.28	1.0	BSS138W	planar
	5000	7500			0.8 ... 1.8	0.23	1.0	SN7002W	planar

SOT-363

Voltage	$R_{DS(on)}$ (max.) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$	@ $V_{GS} = 1.8V$					
-30V	140	230			-2.0 ... -1.0	-1.6		BSD314PE	
-20V		175	285		-1.2 ... -0.6	-1.5	-3.8	BSV236SP	OptiMOS™P
20V		140			0.7 ... 1.2	1.5	0.8	BSD214SN	
		140	250		0.7 ... 1.2	1.5	0.8	BSD214NW	OptiMOS™2
			160	240	0.3 ... 0.75	1.4	0.6	BSD816SN	OptiMOS™2
30V	140	230			1.2 ... 2.0	1.4	2.9	BSD314SPE	
	160	280			1.2 ... 2.0	1.4	0.6	BSD316SN	OptiMOS™2

SOT-363 dual

Voltage	$R_{DS(on)}$ (max.) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$	@ $V_{GS} = 1.8V$					
-20V		1.200	2100		-1.2 ... -0.6	-0.39	-0.50	BSD223P	OptiMOS™P2
20V		350	600		0.7 ... 1.2	0.95	0.32	BSD235N	OptiMOS™2
			400	560	0.3 ... 0.75	0.88	0.26	BSD840N	OptiMOS™2
60V	3000	4000			1.5 ... 2.5	0.30	0.40	2N7002DW	OptiMOS™

SOT-363 complementary

Voltage	$R_{DS(on)}$ (max.) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$	@ $V_{GS} = 1.8V$					
-20V		1200	2100		0.7 ... 1.2	-0.53	-0.40	BSD235C/p-ch	OptiMOS™P2
20V		350	600		-1.2 ... -0.6	0.95	0.34	BSD235C/n-ch	OptiMOS™2

1) $R_{DS(on)}$ max=25Ω @ $V_{GS}=2.7V$



TSOP-6

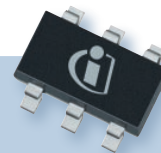
Voltage	$R_{DS(on)}$ (max.) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$	@ $V_{GS} = 1.8V$					
-30V	43	74			-2.0 ... -1.0	-5.5	-23.4	BSL307SP	OptiMOS™P2
-20V		41	65		-1.2 ... -0.6	-6	-13.3	BSL207SP	OptiMOS™P2
		67	110		-1.2 ... -0.6	-4.7	-8.3	BSL211SP	OptiMOS™P2
20V			22	31	0.3...0.75	7.5	4.7	BSL802SN	OptiMOS™2
		22	36		0.7...1.2	7.5	5.8	BSL202SN	OptiMOS™2
30V	25	38			1.2...2.0	7.1	4.4	BSL302SN	OptiMOS™2

TSOP-6 dual

Voltage	$R_{DS(on)}$ (max.) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$	@ $V_{GS} = 1.8V$					
-30V	80	130			-2.0 ... -1.0	-2.1	-5.2	BSL308PE	OptiMOS™P3
	140	230			-2.0	-1.5	-2.9	BSL314PE	OptiMOS™2
	150	270			-2.0 ... -1.0	-1.5	-2.3	BSL315P	OptiMOS™P2
-20V		150	280		-1.2 ... -0.6	-1.5	-3.55	BSL215P	OptiMOS™P2
20V		50	85		0.7 ... 1.2	2.5	2.1	BSL205N	OptiMOS™P2
		70	110		0.7 ... 1.2	2.1	2.1	BSL207N	OptiMOS™P2
		140	250		0.7 ... 1.2	1.5	0.8	BSL214N	OptiMOS™P2
			57	82	0.3...0.75	2.3	1.7	BSL806N	OptiMOS™P2
30V	57	93			1.2 ... 2.0	2.3	1.6	BSL306N	OptiMOS™2

TSOP-6 complementary

Voltage	$R_{DS(on)}$ (max.) [mΩ]				$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$	@ $V_{GS} = 4.5V$	@ $V_{GS} = 2.5V$	@ $V_{GS} = 1.8V$					
-20V		150	280		-1.2 ... -0.6	-1.5	-3.0	BSL215C/p-ch	OptiMOS™P2
20V		140	250		0.7 ... 1.2	1.5	0.73	BSL215C/n-ch	OptiMOS™2
30V	57	93			1.2 ... 2.0	2.3	3.0	BSL308C/n-ch	
-30V	80	130			-2.0 ... -1.0	-1.6	5.0	BSL308C/p-ch	
-30V	150	270			-2 ... -1.0	-1.5	-2.4	BSL316C/p-ch	OptiMOS™P2
30V	160	280			1.2 ... 2.0	1.4	0.6	BSL316C/n-ch	OptiMOS™2



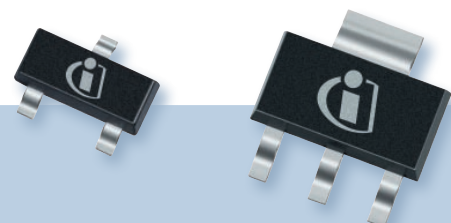
Depletion MOSFETs

SOT-23

Voltage	$R_{DS(on)}$ (max.) [mΩ]	$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$					
60V	8000	-3.5 ... -2.4	0.13	2.2	BSS159N	planar
100V	12000	-2.9 ... -1.8	0.09	2.1	BSS169	planar
250V	30000	-2.1 ... -1.0	0.03	2.3	BSS139	planar
600V	700000	-2.7 ... -1.6	0.007	1.4	BSS126	planar

SOT-223

Voltage	$R_{DS(on)}$ (max.) [mΩ]	$V_{GS(th)}$ [V]	I_D [A]	Q_g (typ.) [nC]	Type	Technology
	@ $V_{GS} = 10V$					
200V	3500	-2.1 ... -1.0	0.14	11	BSP149	planar
240V	6000	-2.1 ... -1.0	0.05	3.8	BSP129	planar
600V	6000	-2.1 ... -1.0	0.02	3.7	BSP135	planar



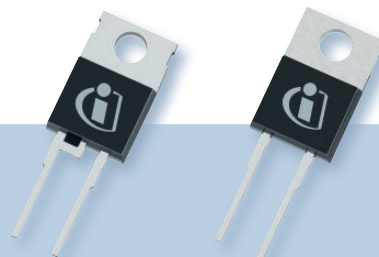
Silicon Carbide High Voltage Schottky Diodes

TO-220 with decapped middle leg

Voltage	I_F [A]	Q_c (typ.) [nC]	I_{FSM} [A]	Type	Technology
600V	4	13.0	12.5	SDT04S60	thinQ! TM
	5	14.0	18.5	SDT05S60	thinQ! TM
	6	21.0	21.5	SDT06S60	thinQ! TM
	8	24.0	26.0	SDT08S60	thinQ! TM
	10	29.0	31.0	SDT10S60	thinQ! TM
	12	30.0	36.0	SDT12S60	thinQ! TM
	2	3.2	11.5	IDT02S60C	thinQ! TM 2G
	3	5.0	16.0	IDT03S60C	thinQ! TM 2G
	4	8.0	32.0	IDT04S60C	thinQ! TM 2G
	5	12.0	42.0	IDT05S60C	thinQ! TM 2G
	6	15.0	49.0	IDT06S60C	thinQ! TM 2G
	8	19.0	59.0	IDT08S60C	thinQ! TM 2G
	10	24.0	84.0	IDT10S60C	thinQ! TM 2G
	12	30.0	98.0	IDT12S60C	thinQ! TM 2G
	16	38.0	118.0	IDT16S60C	thinQ! TM 2G

TO-220 real 2pin

Voltage	I_F [A]	Q_c (typ.) [nC]	I_{FSM} [A]	Type	Technology
600V	4	8	32	IDH04S60C	thinQ! TM 2G
	6	15	49	IDH06S60C	thinQ! TM 2G
	8	19	59	IDH08S60C	thinQ! TM 2G
	10	24	84	IDH10S60C	thinQ! TM 2G
	3	3.2	11.5	IDH03SG60C	thinQ! TM 3G
	4	4.5	18.0	IDH04SG60C	thinQ! TM 3G
	5	6.0	26.0	IDH05SG60C	thinQ! TM 3G
	6	8.0	32.0	IDH06SG60C	thinQ! TM 3G
	8	12.0	42.0	IDH08SG60C	thinQ! TM 3G
	9	15.0	49.0	IDH09SG60C	thinQ! TM 3G
	10	16.0	51.0	IDH10SG60C	thinQ! TM 3G
	12	19.0	59.0	IDH12SG60C	thinQ! TM 3G
1200V	2	7	14	IDH02SG120	thinQ! TM 3G
	5	18	29	IDH05S120	thinQ! TM 3G
	8	27	39	IDH08S120	thinQ! TM 3G
	10	36	58	IDH10S120	thinQ! TM 3G
	15	54	78	IDH15S120	thinQ! TM 3G



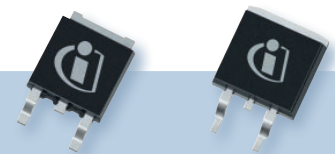


DPAK (TO-252)

Voltage	I_f [A]	Q_c (typ.) [nC]	I_{FSM} [A]	Type	Technology
600V	4	13.0	12.5	SDD04S60	thinQ! TM
	4	8.0	32.0	IDD04S60C	thinQ! TM 2G
	3	3.2	11.5	IDD03SG60C	thinQ! TM 3G
	4	4.5	18.0	IDD04SG60C	thinQ! TM 3G
	5	6.0	26.0	IDD05SG60C	thinQ! TM 3G
	6	8.0	31.0	IDD06SG60C	thinQ! TM 3G
	8	12.0	42.0	IDD08SG60C	thinQ! TM 3G
	9	15.0	49.0	IDD09SG60C	thinQ! TM 3G
	10	16.0	51.0	IDD10SG60C	thinQ! TM 3G
	12	19.0	59.0	IDD12SG60C	thinQ! TM 3G

D²PAK (TO-263)

Voltage	I_f [A]	Q_c (typ.) [nC]	I_{FSM} [A]	Type	Technology
600V	6	21	21.5	SDB06S60	thinQ! TM
	6	15	49.0	IDB06S60C	thinQ! TM 2G
	10	24	84.0	IDB10S60C	thinQ! TM 2G



Silicon Power Diodes

TO-247

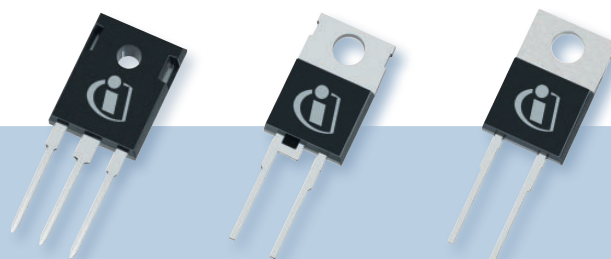
Voltage	I_F [A]	Q_c (typ.) [nC]	I_{FSM} [A]	Type	Technology
600V	75	2400	220	IDW75E60	Emitter Controlled Diodes
	100	3600	400	IDW100E60	Emitter Controlled Diodes

TO-220

Voltage	I_F [A]	Q_c (typ.) [nC]	I_{FSM} [A]	Type	Technology
600V	6	240	29	IDP06E60	Emitter Controlled Diodes
	9	343	40	IDB09E60	Emitter Controlled Diodes
	15	595	60	IDP15E60	Emitter Controlled Diodes
	23	970	89	IDP23E60	Emitter Controlled Diodes
	30	1100	117	IDP30E60	Emitter Controlled Diodes
	45	1400	162	IDP45E60	Emitter Controlled Diodes
1200V	4	330	28	IDP04E120	Emitter Controlled Diodes
	9	950	50	IDP09E120	Emitter Controlled Diodes
	12	1840	12	IDP12E120	Emitter Controlled Diodes
	18	1880	78	IDP18E120	Emitter Controlled Diodes
	30	2630	102	IDP30E120	Emitter Controlled Diodes

TO-220 real 2pin

Voltage	I_F [A]	Q_c (typ.) [nC]	I_{FSM} [A]	Type	Technology
1200V	4				
	9	950	50	IDH09E120	Emitter Controlled Diodes
	12	1200	63	IDH12E120	Emitter Controlled Diodes
	18	1880	78	IDH18E120	Emitter Controlled Diodes
	30	2630	102	IDH30E120	Emitter Controlled Diodes



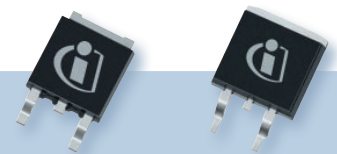
Silicon Power Diodes

DPAK (TO-252)

Voltage	I_f [A]	Q_c (typ.) [nC]	$I_{F,SM}$ [A]	Type	Technology
600V	3	118	16	IDD03E60	Emitter Controlled Diodes
	6	240	29	IDD06E60	Emitter Controlled Diodes
	9	343	40	IDD09E60	Emitter Controlled Diodes
	15	595	60	IDD15E60	Emitter Controlled Diodes

D²PAK (TO-263)

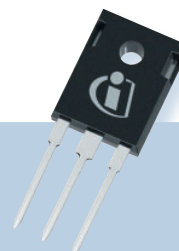
Voltage	I_f [A]	Q_c (typ.) [nC]	$I_{F,SM}$ [A]	Type	Technology
600V	6	360	29	IDB06E60	Emitter Controlled Diodes
	9	343	40	IDB09E60	Emitter Controlled Diodes
	9	585	40	IDB09E60	Emitter Controlled Diodes
	15	995	60	IDB15E60	Emitter Controlled Diodes
	23	970	89	IDB23E60	Emitter Controlled Diodes
	30	1100	117	IDB30E60	Emitter Controlled Diodes
	45	1400	162	IDB45E60	Emitter Controlled Diodes
1200V	9	585	29.5	IDB09E60	Emitter Controlled Diodes
	12	1200	63.0	IDB12E120	Emitter Controlled Diodes
	18	1880	78.0	IDB18E120	Emitter Controlled Diodes
	30	2630	102.0	IDB30E120	Emitter Controlled Diodes



Discretes IGBTs

TO-247

Voltage	I_c (max.) [A]	I_{Cpuls} (max.) [A]	P_{tot} (max.) [W]	$V_{CE(gat)}$ (typ.) [V]	Type	Technology
600V	10	40	92	2.3	SGW10N60A	Fast IGBT Single Version
	10	40	92	2.3	SKW10N60	Fast IGBT Duo Pack
	15	62	139	2.3	SGW15N60	Fast IGBT Single Version
	15	62	139	2.3	SKW15N60	Fast IGBT Duo Pack
	20	60	166	1.5	IKW20N60T	TRENCHSTOP™ Duo Pack
	20	80	178	2.8	SKW20N60HS	High Speed IGBT Duo Pack
	20	80	179	2.4	SGW20N60	Fast IGBT Single Version
	20	80	179	2.4	SKW20N60	Fast IGBT Duo Pack
	30	41	250	2.5	SGW30N60	Fast IGBT Single Version
	30	90	187	1.5	IHW30N60T	TRENCHSTOP™ RC-H
	30	90	187	1.5	IKW30N60T	TRENCHSTOP™ Duo Pack
	30	90	187	1.5	IGW30N60T	TRENCHSTOP™ Single Version
	30	112	250	2.5	SKW30N60	Fast IGBT Duo Pack
	30	112	250	2.8	SKW30N60HS	High Speed IGBT Duo Pack
	30	112	250	2.8	SGW30N60HS	High Speed IGBT Single Version
	40	120	303	1.55	IHW40T60	TRENCHSTOP™ Duo Pack
	40	120	305	1.65	IHW40N60R	TRENCHSTOP™ RC-H
	50	150	333	1.5	IGW50N60T	TRENCHSTOP™ Single Version
	50	150	333	1.5	IKW50N60T	TRENCHSTOP™ Duo Pack
	50	150	416	2.8	SGW50N60HS	High Speed IGBT Single Version
75	225	428	1.5	IGW75N60T	TRENCHSTOP™ Single Version	
75	225	428	1.5	IKW75N60T	TRENCHSTOP™ Duo Pack	
900V	30	90	428	1.5	IHW30N90T	TRENCHSTOP™ Duo Pack
	30	90	454	1.7	IHW30N90R	TRENCHSTOP™ RC-H
1000V	30	90	412	1.55	IHW30N100T	TRENCHSTOP™ Duo Pack
	30	90	412	1.55	IGW30N100T	TRENCHSTOP™ Single Version
	30	90	412	1.75	IHW30N100R	TRENCHSTOP™ RC-H
	30	90	412	1.80	IKW30N100T	TRENCHSTOP™ Duo Pack
1100V	30	90	333	1.5	IHW30N110R3	TRENCHSTOP™ RC-H

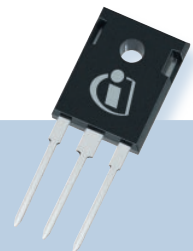


1) Available, Q2/2010

Discretes IGBTs

TO-247

Voltage	I_c (max.) [A]	I_{cpuls} (max.) [A]	P_{tot} (max.) [W]	$V_{CE(sat)}$ (typ.) [V]	Type	Technology
1200V	3	9.9	62.5	2.2	IKW03N120H2	High Speed 2 IGBT Duo Pack
	3	9.9	62.5	2.2	IGW03N120H2	High Speed 2 IGBT Single Version
	8	24	70	1.7	IGW08T120	TRENCHSTOP™ Single Version
	8	24	70	1.7	IKW08T120	TRENCHSTOP™ Duo Pack
	8	27	125	3.1	SKW07N120	Fast IGBT Duo Pack
	15	45	110	1.7	IGW15T120	TRENCHSTOP™ Single Version
	15	45	110	1.7	IKW15T120	TRENCHSTOP™ Duo Pack
	15	45	113	2.2	IHW15T120	TRENCHSTOP™ RC-H
	15	45	113	2.2	IHW15T120	TRENCHSTOP™ RC-H
	15	45	357	1.8	IHW15N120R2	TRENCHSTOP™ RC-H
	15	45	254	1.48	IHW15N120R3	TRENCHSTOP™ RC-H
	15	52	168	3.1	SGW15N120	Fast IGBT Single Version
	15	52	198	3.1	SKW15N120	Fast IGBT 2 Duo Pack
	15	60	235	2.2	IKW15N120T2	TRENCHSTOP™ 2 Duo Pack
	15	60	217	2.05	IKW15N120H3	High Speed 3
	15	60	217	2.05	IGW15N120HS3	High Speed 3
	20	60	330	1.45	IHW20N120R3	TRENCHSTOP™ RC
	20	60	330	1.15	IHW20N120R2	TRENCHSTOP™ RC-H
	20	60	178	1.7	IHW20T120	TRENCHSTOP™ RC-H
	25	75	190	1.7	IGW25T120	TRENCHSTOP™ Single Version
	25	75	190	1.7	IKW25T120	TRENCHSTOP™ Duo Pack
	25	75	365	1.6	IHW25N120R2	TRENCHSTOP™ RC
	25	84	313	3.1	SGW25N120	Fast IGBT Single Version
	25	84	313	3.1	SKW25N120	Fast IGBT Duo Pack
	25	100	349	1.7	IKW25N120T2	TRENCHSTOP™ 2
	30	90	390	1.55	IHW30N120R	TRENCHSTOP™ RC-H
	30	90	390	1.65	IHW30N120R2	TRENCHSTOP™ RC-H
	40	105	270	2.3	IHW40T120	TRENCHSTOP™ Duo Pack
	40	105	270	1.7	IGW40T120	TRENCHSTOP™ Single Version
	40	105	270	1.7	IKW40T120	TRENCHSTOP™ Duo Pack
40	160	480	1.75	IKW40N120T2	TRENCHSTOP™ 2 Duo Pack	
40	105	270	1.7	IGW60T120	TRENCHSTOP™ Single Version	
1600V	30	90	312	1.8	IHW30N160R2	TRENCHSTOP™ RC-H





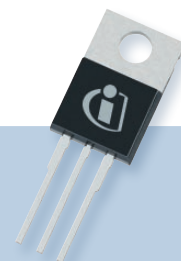
TO-247HC

Voltage	I_c (max.) [A]	I_{Cpuls} (max.) [A]	P_{tot} (max.) [W]	$V_{CE(gat)}$ (typ.) [V]	Type	Technology
600V	30	90	312	1.8	IHY30N160R2	TRENCHSTOP™ RC-H
1200V	15	45	254	1.48	IHY15N120R3	TRENCHSTOP™ RC-H
	20	60	310	1.48	IHY20N120R3	TRENCHSTOP™ RC-H

TO-220

Voltage	I_c (max.) [A]	I_{Cpuls} (max.) [A]	P_{tot} (max.) [W]	$V_{CE(gat)}$ (typ.) [V]	Type	Technology
600V	2	12	30	2.2	SGP02N60	Fast IGBT Single Version
	2	12	30	2.2	SKP02N60	Fast IGBT Duo Pack
	4	12	42	1.5	IKP04N60T	TRENCHSTOP™ Duo Pack
	4	19	50	2.3	SGP04N60	Fast IGBT Single Version
	4	19	50	2	SKP04N60	Fast IGBT Duo Pack
	6	18	88	1.5	IKP06N60T	TRENCHSTOP™ Duo Pack
	6	18	88	1.5	IGP06N60T	TRENCHSTOP™ Single Version
	6	24	68	2.3	SKP06N60	Fast IGBT Duo Pack
	6	24	68	2.3	SGP06N60	Fast IGBT Single Version
	10	30	110	1.5	IKP10N60T	TRENCHSTOP™ Duo Pack
	10	30	110	1.5	IGP10N60T	TRENCHSTOP™ Single Version
	10	40	92	2.3	SKP10N60A	Fast IGBT Duo Pack
	10	40	92	2.3	SGP10N60A	Fast IGBT Single Version
	15	45	130	1.5	IKP15N60T	TRENCHSTOP™ Duo Pack
	15	45	130	1.5	IGP15N60T	TRENCHSTOP™ Single Version
	15	62	132	2.3	SKB15N60	Fast IGBT Duo Pack
	15	62	139	2.3	SKP15N60	Fast IGBT Duo Pack
	15	62	139	2.3	SGP15N60	Fast IGBT Single Version
	20	60	166	1.5	IKP20N60T	TRENCHSTOP™ Duo Pack
	20	80	178	3.5	SGP20N60HS	High Speed IGBT Single Version
	20	80	179	2.4	SGP20N60	Fast IGBT Single Version
	30	90	187	tbd	IGP30N60H3 ¹⁾	High Speed IGBT 3 Single Version
	30	90	187	tbd	IGB30N60T	TRENCHSTOP™ Single Version
30	112	250	2.5	SGP30N60	Fast IGBT Single Version	
30	112	250	3.5	SGP30N60HS	High Speed IGBT Single Version	
50	150	333	1.5	IGP50N60T	TRENCHSTOP™ Single Version	

1) Available, Q2/2010



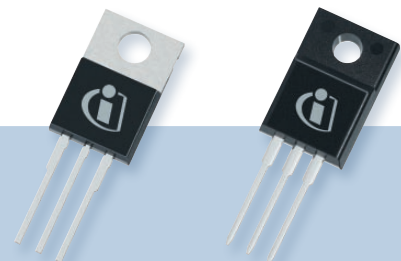
Discretes IGBTs

TO-220

Voltage	I_c (max.) [A]	I_{cpuls} (max.) [A]	P_{tot} (max.) [W]	$V_{CE(sat)}$ (typ.) [V]	Type	Technology
1200V	1	3.5	28.0	2.5	IGP01N120H2	High Speed 2 IGBT Single Version
	1	3.5	28.0	2.5	IKP01N120H2	High Speed 2 IGBT Duo Pack
	2	9.6	62.0	3.7	SKB02N120	Fast IGBT Duo Pack
	2	9.6	62.0	3.7	SKP02N120	Fast IGBT Duo Pack
	2	9.6	62.0	3.7	SGP02N120	Fast IGBT Single Version
	3	9.9	62.5	2.5	IKP03N120H2	High Speed 2 IGBT Duo Pack
	3	9.9	62.5	2.5	IGP03N120H2	High Speed 2 IGBT Single Version
	7	27.0	125.0	3.7	SGP07N120	Fast IGBT Single Version
	10	24.0	138.0	2.2	IHP10T120	TRENCHSTOP™ Duo Pack
15	52.0	198.0	3.7	SGP15N120	Fast IGBT Single Version	

TO-220 FullPAK

Voltage	I_c (max.) [A]	I_{cpuls} (max.) [A]	P_{tot} (max.) [W]	$V_{CE(sat)}$ (typ.) [V]	Type	Technology
600V	6	18	28	1.5	IKA06N60T	TRENCHSTOP™ Duo Pack
	6	24	68	2.3	SKA06N60	Fast IGBT Duo Pack
	10	30	30	1.5	IKA10N60T	TRENCHSTOP™ Duo Pack
	15	45	35.7	1.5	IKA15N60T	TRENCHSTOP™ Duo Pack
1200V	3	9	29	2.5	IKA03N120H2	High Speed 2 Duo Pack
	3	9	29	2.5	IGA03N120H2	High Speed 2 IGBT Single Version





DPAK (TO-252)

Voltage	I_c (max.) [A]	$I_{c\text{puls}}$ (max.) [A]	P_{tot} (max.) [W]	$V_{\text{CE(sat)}}$ (typ.) [V]	Type	Technology
600V	2	12	30	2.2	SGD02N60	Fast IGBT Single Version
	2	12	30	2.2	SGD02N60	Fast IGBT Single Version
	4	12	73	1.65	IKD04N60R	RC-Drives
	4	12	73	1.65	IKD04N60RA	RC-Drives
	4	19	50	2.3	SGD04N60	Fast IGBT Single Version
	4	19	50	2.3	SGD04N60	Fast IGBT Single Version
	6	18	88	1.6	IHD06N60RA	TRENCHSTOP™ RC-H
	6	18	88	1.5	IGD06N60T	TRENCHSTOP™ Single Version
	6	18	102	1.65	IKD06N60R	RC-Drives
	6	18	102	1.65	IKD06N60RA	RC-Drives
	6	24	68	2.3	SGD06N60	Fast IGBT Single Version
	10	30	110	1.6	IHD10N60RA	TRENCHSTOP™ RC-H
	10	30	154	1.65	IKD10N60R	RC-Drives
	10	30	154	1.65	IKD10N60RA	RC-Drives
1200V	1	3.5	28	2.5	IGD01N120H2	High Speed 2 IGBT Single Version
	2	9.6	62	3.7	SGD02N120	Fast IGBT Single Version

D²PAK (TO-263)

Voltage	I_c (max.) [A]	$I_{c\text{puls}}$ (max.) [A]	P_{tot} (max.) [W]	$V_{\text{CE(sat)}}$ (typ.) [V]	Type	Technology
600V	2	12	30	2.2	SKB02N60	Fast IGBT Duo Pack
	2	12	30	2.2	SGB02N60	Fast IGBT Single Version
	4	19	50	2.3	SKB04N60	Fast IGBT Duo Pack
	4	19	50	2.3	SKB04N60	Fast IGBT Duo Pack
	6	18	88	1.5	IKB06N60T	TRENCHSTOP™ Duo Pack
	6	24	68	2.3	SKB06N60	Fast IGBT Duo Pack
	6	24	68	2.3	SGB06N60	Fast IGBT Single Version
	6	24	68	2.8	SKB06N60HS	High Speed IGBT Duo Pack
	10	30	110	1.5	IGB10N60T	TRENCHSTOP™ Single Version
	10	30	110	1.5	IKB10N60T	TRENCHSTOP™ Duo Pack
	10	30	110	1.5	IGB10N60T	TRENCHSTOP™ Single Version
	10	40	92	2.3	SKB10N60A	Fast IGBT Duo Pack
	10	40	92	2.3	SGB10N60A	Fast IGBT Single Version
	15	45	130	1.5	IKB15N60T	TRENCHSTOP™ Duo Pack
	15	45	130	1.5	IGB15N60T	TRENCHSTOP™ Single Version
	15	60	138	2.8	SKB15N60HS	High Speed IGBT Duo Pack



IGTs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

Discretes IGBTs

D²PAK (TO-263)

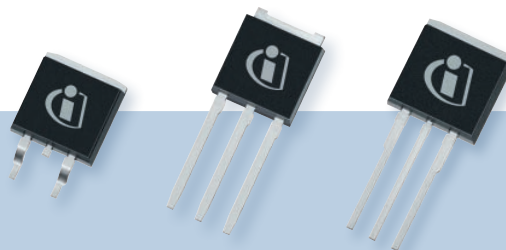
Voltage	I_c (max.) [A]	I_{cpuls} (max.) [A]	P_{tot} (max.) [W]	$V_{CE(sat)}$ (typ.) [V]	Type	Technology
600V	15	60	138	2.8	SGB15N60HS	High Speed IGBT Single Version
	15	62	139	2.3	SGB15N60	Fast IGBT Single Version
	15	62	139	2.3	SKB15N60	Fast IGBT Duo Pack
	20	60	166	1.5	IKB20N60T	TRENCHSTOP™ Duo Pack
	20	80	179	2.4	SGB20N60	Fast IGBT Single Version
	30	90	187	1.5	IGB30N60T	TRENCHSTOP™ Single Version
	30	112	250	2.5	SGB30N60	Fast IGBT Single Version
	30	112	250	2.5	SGB30N60	Fast IGBT Single Version
1200V	1	3.5	28	2.5	IGB01N120H2	High Speed 2 IGBT Single Version
	1	3.5	28	2.5	IKB01N120H2	High Speed 2 IGBT Duo Pack
	2	9.6	62	3.7	SGB02N120	Fast IGBT Single Version
	2	9.6	62	2.3	SKB02N120	Fast IGBT Duo Pack
	3	9.9	62.5	2.5	IKB03N120H2	High Speed 2 IGBT Duo Pack
	3	9.9	62.5	2.5	IGB03N120H2	High Speed 2 IGBT Single Version
	7	27	125	3.7	SGB07N120	Fast IGBT Single Version
	15	52	198	3.7	SGB15N120	Fast IGBT Single Version

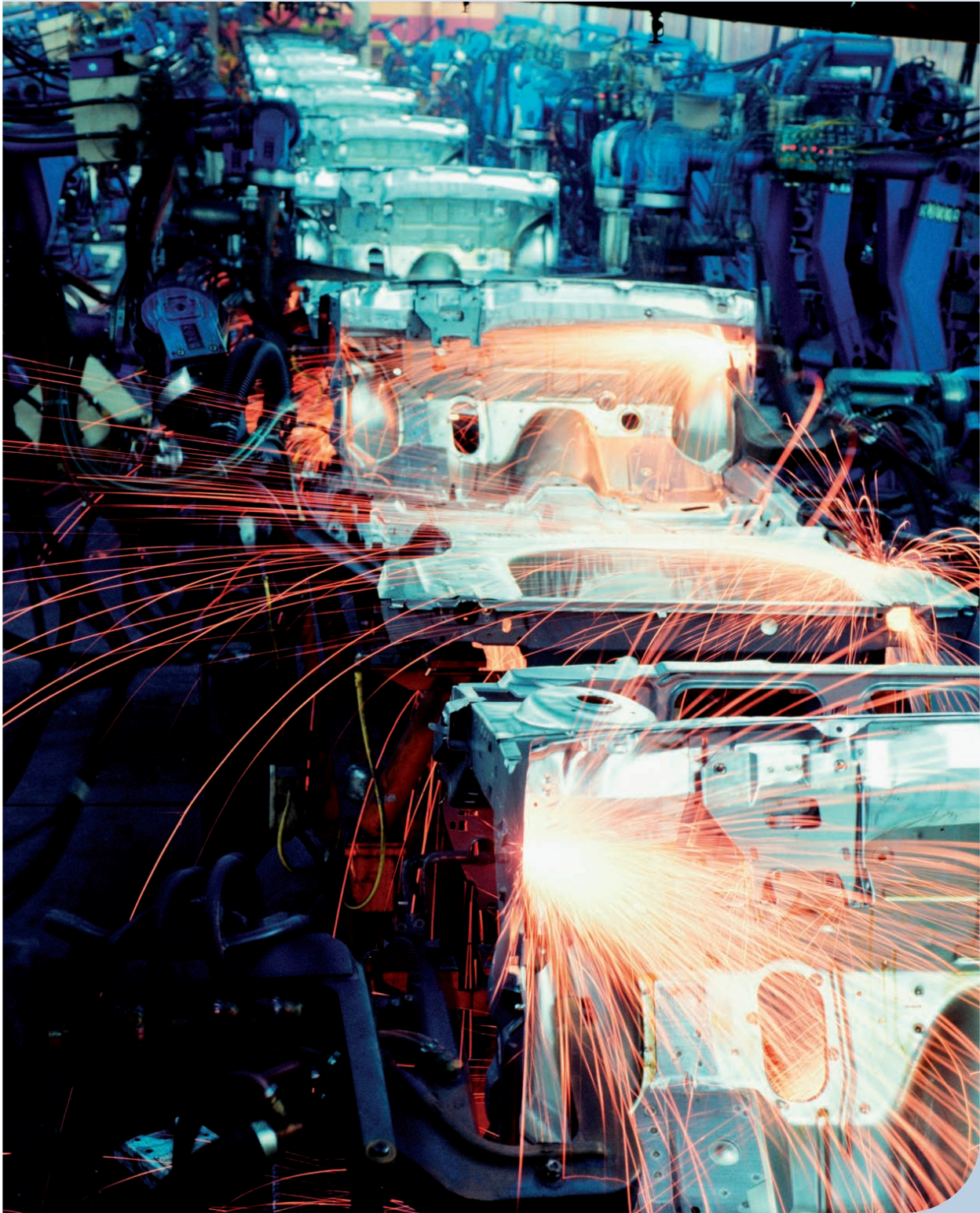
I²PAK (TO-251)

Voltage	I_c (max) [A]	I_{cpuls} (max) [A]	P_{tot} (max) [W]	$V_{CE(sat)}$ (typ) [V]	Type	Technology
600V	4	12	73	1.65	IKU04N60R	RC-Drives
	4	tbd	tbd	tbd	SGU04N60	Fast IGBT Single Version
	6	18	102	1.65	IKU06N60R	RC-Drives
	6	tbd	tbd	tbd	SGU06N60	Fast IGBT Single Version
	10	30	154	1.65	IKU10N60R	RC-Drives
	15	30	241	1.65	IKU15N60R	RC-Drives

I²PAK (TO-262)

Voltage	I_c (max) [A]	I_{cpuls} (max) [A]	P_{tot} (max) [W]	$V_{CE(sat)}$ (typ) [V]	Type	Technology
600V	4	12	42	1.5	IKI04N60T	TRENCHSTOP™ Duo Pack
1200V	2	9.6	62	3.7	SGI02N120	Fast IGBT Single Version





Type List

Packages

Naming System

Discretes IGBTs

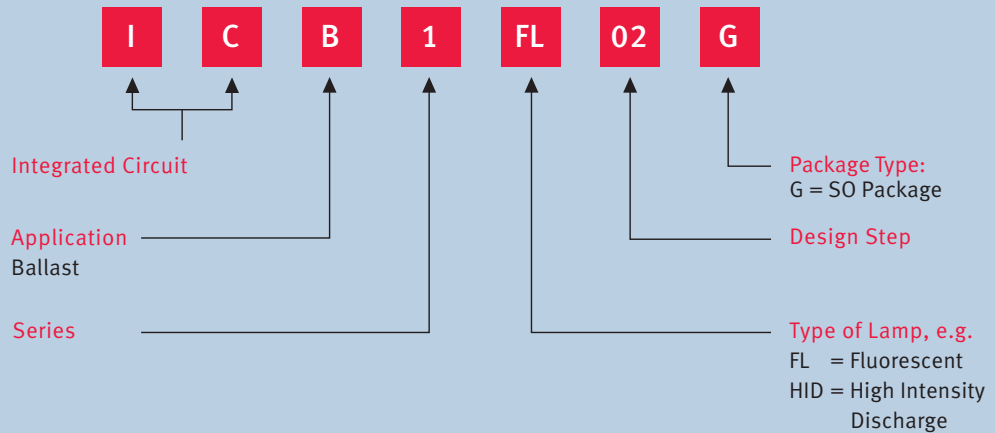
Power Diodes

MOSFETs

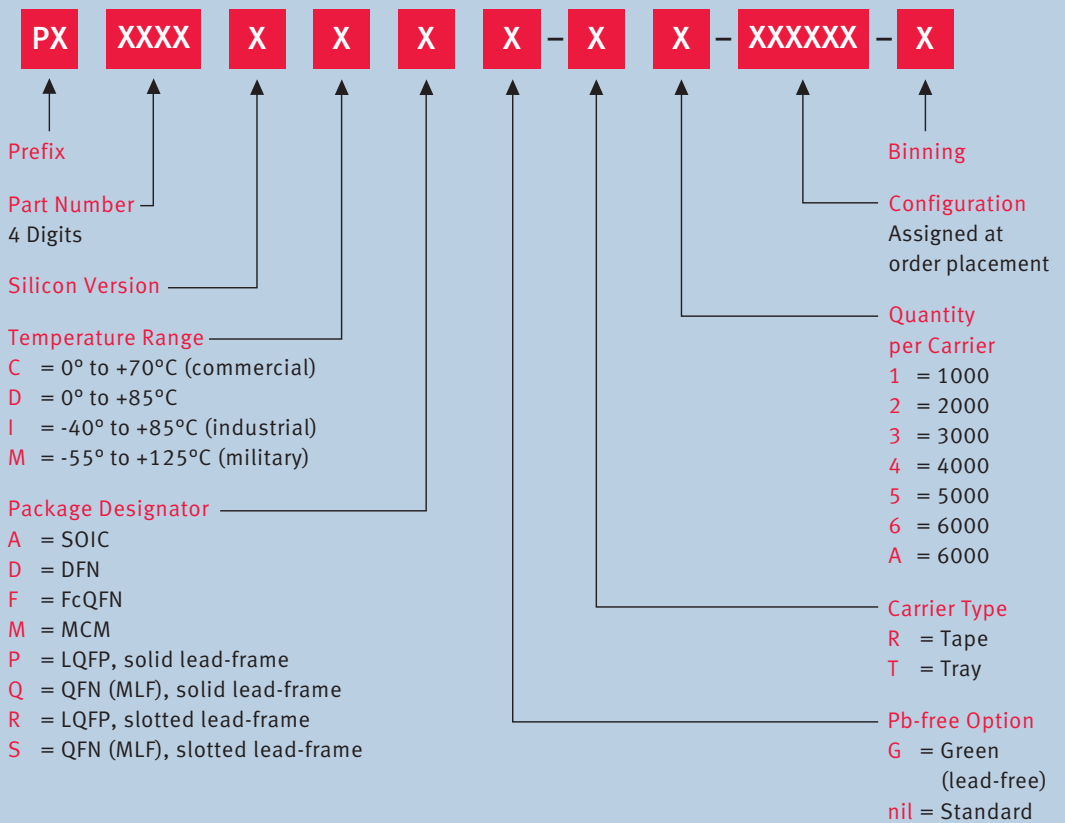
ICs

Naming System

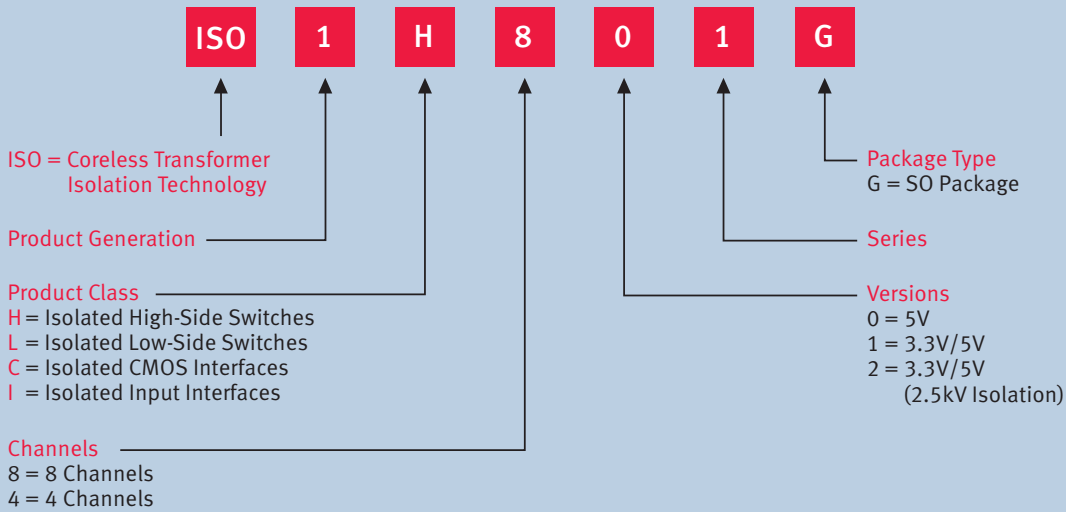
Lighting ICs



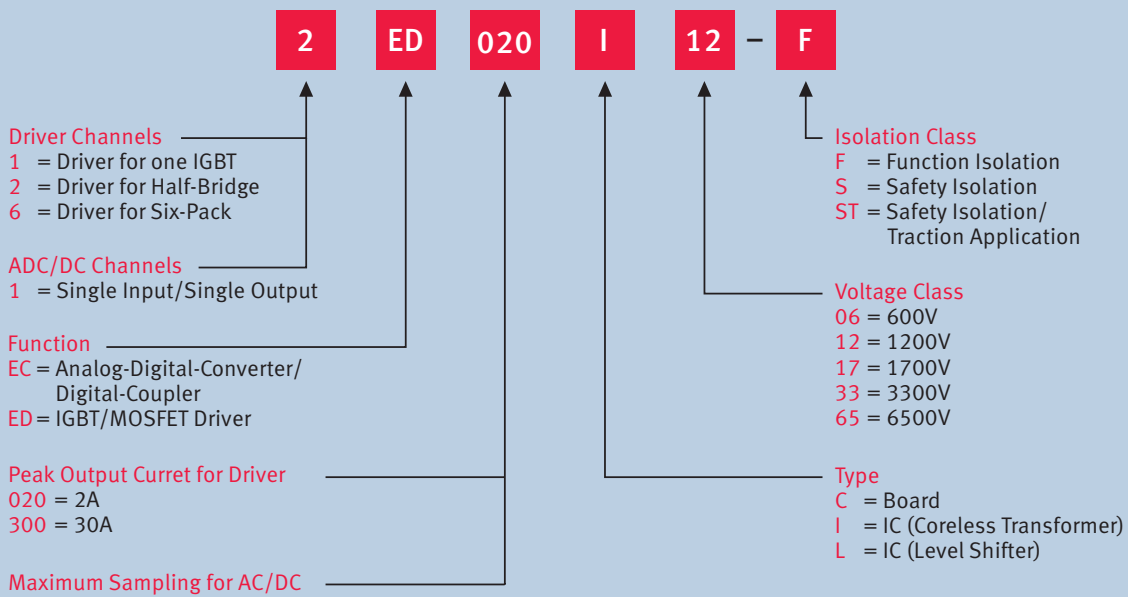
Primarion Part Numbering and Ordering



Driver ICs (ISOFACE™)

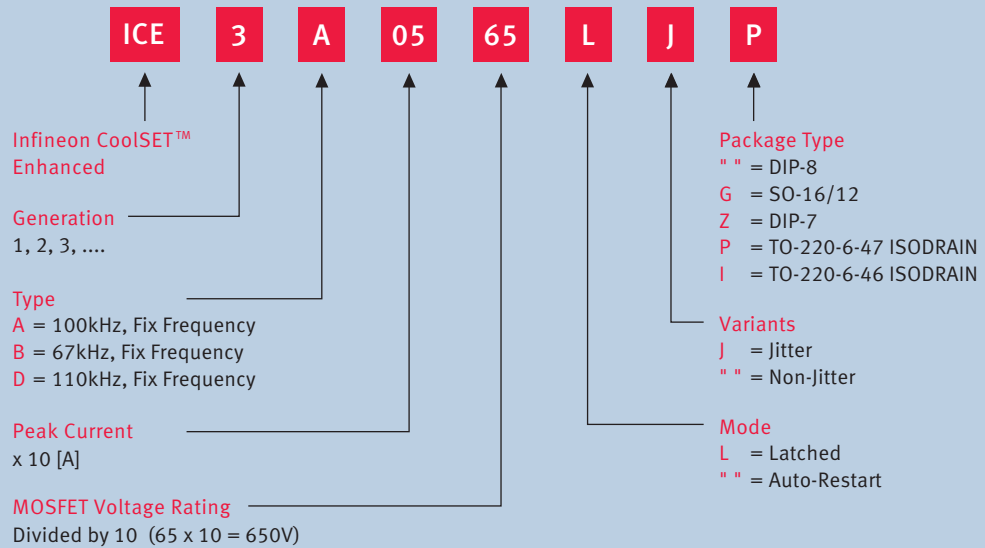


Driver ICs (EiceDRIVER™)

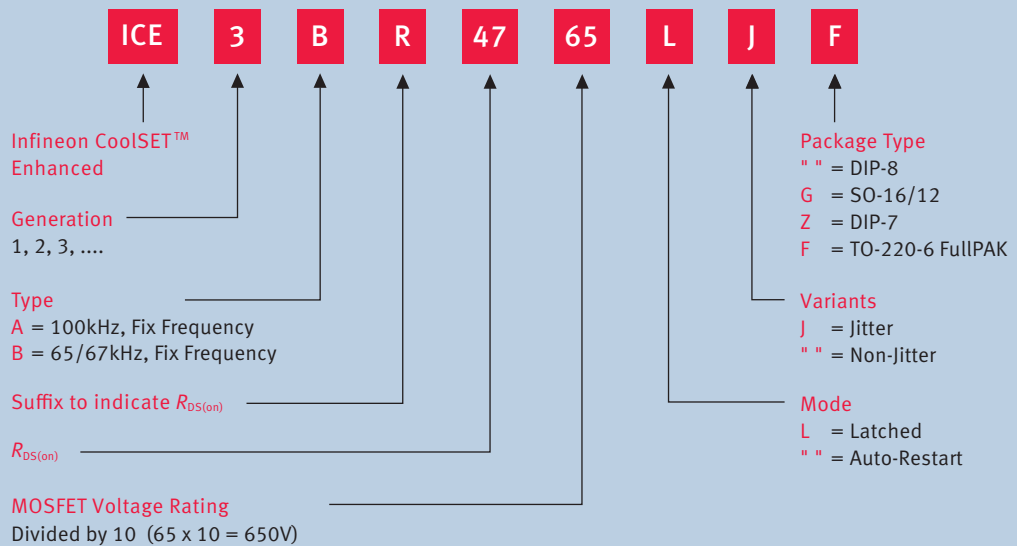


Naming System

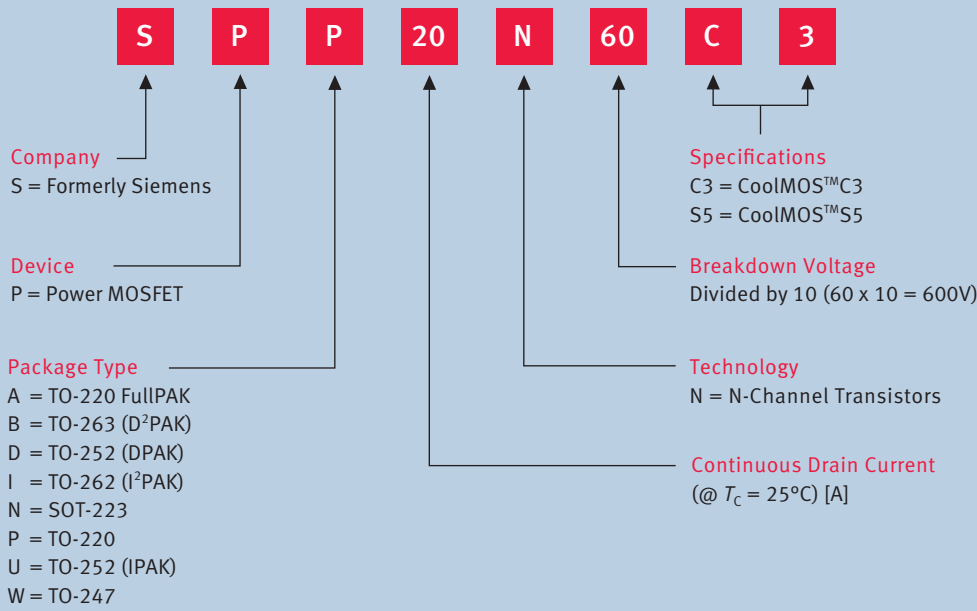
CoolSET™ (old nomenclature)



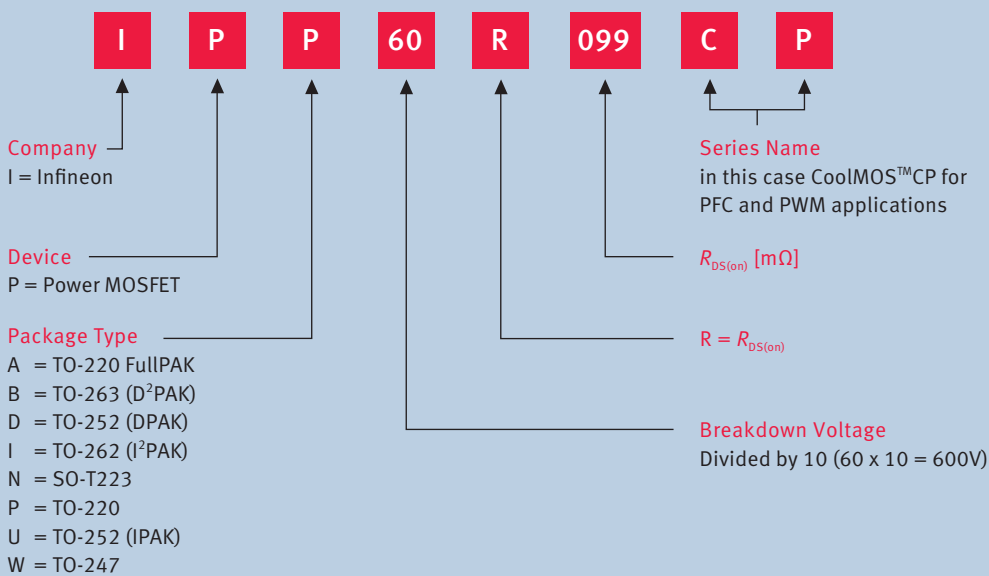
CoolSET™ (new nomenclature)



Power MOSFETs (> 300V)

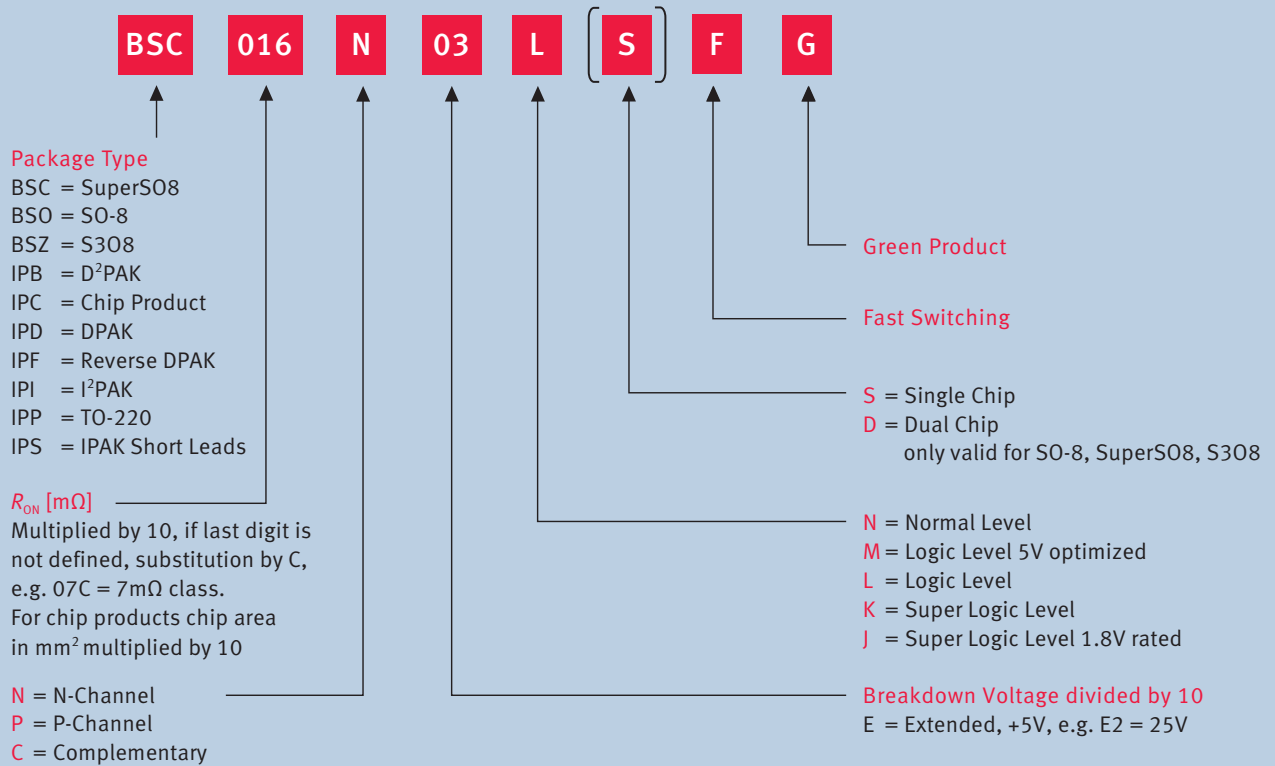


Power MOSFETs (> 300V)–CP Generation

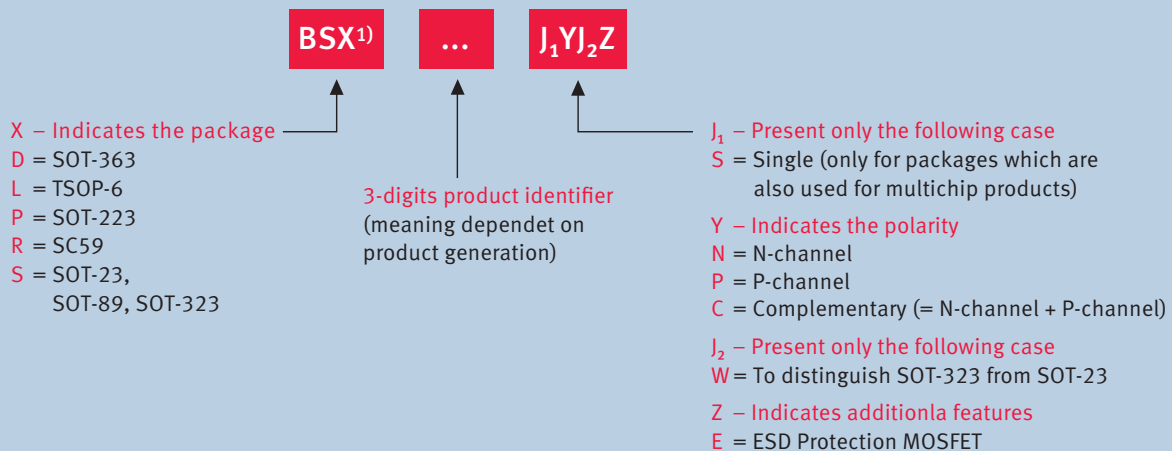


Naming System

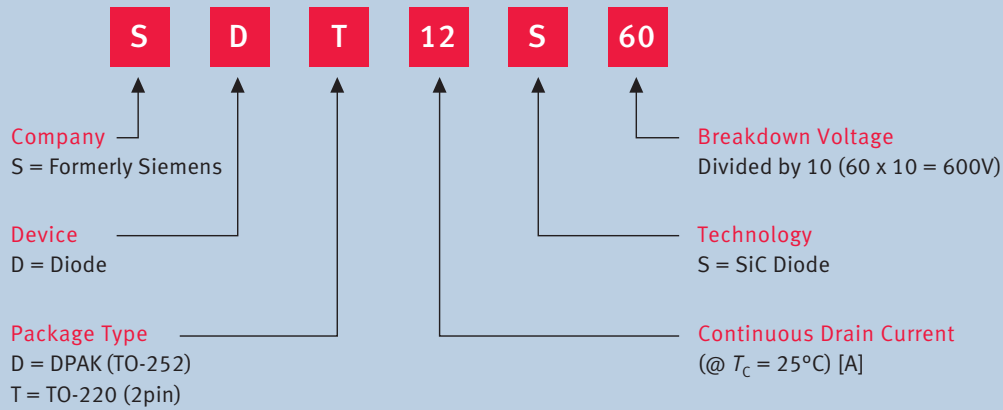
OptiMOS™



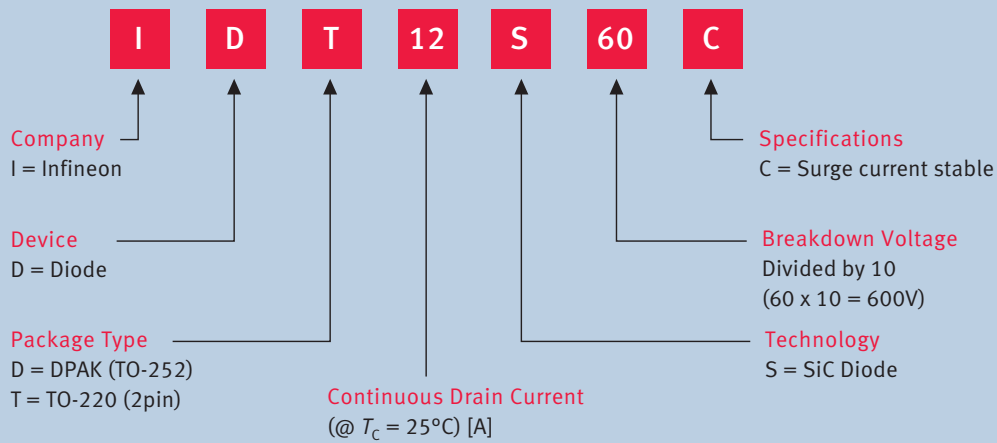
Small Signal MOSFETs



thinQ!™

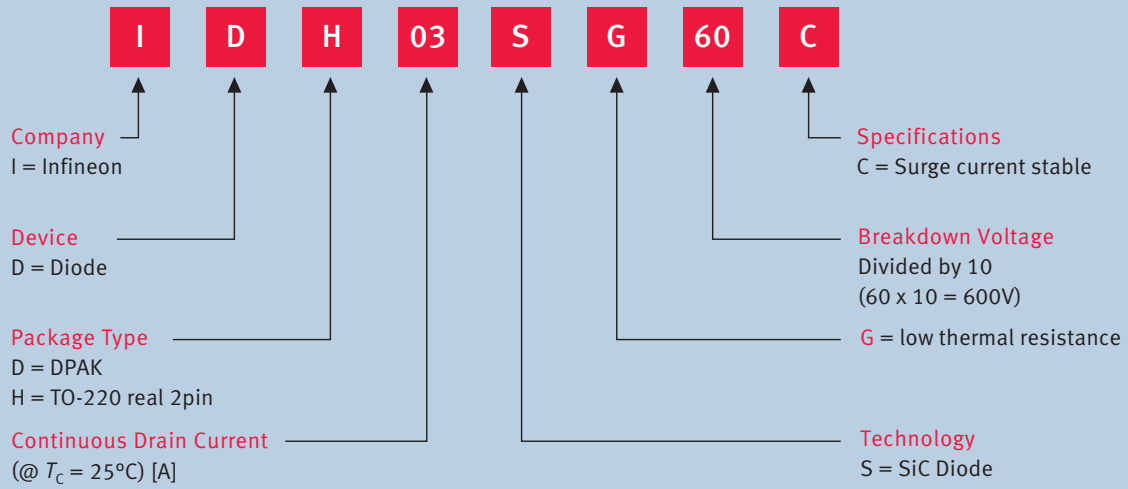


thinQ!™ 2G

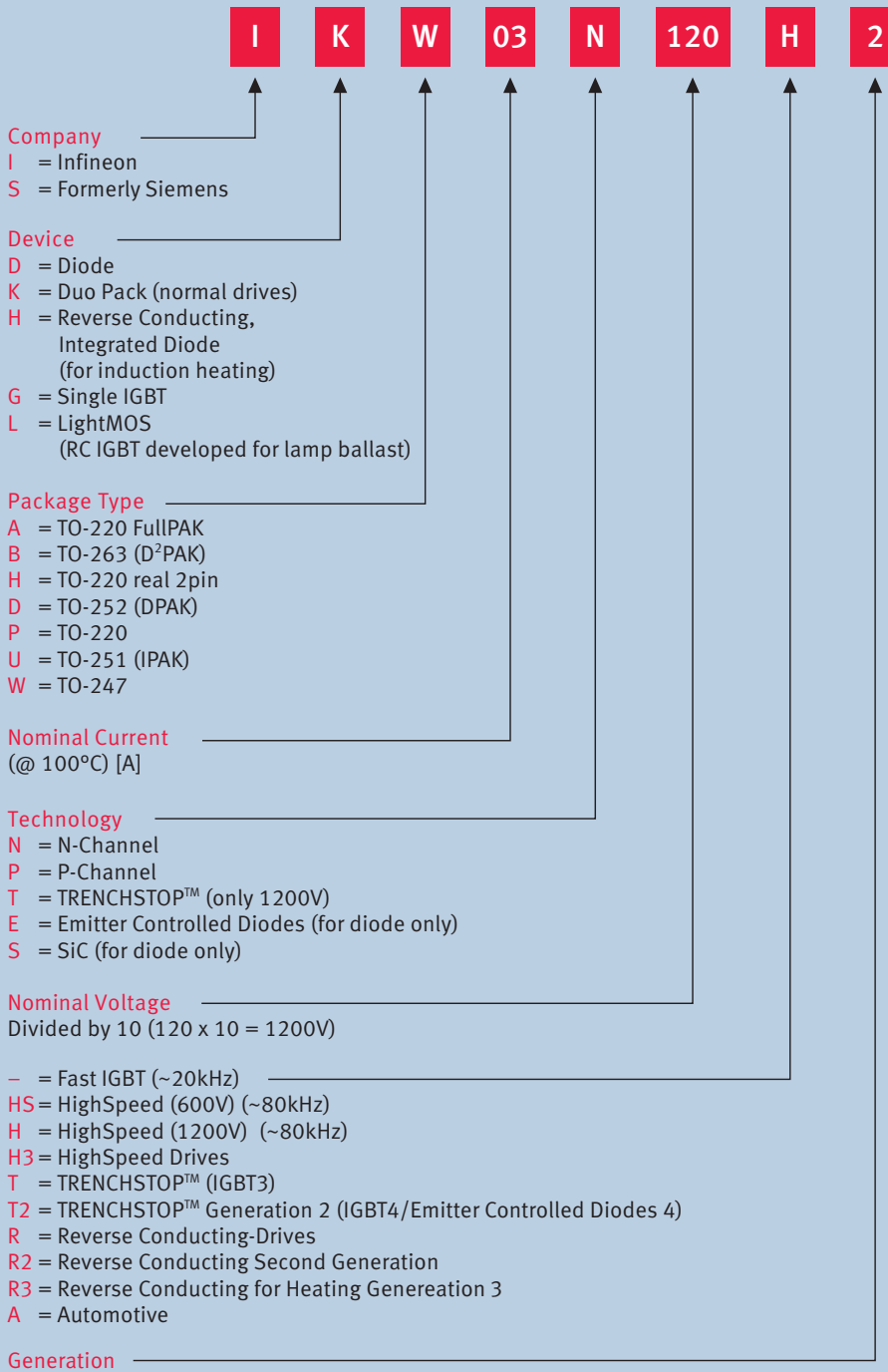


Naming System




thinQ!™ 3G



Discretes IGBT and Emitter Controlled Diodes



Packages

CanPAK™ S-Size		CanPAK™ M-Size		DPAK (TO-252)		Reverse DPAK (Rev. TO-252)		DPAK 5pin (TO-252 5pin)		D ² PAK (TO-263)	
6	4.8 x 3.83 x 0.65	7	6.3 x 4.93 x 0.65	3	9.9 x 6.5 x 2.3	3	9.7 x 6.6 x 2.34	5	9.9 x 6.5 x 2.3	3	15.0 x 10.0 x 4.4
											
D ² PAK 7pin (TO-263 7pin)		SO-8/SO-8 dual		SO-14		SO-16/12		SO-16		SO-18	
7	15.0 x 10.0 x 4.4	8	5.0 x 6.0 x 1.75	14	8.75 x 6.0 x 1.75	12	10.0 x 6.0 x 1.75	16	10.0 x 6.0 x 1.75	18	12.8 x 10.3 x 2.65
											
SO-19		SO-20		SC59		SOT-23		SOT-89		SOT-223	
19	12.8 x 10.3 x 2.65	20	12.8 x 10.3 x 2.65	3	3.0 x 2.8 x 1.1	3	2.9 x 2.4 x 1.0	3	4.5 x 4.0 x 1.5	4	6.5 x 7.0 x 1.6
											
SOT-323		SOT-363		SuperS08		SuperS08 dual		S308		TSOP-6	
3	2.0 x 2.1 x 0.9	6	2.0 x 2.1 x 0.9	8	5.15 x 5.9 x 1.0	8	5.15 x 6.15 x 1.0	8	3.3 x 3.3 x 1.0	6	2.9 x 2.5 x 1.1
											
DFN-10		FcQFN-18		FcQFN-20		MLF-32		MLF-40		MLF-48	
10	3.0 x 3.0 x 0.9	18	4.0 x 5.0 x 1.0	20	4.0 x 6.0 x 1.0	32	5.0 x 5.0 x 0.9	40	6.0 x 6.0 x 0.9	48	7.0 x 7.0 x 0.9
											
DIP-7		DIP-8		DIP-14		DIP-20		IPAK (TO-251)		IPAK SL (TO-251 SL)	
7	9.52 x 8.9 x 4.37	8	9.52 x 8.9 x 4.37	14	19.5 x 8.9 x 4.37	20	24.6 x 9.9 x 4.2	3	15.52 x 6.5 x 2.3	3	10.72 x 6.5 x 2.3
											
I ² PAK (TO-262)		TO-220 real 2pin		TO-220 2pin		TO-220 3pin		TO-220 FullPAK		TO-220-6-46	
3	25.1 x 10 x 4.4	2	29.15 x 10.0 x 4.4	2	29.1 x 9.9 x 4.4	3	29.15 x 10.0 x 4.4	3	29.59 x 10.5 x 4.7	6	21.7 x 9.9 x 4.4
											
TO-220-6-47		TO-247		TO-247HC		Package (JEITA-code)					
6	26.1 x 9.9 x 4.4	3	40.15 x 15.9 x 5.03	3	37.6 x 13.6 x 4.5	X	L x W x H				
						PIN-Count					
						All Dimensions in mm					

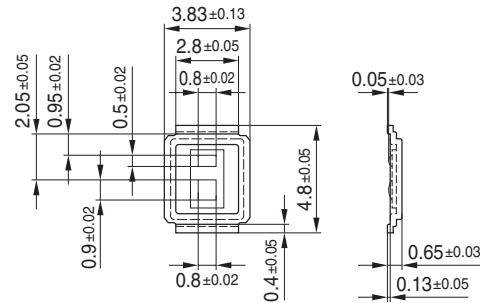
CanPAK™ uses DirectFET® technology licensed from International Rectifier Corporation. DirectFET® is a registered trademark of International Rectifier Corporation.

All products are available in green (RoHS compliant).

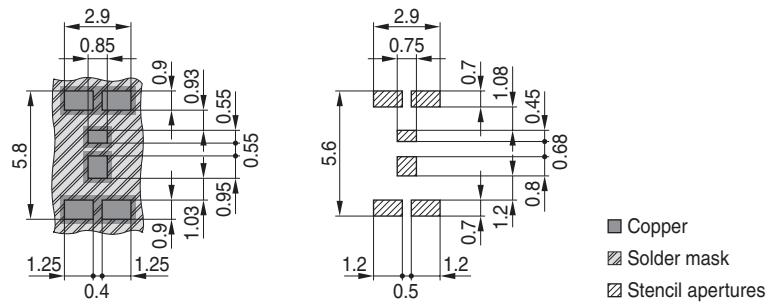


CanPAK™ (Outline SQ)

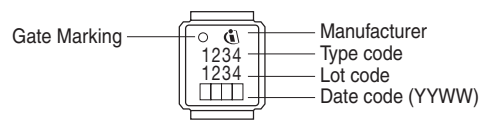
Package Outline



Foot Print

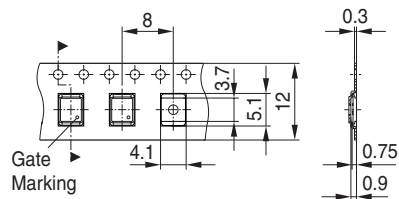


Marking Layout



Packing

Reel ø177mm = 1.000 Pieces/Reel



All dimensions in mm
 CanPAK™ uses DirectFET® technology licensed from International Rectifier Corporation.
 DirectFET® is a registered trademark of International Rectifier Corporation.

ICs

MOSFETs

Power Diodes

Discretes IGBTs

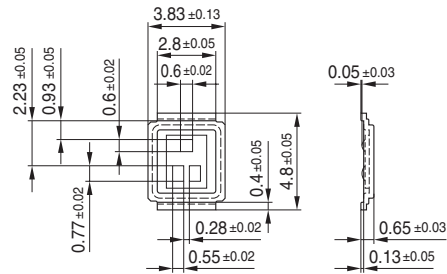
Naming System

Packages

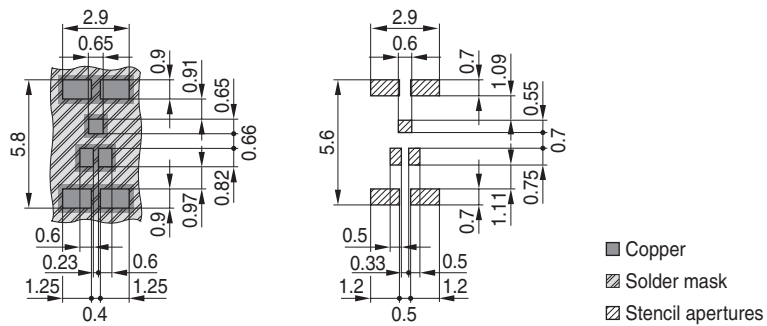
Type List

CanPAK™ (Outline ST)

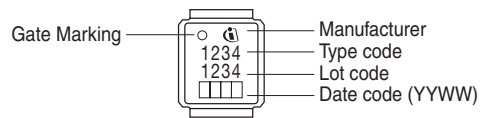
Package Outline



Foot Print

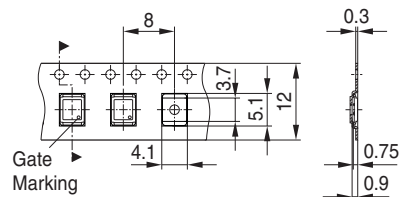


Marking Layout



Packing

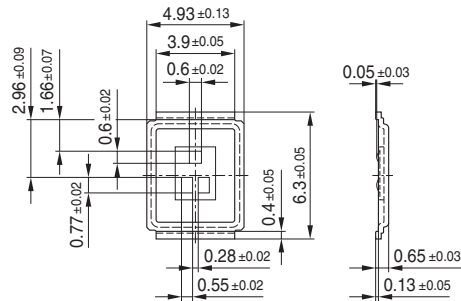
Reel $\varnothing 177\text{mm} = 1.000$ Pieces/Reel



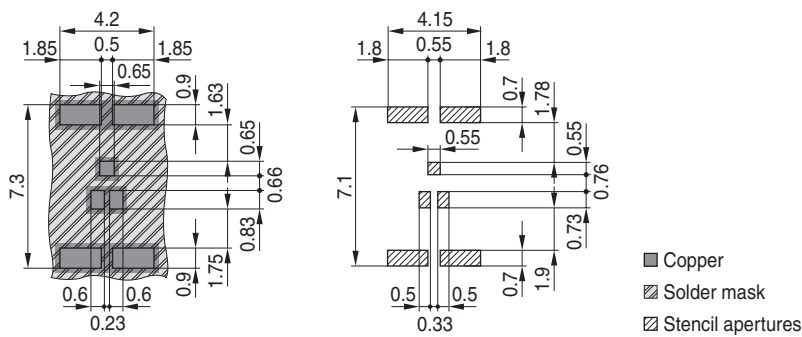
All dimensions in mm
 CanPAK™ uses DirectFET® technology licensed from International Rectifier Corporation.
 DirectFET® is a registered trademark of International Rectifier Corporation.

CanPAK™ (Outline MP)

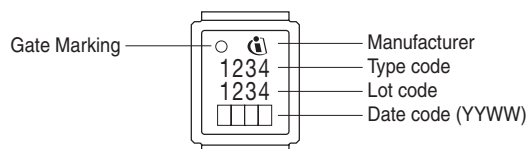
Package Outline



Foot Print

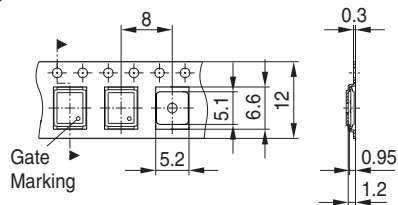


Marking Layout



Packing

Reel ø177mm = 1.000 Pieces/Reel



All dimensions in mm
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ICs

MOSFETs

Power Diodes

Discretes IGBTs

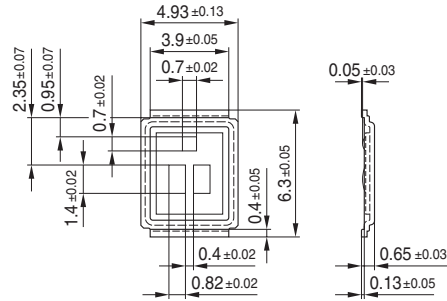
Naming System

Packages

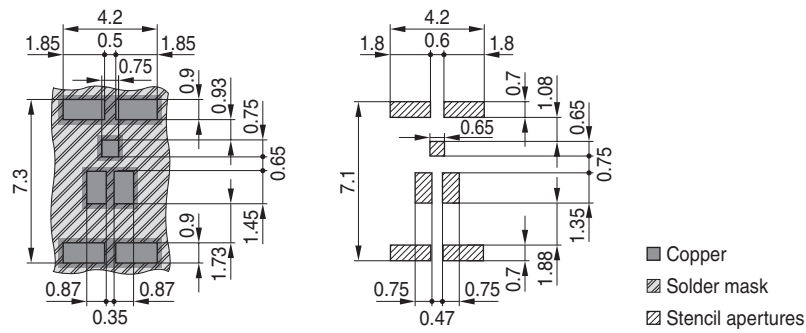
Type List

CanPAK™ (Outline MX)

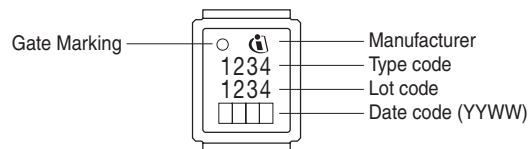
Package Outline



Foot Print

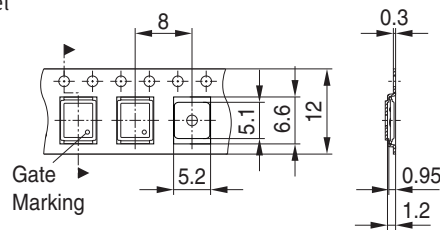


Marking Layout



Packing

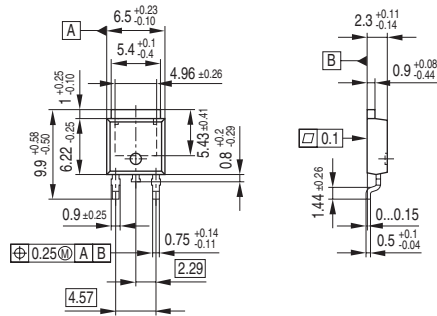
Reel \varnothing 177mm = 1.000 Pieces/Reel



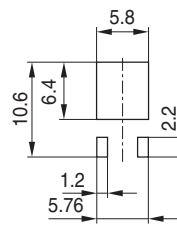
All dimensions in mm
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DPAK (TO-252)

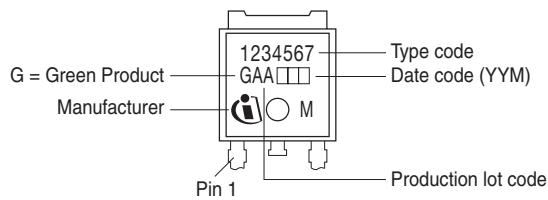
Package Outline



Foot Print

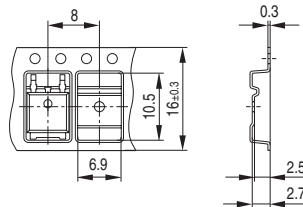


Marking Layout



Packing

Reel \varnothing 330mm = 2.500 Pieces/Reel



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

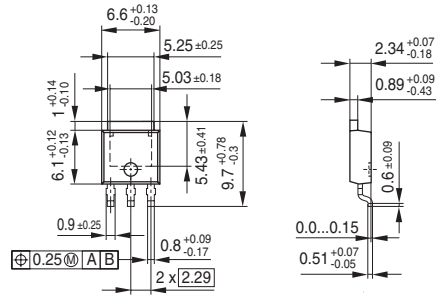
Naming System

Packages

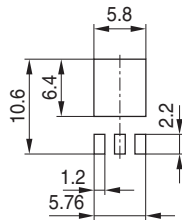
Type List

Reverse DPAK (Reverse TO-252)

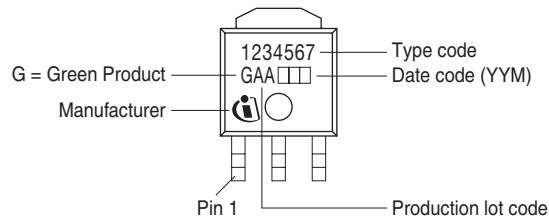
Package Outline



Foot Print

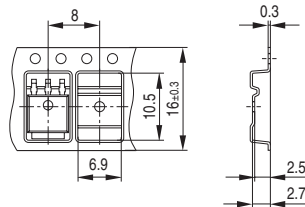


Marking Layout



Packing

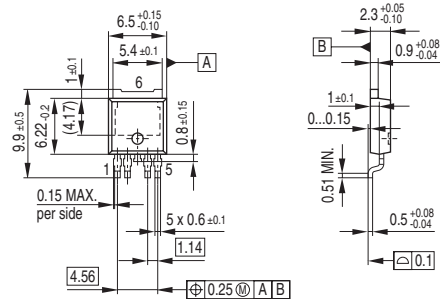
Reel $\varnothing 330\text{mm}$ = 2.500 Pieces/Reel



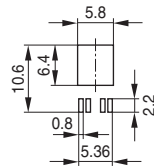
All dimensions in mm

DPAK 5pin (TO-252 5pin)

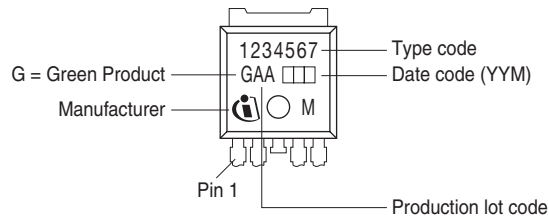
Package Outline



Foot Print

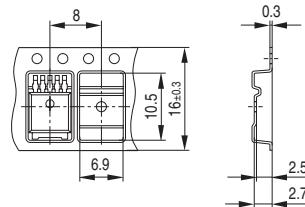


Marking Layout



Packing

Reel $\varnothing 330\text{mm}$ = 2.500 Pieces/Reel



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

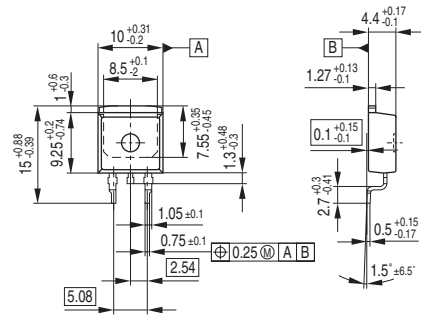
Naming System

Packages

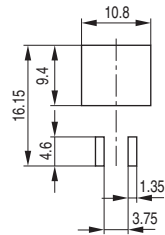
Type List

D²PAK (TO-263)

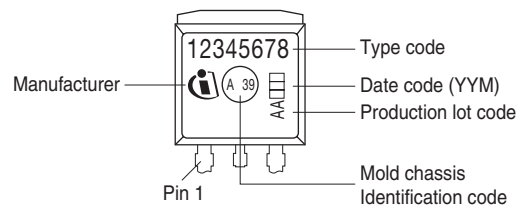
Package Outline



Foot Print

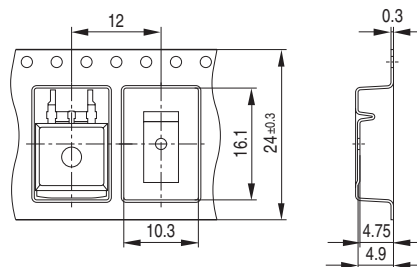


Marking Layout



Packing

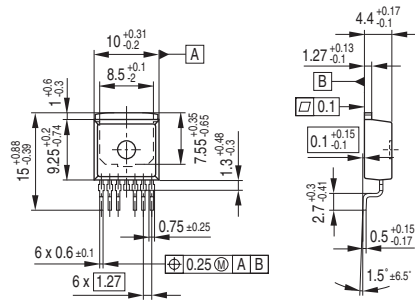
Reel \varnothing 330mm = 1.000 Pieces/Reel



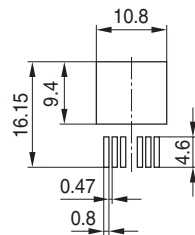
All dimensions in mm

D²PAK 7pin (TO-263 7pin)

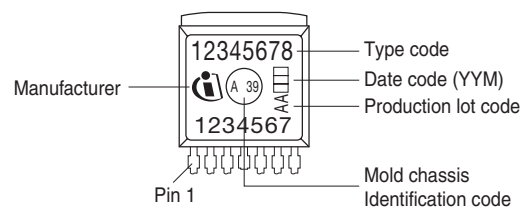
Package Outline



Foot Print

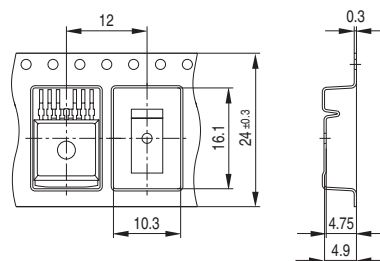


Marking Layout



Packing

Reel \varnothing 330mm = 1.000 Pieces/Reel



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

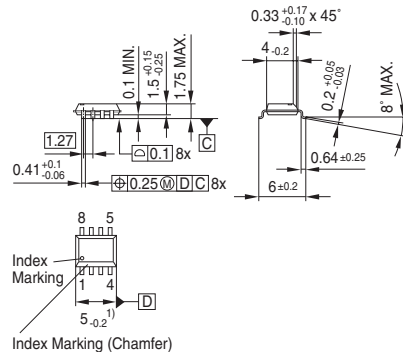
Naming System

Packages

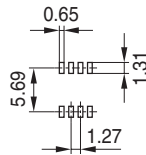
Type List

SO-8/SO-8 dual

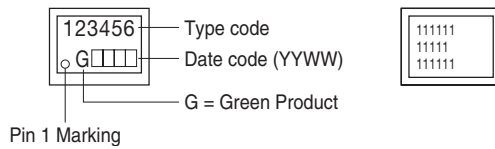
Package Outline



Foot Print



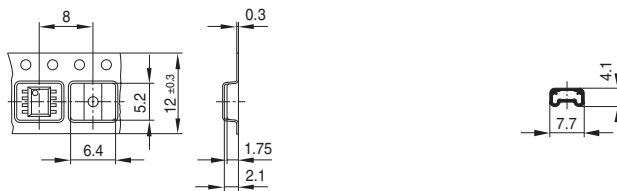
Marking Layout



Packing

Reel $\varnothing 330\text{mm} = 2.500 \text{ Pieces/Reel}$

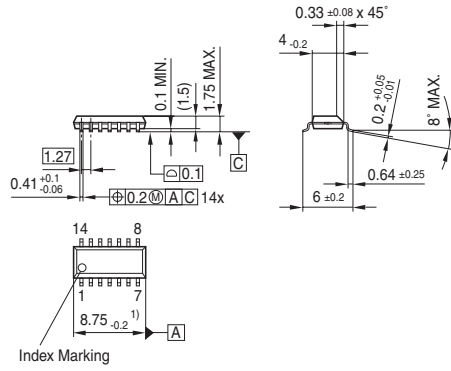
Pieces/Tube: 100



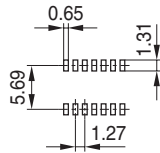
All dimensions in mm

SO-14

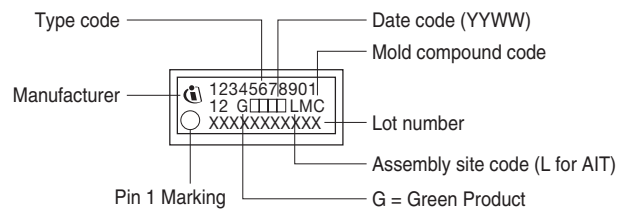
Package Outline



Foot Print



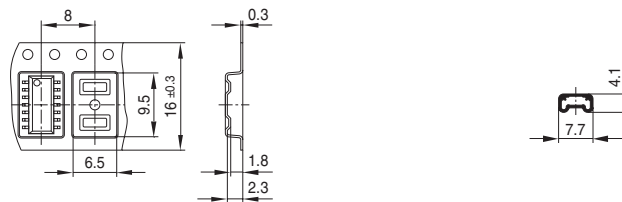
Marking Layout



Packing

Reel \varnothing 330mm = 2.500 Pieces/Reel

Pieces/Tube: 50



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

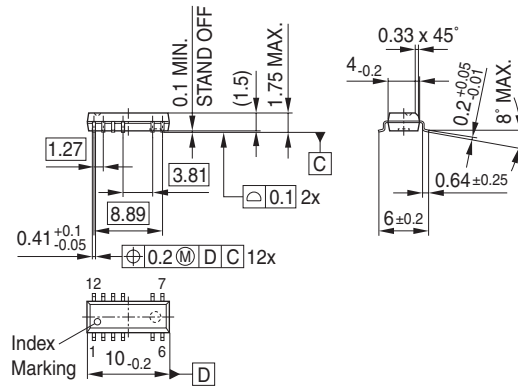
Naming System

Packages

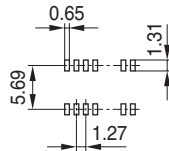
Type List

SO-16/12

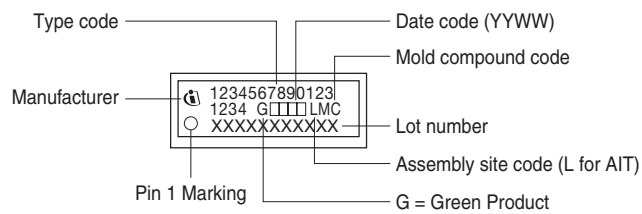
Package Outline



Foot Print



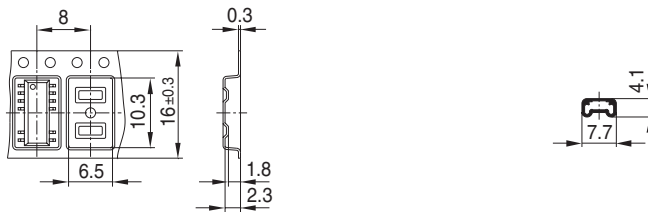
Marking Layout



Packing

Reel ø330mm = 2.500 Pieces/Reel

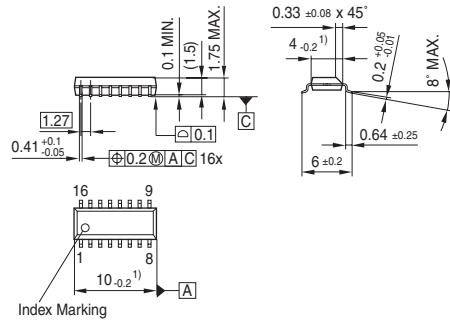
Pieces/Tube: 50



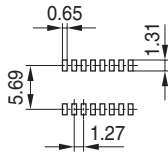
All dimensions in mm

SO-16

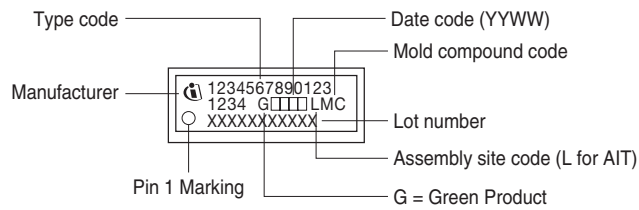
Package Outline



Foot Print



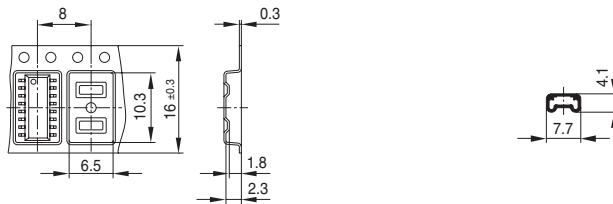
Marking Layout



Packing

Reel ø330mm = 2.500 Pieces/Reel

Pieces/Tube: 50



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

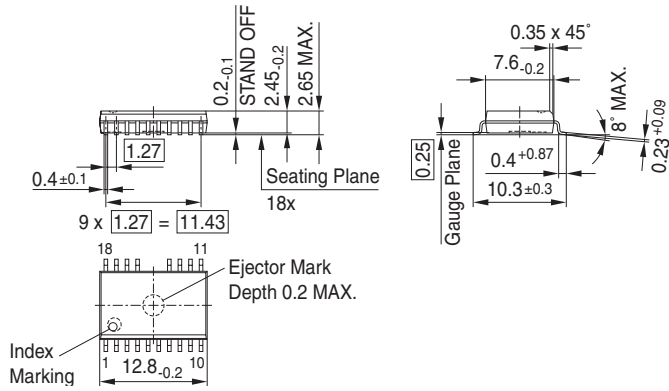
Naming System

Packages

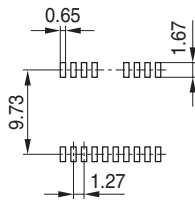
Type List

SO-18

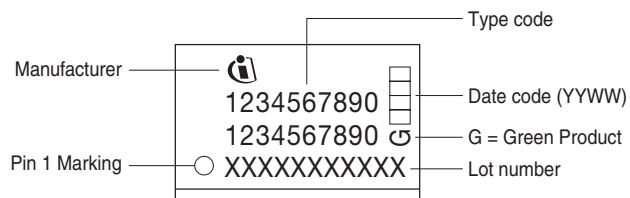
Package Outline



Foot Print



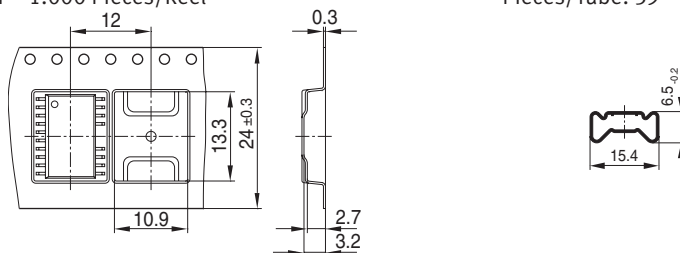
Marking Layout



Packing

Reel $\varnothing 330\text{mm} = 1.000 \text{ Pieces/Reel}$

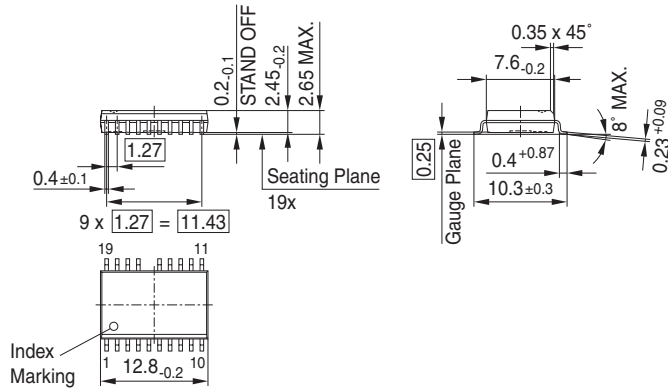
Pieces/Tube: 39



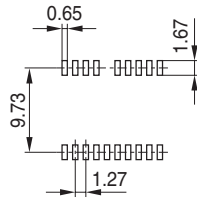
All dimensions in mm

SO-19

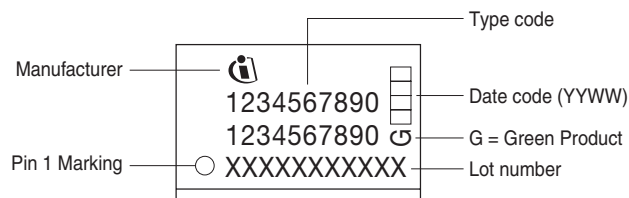
Package Outline



Foot Print



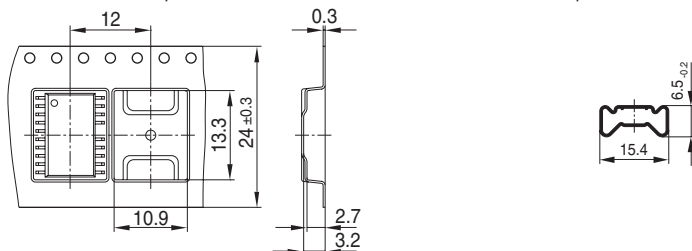
Marking Layout



Packing

Reel $\varnothing 330$ mm = 1.000 Pieces/Reel

Pieces/Tube: 39



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

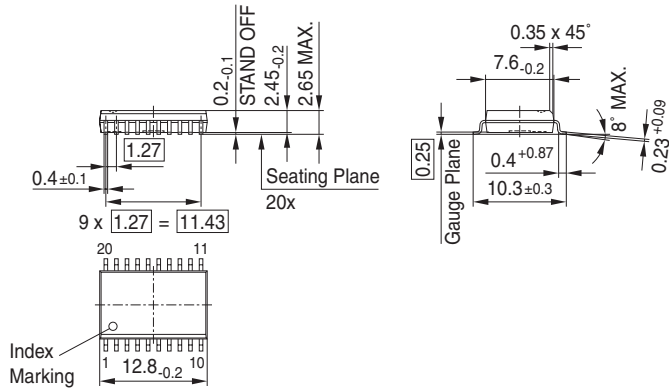
Naming System

Packages

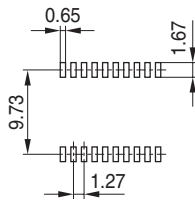
Type List

SO-20

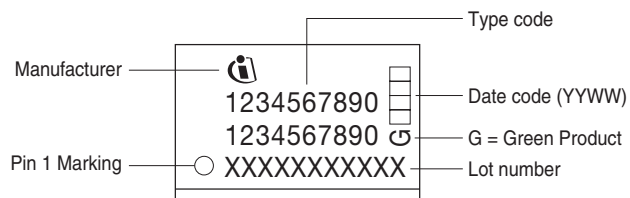
Package Outline



Foot Print



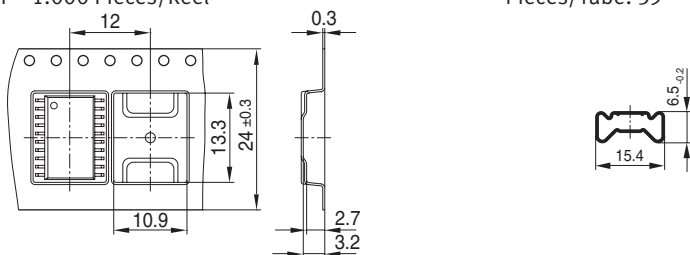
Marking Layout



Packing

Reel \varnothing 330mm = 1.000 Pieces/Reel

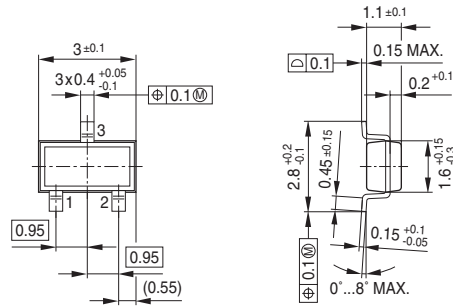
Pieces/Tube: 39



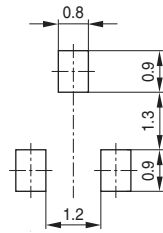
All dimensions in mm

SC59

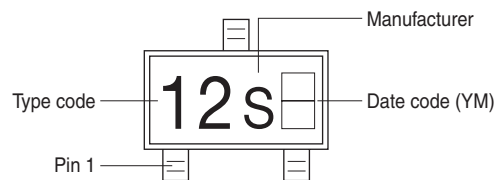
Package Outline



Foot Print

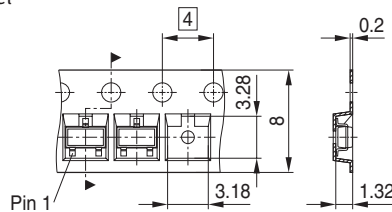


Marking Layout



Packing

Reel $\varnothing 180\text{mm}$ = 3.000 Pieces/Reel
Reel $\varnothing 330\text{mm}$ = 10.000 Pieces/Reel



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

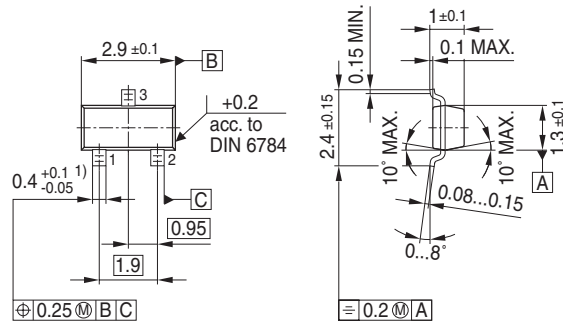
Naming System

Packages

Type List

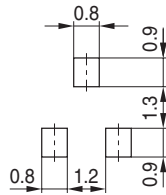
SOT-23

Package Outline

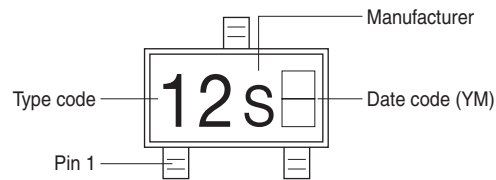


1) Lead width can be 0.6 max. in dambar area

Foot Print



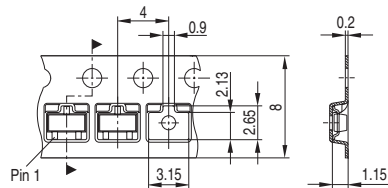
Marking Layout



Packing

Reel $\varnothing 180$ mm = 3.000 Pieces/Reel

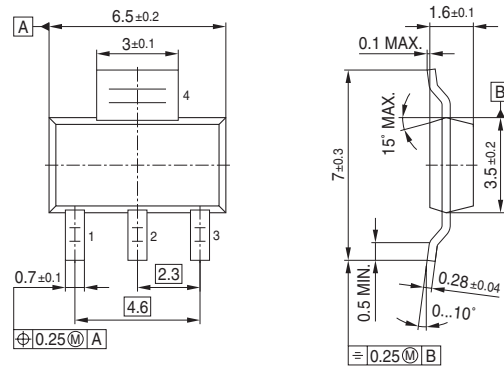
Reel $\varnothing 330$ mm = 10.000 Pieces/Reel



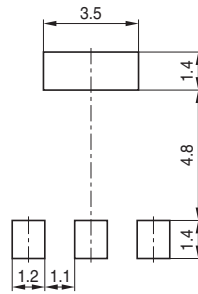
All dimensions in mm

SOT-223

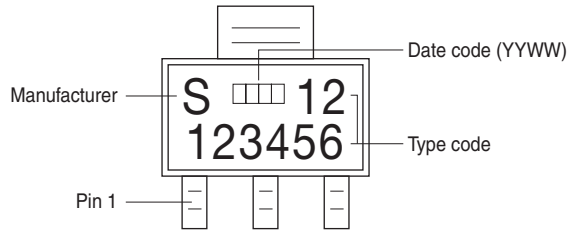
Package Outline



Foot Print



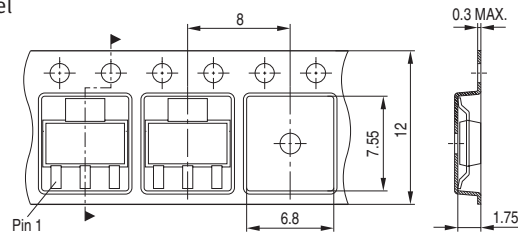
Marking Layout



Packing

Reel $\varnothing 180$ mm = 1.000 Pieces/Reel

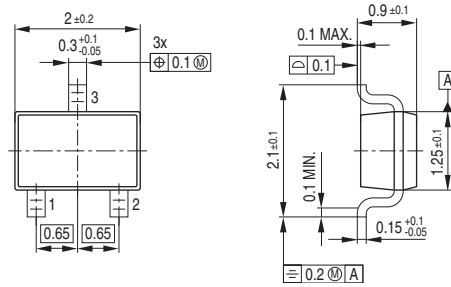
Reel $\varnothing 330$ mm = 4.000 Pieces/Reel



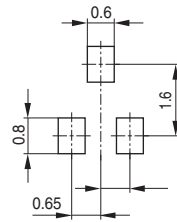
All dimensions in mm

SOT-323

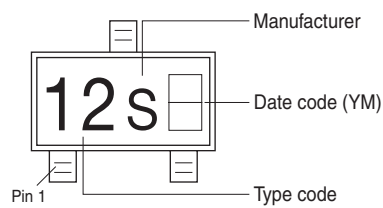
Package Outline



Foot Print



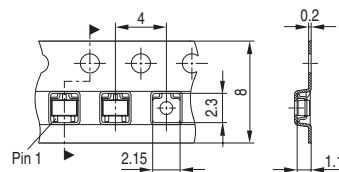
Marking Layout



Packing

Reel $\varnothing 180$ mm = 3.000 Pieces/Reel

Reel $\varnothing 330$ mm = 10.000 Pieces/Reel



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

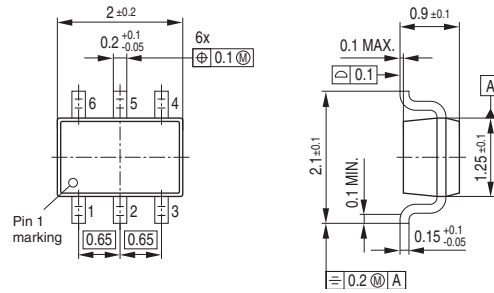
Naming System

Packages

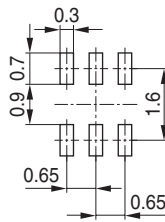
Type List

SOT-363

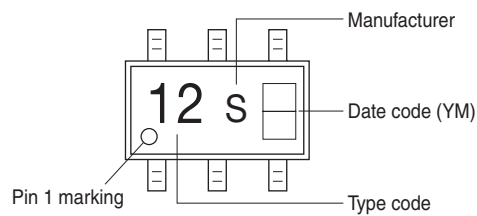
Package Outline



Foot Print



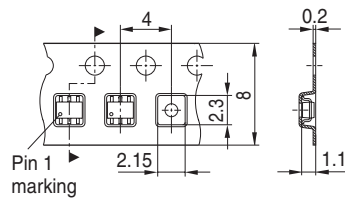
Marking Layout



Packing

Reel $\varnothing 180$ mm = 3.000 Pieces/Reel

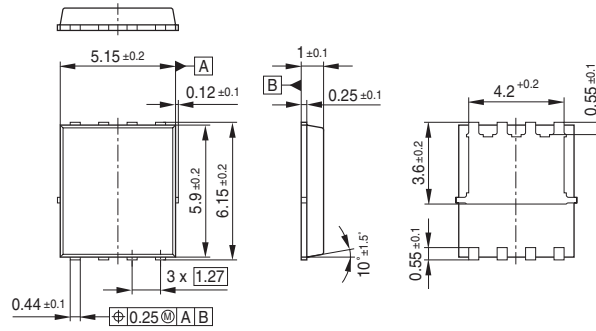
Reel $\varnothing 330$ mm = 10.000 Pieces/Reel



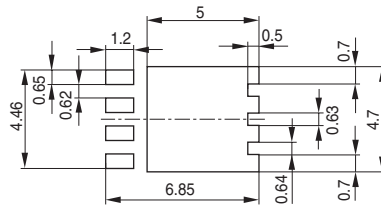
All dimensions in mm

SuperS08

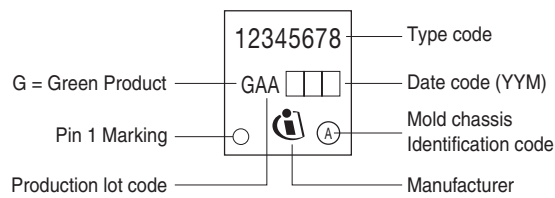
Package Outline



Foot Print

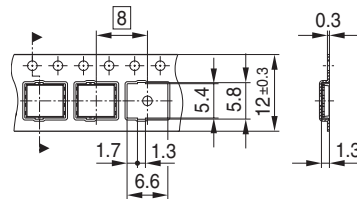


Marking Layout



Packing

Reel $\phi 330$ mm = 5.000 Pieces/Reel



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

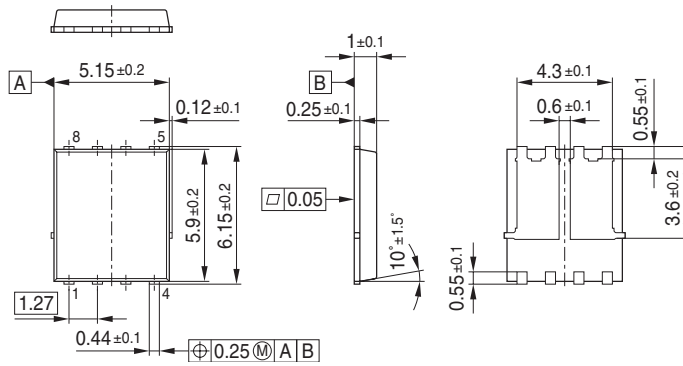
Naming System

Packages

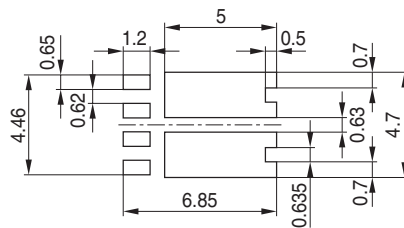
Type List

SuperSO8 dual

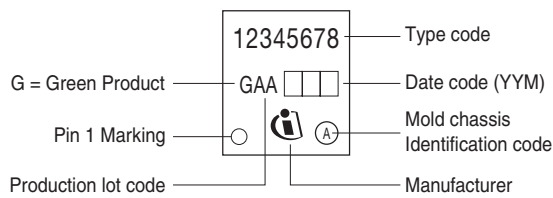
Package Outline



Foot Print

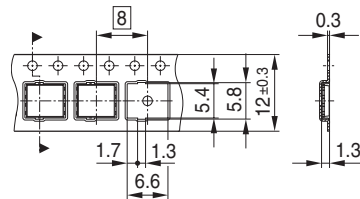


Marking Layout



Packing

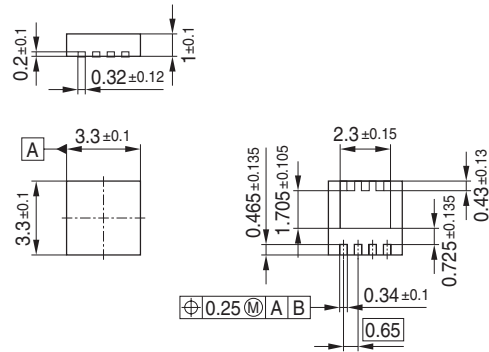
Reel $\varnothing 330\text{mm}$ = 5.000 Pieces/Reel



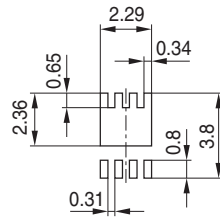
All dimensions in mm

S308

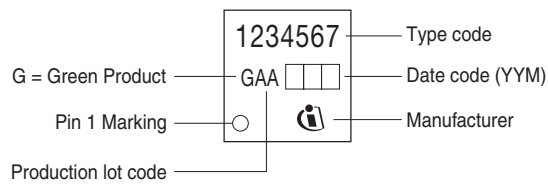
Package Outline



Foot Print

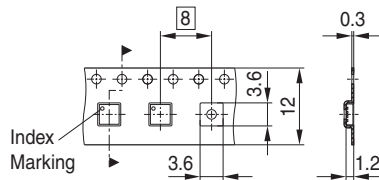


Marking Layout



Packing

Reel $\varnothing 330\text{mm}$ = 5.000 Pieces/Reel



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

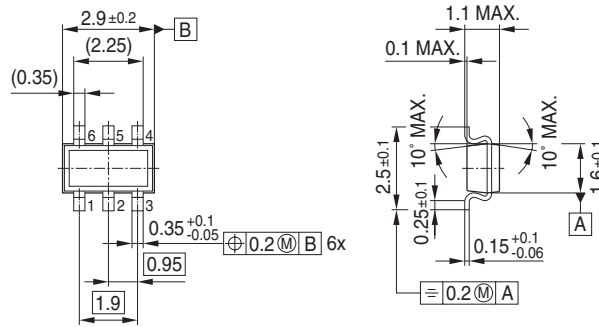
Naming System

Packages

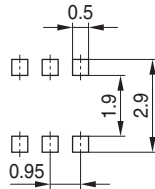
Type List

TSOP-6

Package Outline

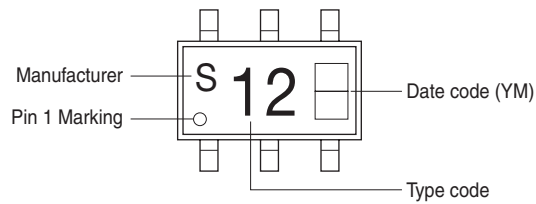


Foot Print



Remark: Wave soldering possible dep. on customers process conditions

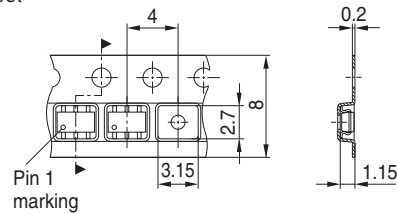
Marking Layout



Packing

Reel $\varnothing 180$ mm = 3.000 Pieces/Reel

Reel $\varnothing 330$ mm = 10.000 Pieces/Reel

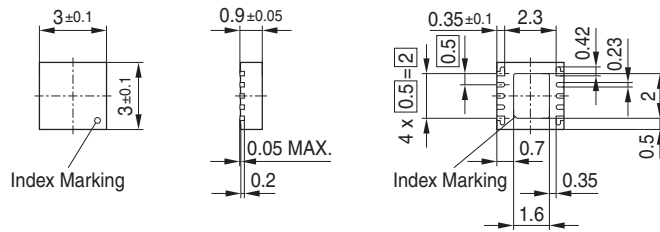


All dimensions in mm

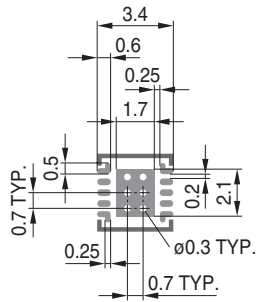
DFN-10



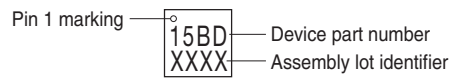
Package Outline



Foot Print



Marking Layout



Packing

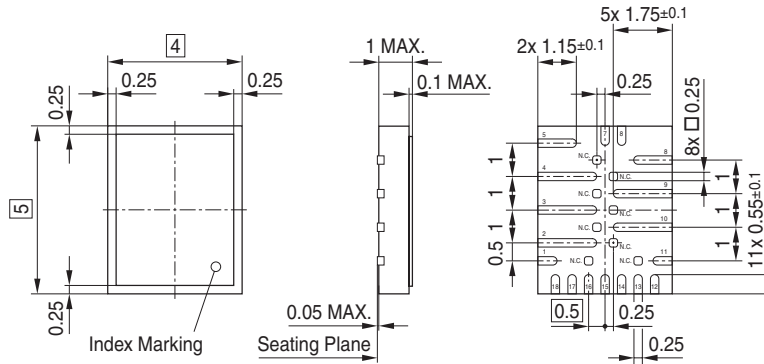
4.000 Pieces/Reel

Drawing available on request.

FcQFN-18



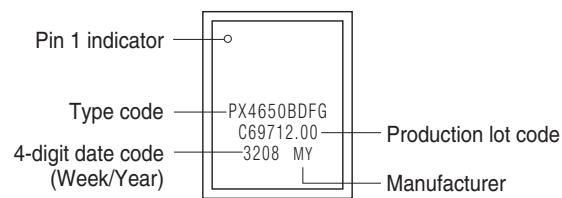
Package Outline



Foot Print

Drawing available on request.

Marking Layout



Packing

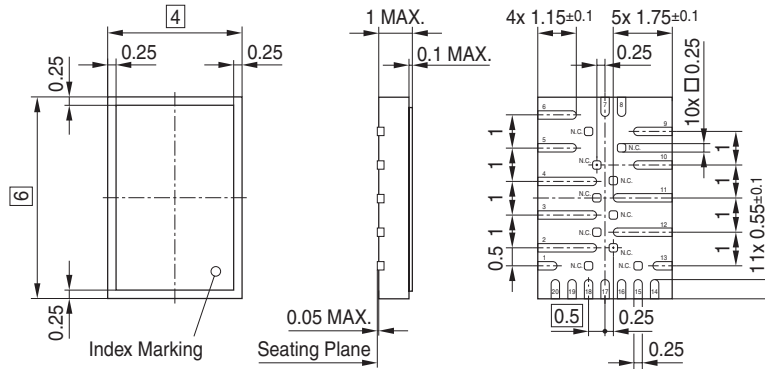
3.000 Pieces/Reel

Drawing available on request.

FcQFN-20



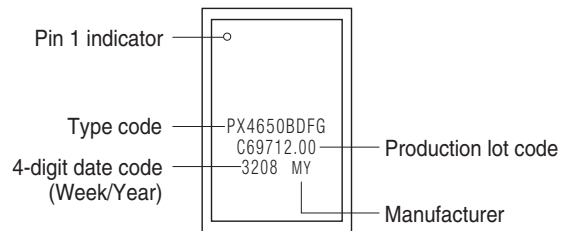
Package Outline



Foot Print

Drawing available on request.

Marking Layout

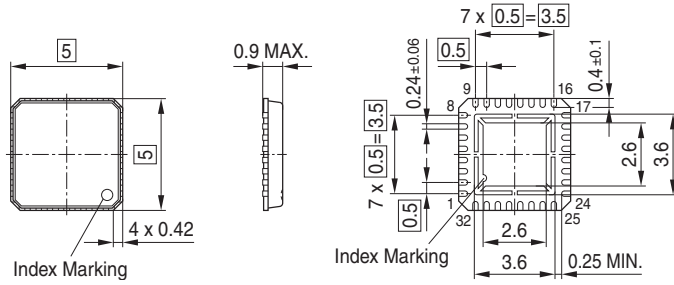


Packing

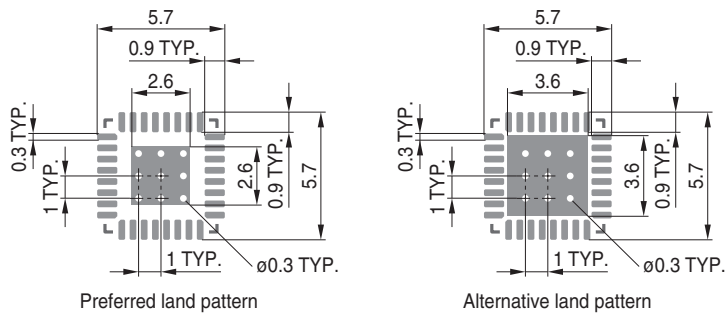
3.000 Pieces/Reel

Drawing available on request.

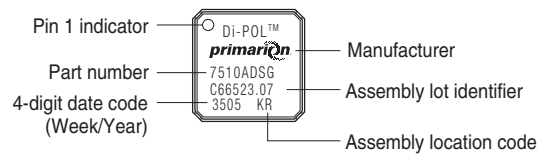
Package Outline



Foot Print



Marking Layout

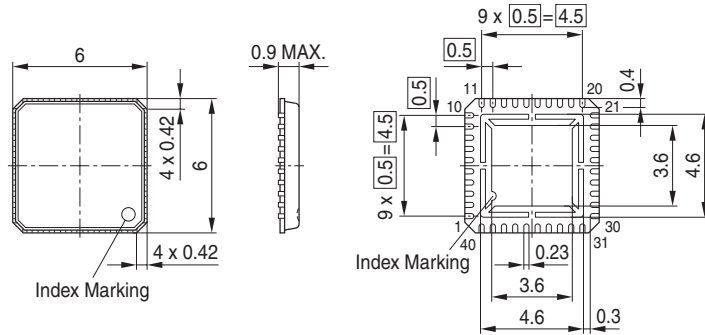


Packing

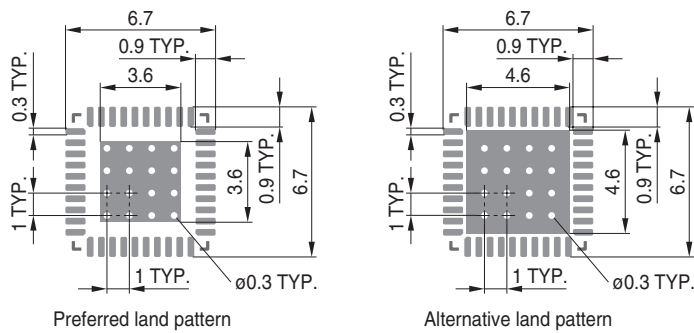
2.000 Pieces/Reel
5.000 Pieces/Reel

Drawing available on request.

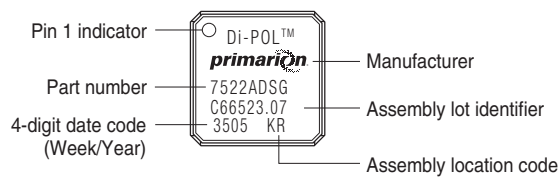
Package Outline



Foot Print



Marking Layout



Packing

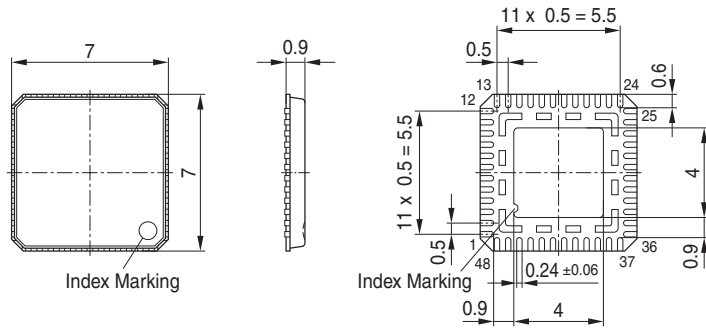
2.000 Pieces/Reel
5.000 Pieces/Reel

Drawing available on request.

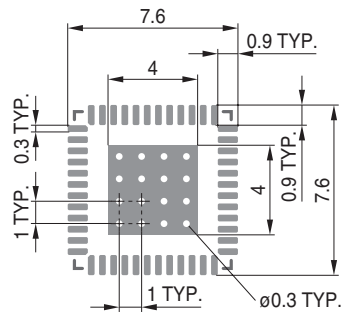
MLF-48



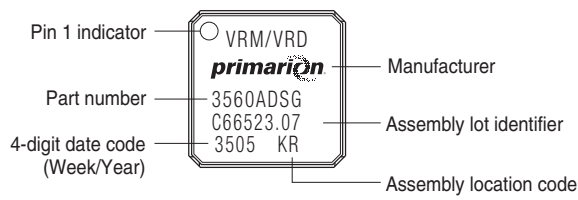
Package Outline



Foot Print



Marking Layout



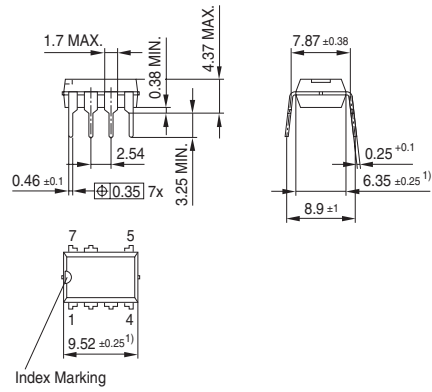
Packing

2.000 Pieces/Reel

Drawing available on request.

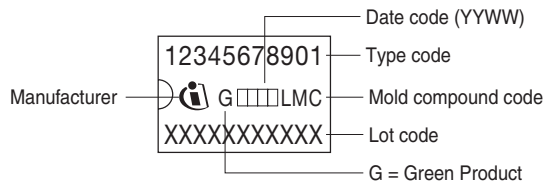
DIP-7

Package Outline



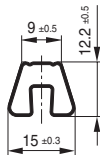
1) Does not include plastic or metal protrusion of 0.25 max. per side

Marking Layout



Packing

Pieces/Tube: 50



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

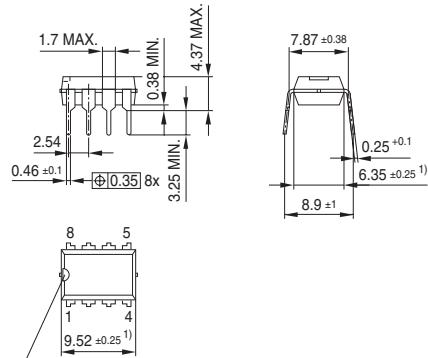
Naming System

Packages

Type List

DIP-8

Package Outline



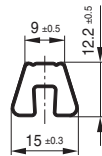
1) Does not include plastic or metal protrusion of 0.25 max. per side

Marking Layout



Packing

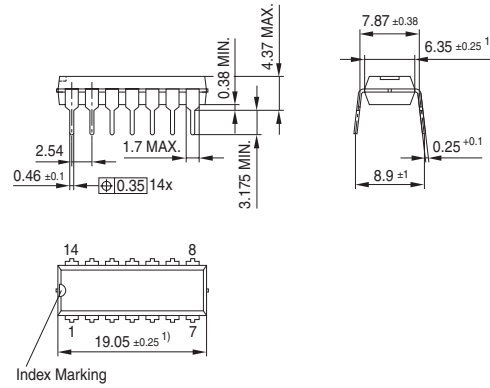
Pieces/Tube: 20



All dimensions in mm

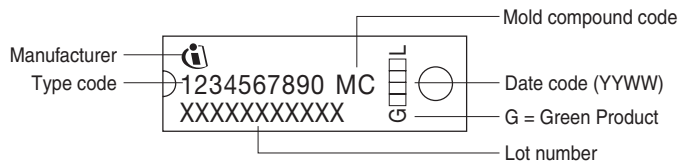
DIP-14

Package Outline



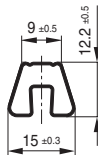
1) Does not include plastic or metal protrusion of 0.25 max. per side

Marking Layout



Packing

Pieces/Tube: 20



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

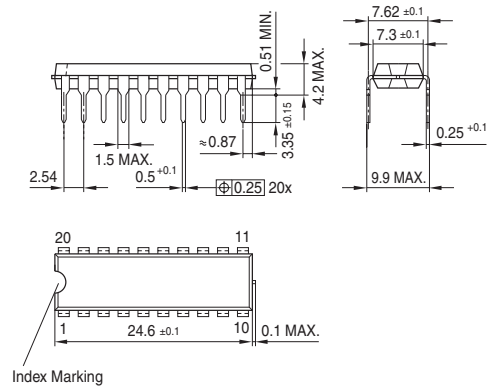
Naming System

Packages

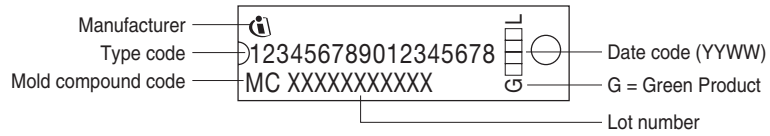
Type List

DIP-20

Package Outline

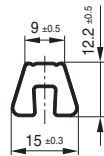


Marking Layout



Packing

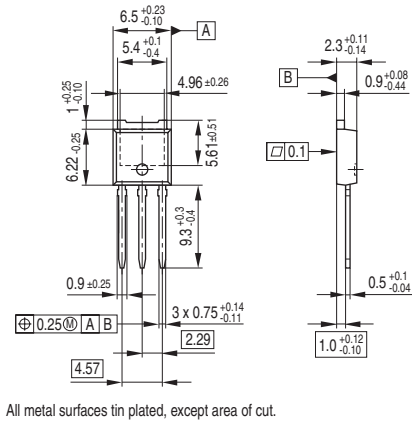
Pieces/Tube: 20



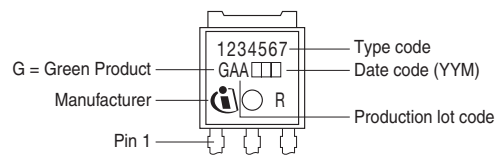
All dimensions in mm

IPAK (TO-251)

Package Outline

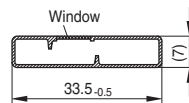


Marking Layout



Packing

Pieces/Tube: 75



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

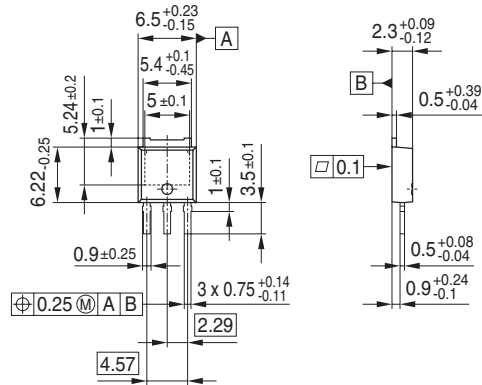
Naming System

Packages

Type List

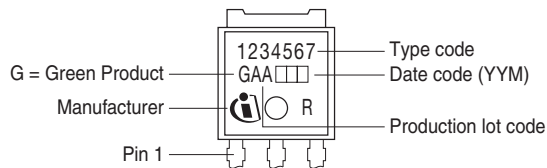
IPAK Short Leads (TO-251 Short Leads)

Package Outline



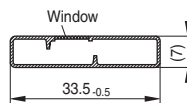
All metal surfaces tin plated, except area of cut.

Marking Layout



Packing

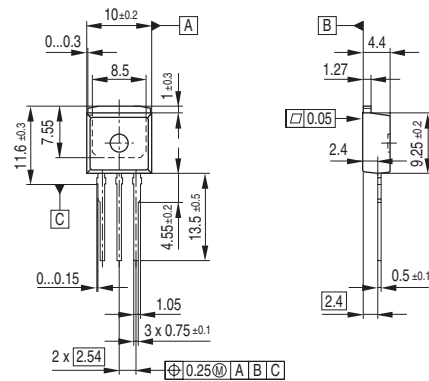
Pieces/Tube: 75



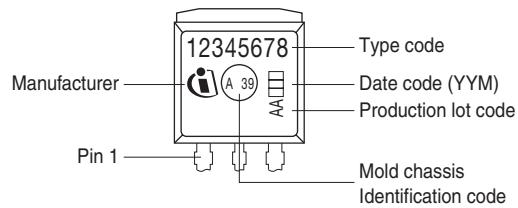
All dimensions in mm

I²PAK (TO-262)

Package Outline

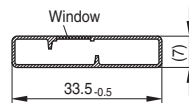


Marking Layout



Packing

Pieces/Tube: 50



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

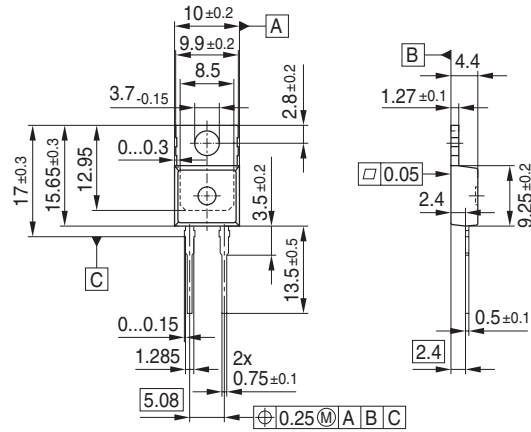
Naming System

Packages

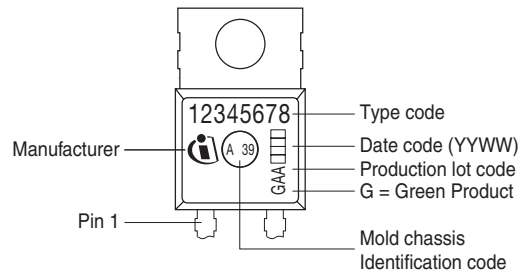
Type List

TO-220 real 2pin

Package Outline

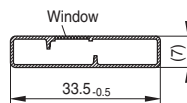


Marking Layout



Packing

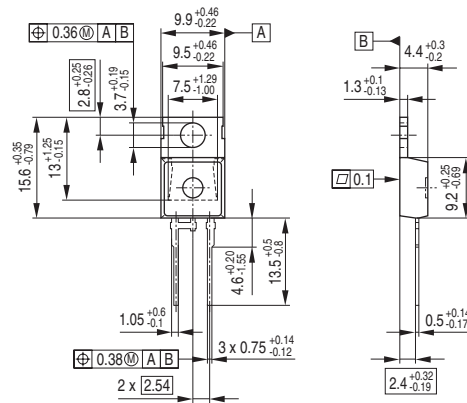
Pieces/Tube: 50



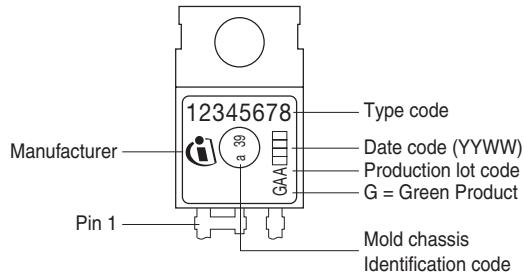
All dimensions in mm

TO-220 with decapped middle leg

Package Outline

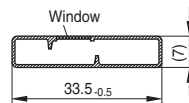


Marking Layout



Packing

Pieces/Tube: 50



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

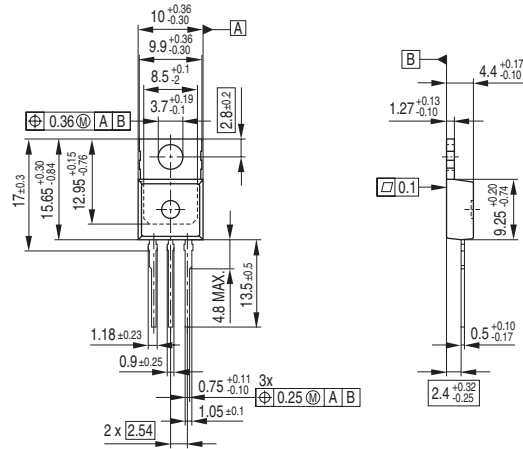
Naming System

Packages

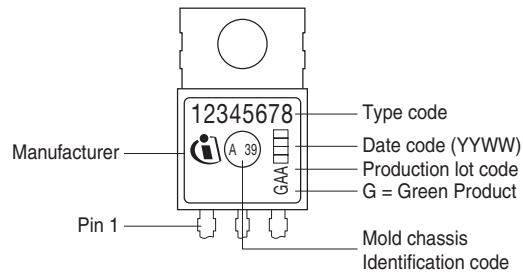
Type List

TO-220

Package Outline

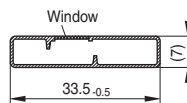


Marking Layout



Packing

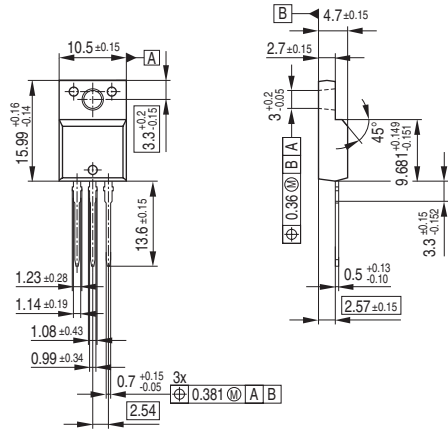
Pieces/Tube: 50



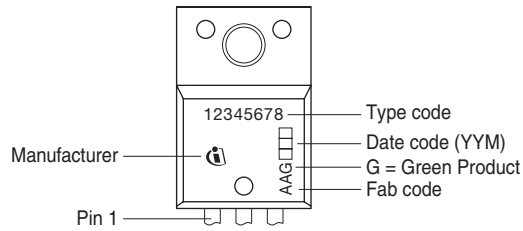
All dimensions in mm

TO-220 FullPAK

Package Outline

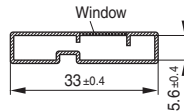


Marking Layout



Packing

Pieces/Tube: 25



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

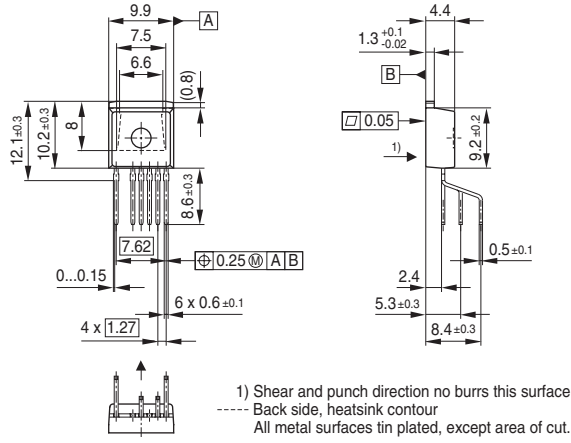
Naming System

Packages

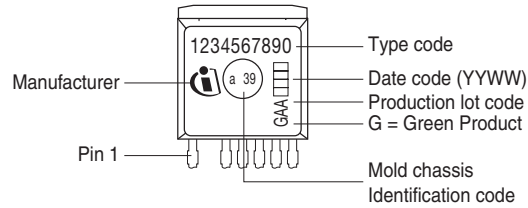
Type List

TO-220-6-46 ISODRAIN

Package Outline

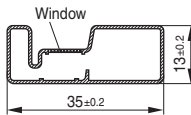


Marking Layout



Packing

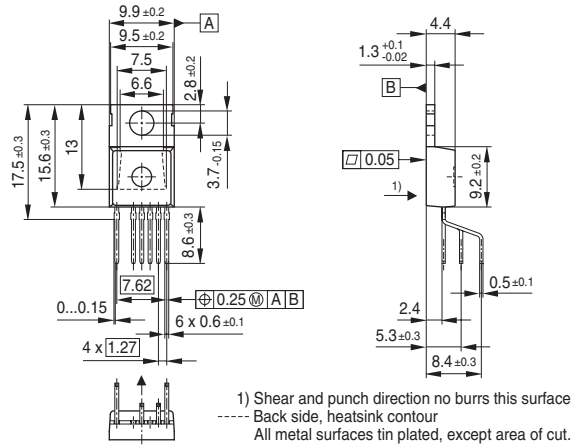
Pieces/Tube: 50



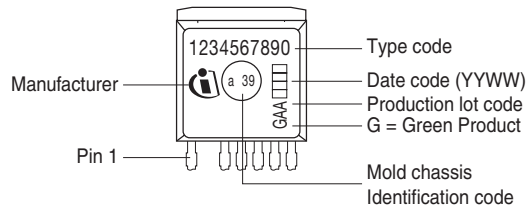
All dimensions in mm

TO-220-6-47 ISODRAIN

Package Outline

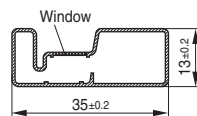


Marking Layout



Packing

Pieces/Tube: 50



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

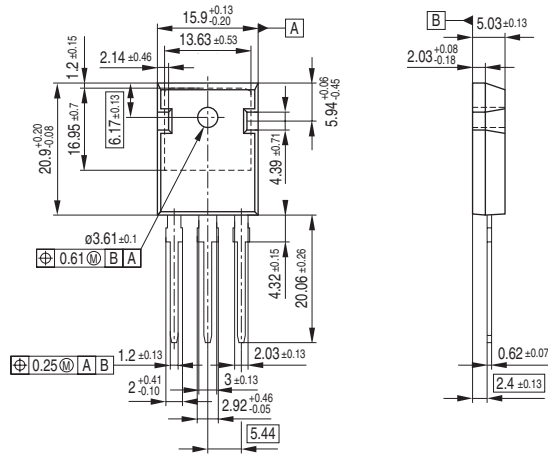
Naming System

Packages

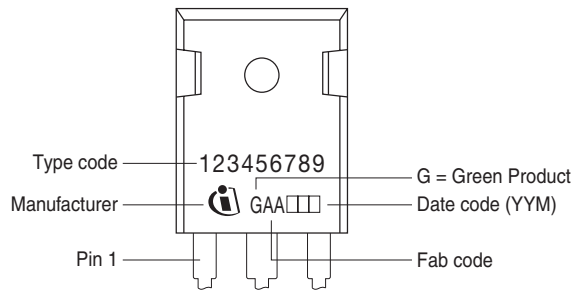
Type List

TO-247

Package Outline

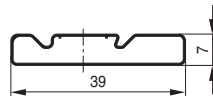


Marking Layout



Packing

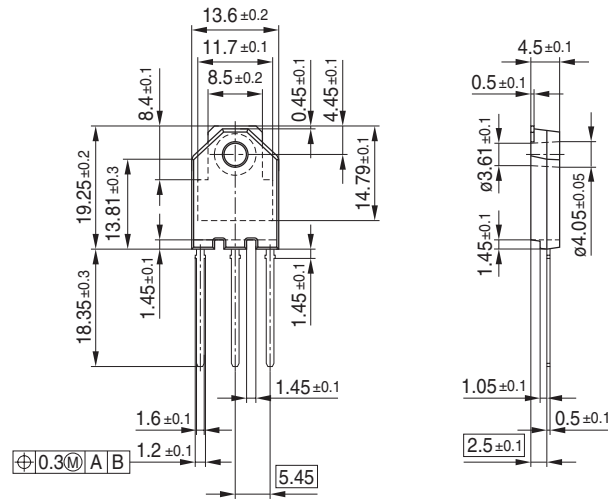
Pieces/Tube: 25



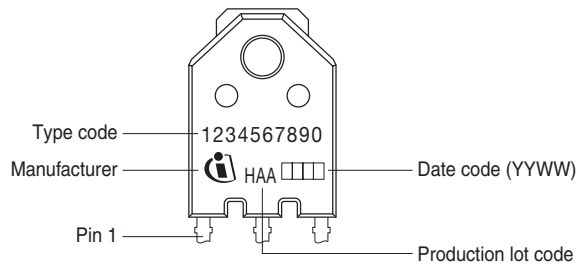
All dimensions in mm

TO-247HC

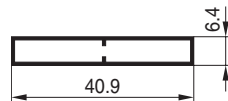
Package Outline



Marking Layout



Packing



All dimensions in mm

ICs

MOSFETs

Power Diodes

Discretes IGBTs

Naming System

Packages

Type List

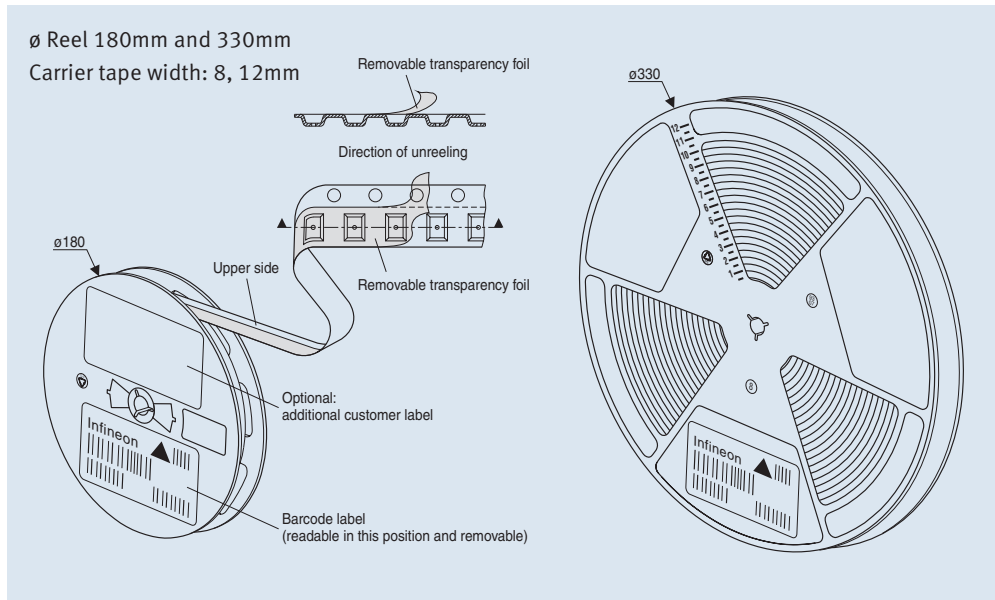
Packaging Information

Tape and Reel

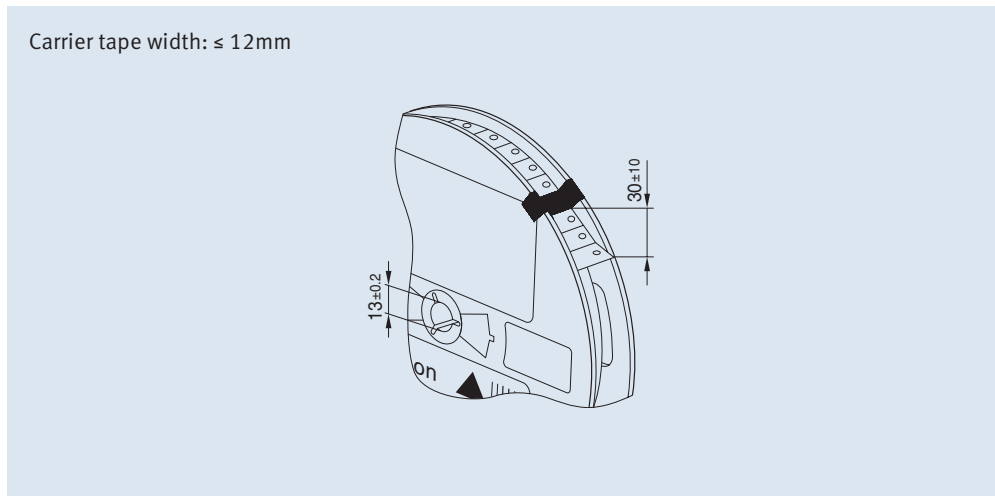
(DIN IEC 60 286-3)

Please consult your nearest Infineon sales offices (see list of addresses) if you have any queries relating to additional dimensions, dimensional tolerances or variations.

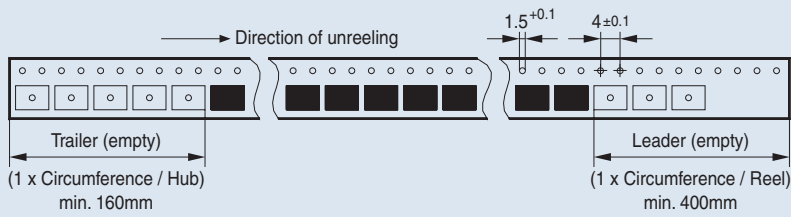
Tape and Reel made of Plastic



Fixing on the Tape



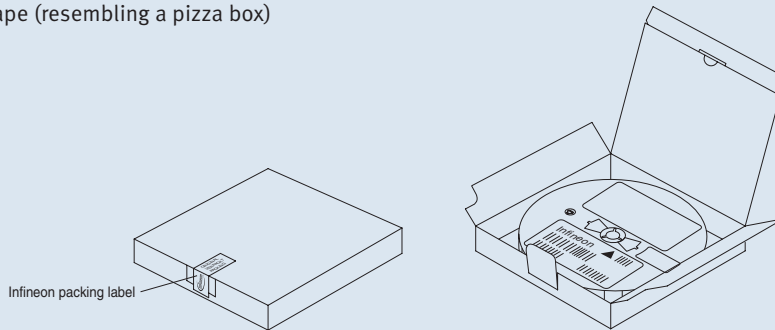
Direction of Unreeling



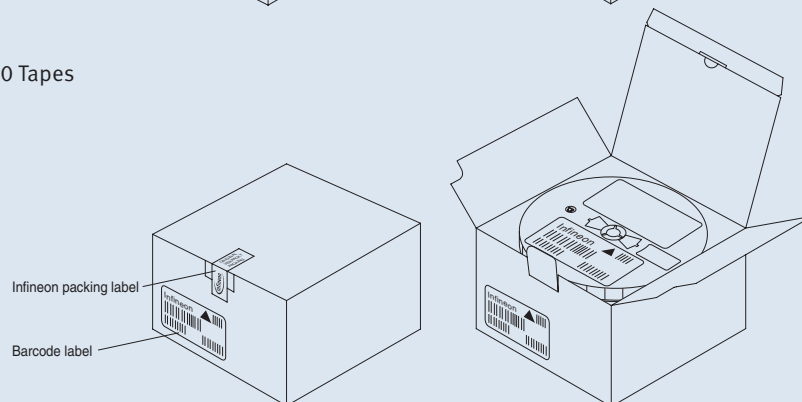
There shall be a leader of 400mm minimum of cover tape, which includes at least 100mm of carrier tape with empty compartments. All the leader may consist of the carrier tape with empty compartments, sealed by cover tape.

Labels and Boxes

For 1 Tape (resembling a pizza box)



Up to 10 Tapes



Packaging Information

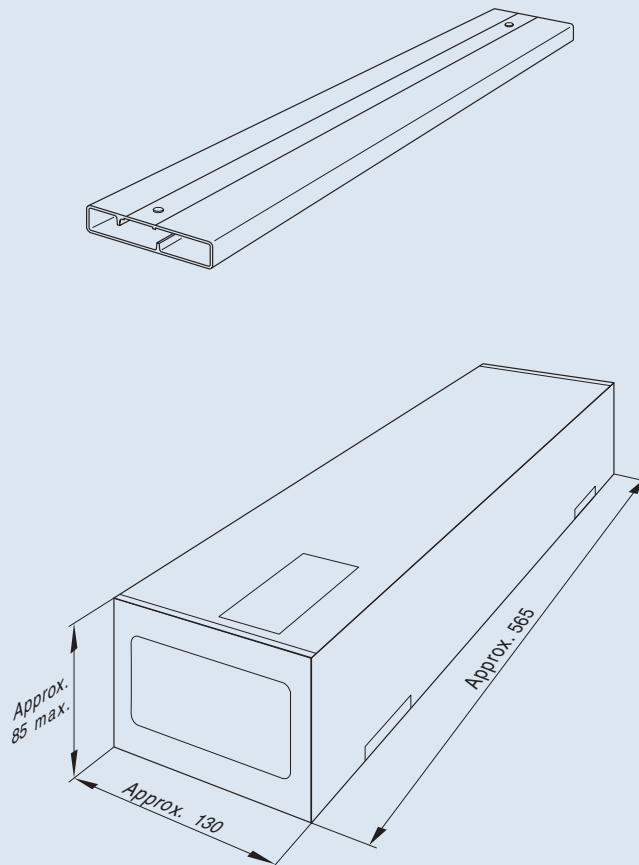
Tube (DIN IEC60 286-4)

(DIN IEC60 286-4)

Please consult your nearest Infineon sales offices (see list of addresses) if you have any queries relating to additional dimensions, dimensional tolerances or variations.

Tube and Packing

Standard Length: 528,mm;
coated (unless stated to the contrary)



Type List

Product Name	Product Description	Voltage Class	Page
2N7002	planar	60V	63
2N7002DW	OptiMOS™	60V	64
2N7002N	OptiMOS™	60V	63
BSB012N03LX3 G	OptiMOS™	30V	60
BSB012N03MX3 G	OptiMOS™	30V	60
BSB012NE2LX	OptiMOS™	25V	60
BSB013NE2LXI	OptiMOS™	25V	60
BSB014N04LX3 G	OptiMOS™	40V	60
BSB015N04NX3 G	OptiMOS™	40V	60
BSB017N03LX3 G	OptiMOS™	30V	60
BSB018NE2LX	OptiMOS™	25V	60
BSB019N03LX G	OptiMOS™	30V	60
BSB022NE2LX	OptiMOS™	25V	60
BSB024N03LX G	OptiMOS™	30V	60
BSB028N06NN3 G	OptiMOS™	60V	60
BSB044N08NN3 G	OptiMOS™	80V	60
BSB053N03LP G	OptiMOS™	30V	60
BSB056N10NN3 G	OptiMOS™	100V	60
BSB150N15NZ3 G	OptiMOS™	150V	60
BSB280N15NZ3G	OptiMOS™	150V	60
BSC010NE2LS	OptiMOS™	25V	57
BSC014N03LS G	OptiMOS™	30V	57
BSC014N03MS G	OptiMOS™	30V	57
BSC016N03LS G	OptiMOS™	30V	57
BSC016N03MS G	OptiMOS™	30V	57
BSC016N04LS G	OptiMOS™	40V	58
BSC017N04NS G	OptiMOS™	40V	58
BSC018N04LS G	OptiMOS™	40V	58
BSC018NE2LS	OptiMOS™	25V	57
BSC019N02KS G	OptiMOS™	20V	57
BSC019N04NS G	OptiMOS™	40V	58
BSC020N03LS G	OptiMOS™	30V	57
BSC020N03MS G	OptiMOS™	30V	57
BSC024NE2LS	OptiMOS™	25V	57
BSC025N03LS G	OptiMOS™	30V	57
BSC025N03MS G	OptiMOS™	30V	57
BSC026N02KS G	OptiMOS™	20V	57
BSC027N04LS G	OptiMOS™	40V	58
BSC028N06LS3 G	OptiMOS™	60V	58
BSC030N03LS G	OptiMOS™	30V	57
BSC030N03MS G	OptiMOS™	30V	57
BSC030N04NS G	OptiMOS™	40V	58
BSC030P03NS3 G	OptiMOS™P	-30V	57
BSC031N06NS3 G	OptiMOS™	60V	58
BSC034N03LS G	OptiMOS™	30V	57
BSC035N04LS G	OptiMOS™	40V	58
BSC037N03LSC	OptiMOS™	30V	57
BSC037N03MSCG	OptiMOS™	30V	57
BSC042N03LS G	OptiMOS™	30V	57
BSC042N03MS G	OptiMOS™	30V	57
BSC042NE7NS3 G	OptiMOS™	75V	58
BSC043N03LSC	OptiMOS™	30V	57
BSC043N03MSCG	OptiMOS™	30V	57
BSC046N02KS G	OptiMOS™	20V	57
BSC047N08NS3 G	OptiMOS™	80V	58
BSC049N03MSCG	OptiMOS™	30V	57
BSC050N03LS G	OptiMOS™	30V	57
BSC050N03MS G	OptiMOS™	30V	57
BSC050N04LS G	OptiMOS™	40V	58
BSC050NE2LS	OptiMOS™	25V	57
BSC054N04NS G	OptiMOS™	40V	58
BSC057N03LS G	OptiMOS™	30V	57
BSC057N03MS G	OptiMOS™	30V	57

Product Name	Product Description	Voltage Class	Page
BSC057N08NS3 G	OptiMOS™	80V	58
BSC059N04LS G	OptiMOS™	40V	58
BSC05xN03LS	OptiMOS™	30V	57
BSC060N10NS3 G	OptiMOS™	100V	59
BSC060P03NS3E G	OptiMOS™P	-30V	57
BSC067N06LS3 G	OptiMOS™	60V	58
BSC072N03LD G	OptiMOS™	30V	59
BSC076N06NS3 G	OptiMOS™	60V	58
BSC077N12NS3 G	OptiMOS™	120V	59
BSC079N03LSC	OptiMOS™	30V	58
BSC079N10NS G	OptiMOS™	100V	59
BSC080N03LS G	OptiMOS™	30V	58
BSC080N03MS G	OptiMOS™	30V	58
BSC080P03LS G	OptiMOS™P	-30V	57
BSC082N10LS G	OptiMOS™	100V	59
BSC084P03NS3 G	OptiMOS™P	-30V	57
BSC084P03NS3E G	OptiMOS™P	-30V	57
BSC0901NS	OptiMOS™	30V	57
BSC0901NSI	OptiMOS™	30V	57
BSC0902NS	OptiMOS™	30V	57
BSC0905NS	OptiMOS™	30V	57
BSC090N03LS G	OptiMOS™	30V	58
BSC090N03MS G	OptiMOS™	30V	58
BSC091N03MSCG	OptiMOS™	30V	58
BSC093N04LS G	OptiMOS™	40V	58
BSC100N03LS G	OptiMOS™	30V	58
BSC100N03MS G	OptiMOS™	30V	58
BSC100N06LS3 G	OptiMOS™	60V	58
BSC100N10NSF G	OptiMOS™	100V	59
BSC105N10LSF G	OptiMOS™	100V	59
BSC110N06NS3 G	OptiMOS™	60V	58
BSC118N10NS G	OptiMOS™	100V	59
BSC119N03LSC	OptiMOS™	30V	58
BSC119N03MSCG	OptiMOS™	30V	58
BSC120N03LS G	OptiMOS™	30V	58
BSC120N03MS G	OptiMOS™	30V	58
BSC123N08NS3 G	OptiMOS™	80V	58
BSC123N08NS3 G	OptiMOS™	60V	58
BSC123N10LS G	OptiMOS™	100V	59
BSC130P03LS G	OptiMOS™P	-30V	57
BSC150N03LD G	OptiMOS™	30V	59
BSC152N10NSF G	OptiMOS™	100V	59
BSC159N10LSF G	OptiMOS™	100V	59
BSC160N10NS3 G	OptiMOS™	100V	59
BSC190N15NS3 G	OptiMOS™	150V	59
BSC196N10NS G	OptiMOS™	100V	59
BSC200P03LS G	OptiMOS™P	-30V	57
BSC205N10LS G	OptiMOS™	100V	59
BSC252N10NSF G	OptiMOS™	100V	59
BSC265N10LSF G	OptiMOS™	100V	59
BSC320N20NS3 G	OptiMOS™	200V	59
BSC340N08NS3 G	OptiMOS™	60V	58
BSC340N08NS3 G	OptiMOS™	80V	58
BSC440N10NS3 G	OptiMOS™	100V	59
BSC530N15NS3 G	OptiMOS™	150V	59
BSC600N25NS3 G	OptiMOS™	250V	59
BSC750N10ND G	OptiMOS™	100V	59
BSC750N10ND G	OptiMOS™	100V	59
BSD214NW	OptiMOS™2	20V	64
BSD214SN		20V	64
BSD223P	OptiMOS™P2	-20V	64
BSD235C/n-ch	OptiMOS™2	20V	64
BSD235C/p-ch	OptiMOS™P2	-20V	64

ICs

MOSFETs

Power Diodes

Discretes (IGBTs)

Naming System

Packages

Type List

Type List

Product Name	Product Description	Voltage Class	Page	Product Name	Product Description	Voltage Class	Page
BSD235N	OptiMOS™2	20V	64	BSO200N03	OptiMOS™	30V	56
BSD314PE		-30V	64	BSO200P03S	OptiMOS™P	-30V	55
BSD314SPE		30V	64	BSO201SP	OptiMOS™P	-20V	55
BSD316SN	OptiMOS™2	30V	64	BSO203P	OptiMOS™P	-20V	55
BSD816SN	OptiMOS™2	20V	64	BSO203P	OptiMOS™P	-20V	56
BSD840N	OptiMOS™2	20V	64	BSO203SP	OptiMOS™P	-20V	55
BSF024N03LT3 G	OptiMOS™	30V	60	BSO204P	OptiMOS™P	-20V	55
BSF03xNE2LQ	OptiMOS™	25V	60	BSO204P	OptiMOS™P	-20V	56
BSF045N03LQ3 G	OptiMOS™	30V	60	BSO207P	OptiMOS™P	-20V	55
BSF045N03MQ3 G	OptiMOS™	30V	60	BSO207P	OptiMOS™P	-20V	56
BSF050N03LQ3 G	OptiMOS™	30V	60	BSO211P	OptiMOS™P	-20V	55
BSF053N03LT G	OptiMOS™	30V	60	BSO211P	OptiMOS™P	-20V	56
BSF073NE2LQ	OptiMOS™	25V	60	BSO220N03MS G	OptiMOS™	30V	55
BSF077N06NT3 G	OptiMOS™	60V	60	BSO300N03S	OptiMOS™	30V	55
BSF083N03LQ G	OptiMOS™	30V	60	BSO301SP	OptiMOS™P	-30V	55
BSF094N08NT3 G	OptiMOS™	80V	60	BSO303P		-30V	55
BSF134N10N3 G	OptiMOS™	100V	60	BSO303P	OptiMOS™P	-30V	56
BSL2025N	OptiMOS™2	20V	65	BSO303SP	OptiMOS™P	-30V	55
BSL205N	OptiMOS™P2	20V	65	BSO330N02KS G	OptiMOS™	20V	56
BSL207N	OptiMOS™P2	20V	65	BSO350N03	OptiMOS™	30V	55
BSL207SP	OptiMOS™P2	-20V	65	BSO350N03	OptiMOS™	30V	56
BSL2115P	OptiMOS™P2	-20V	65	BSO350N08NS3 G	OptiMOS™3	80V	56
BSL214N	OptiMOS™P2	20V	65	BSO440N10NS3 G	OptiMOS™3	100V	56
BSL215C/n-ch	OptiMOS™2	20V	65	BSO500N15NS3 G	OptiMOS™3	150V	56
BSL215C/p-ch	OptiMOS™P2	-20V	65	BSO612CV G	complementary	60V/-60V	55
BSL215P	OptiMOS™P2	-20V	65	BSO612CV G	complementary	60V/-60V	55
BSL3025N	OptiMOS™2	30V	65	BSO613SPV G	planar	-60V	55
BSL306N	OptiMOS™2	30V	65	BSO615C G	complementary	60V/-60V	55
BSL3075P	OptiMOS™P2	-30V	65	BSO615C G	complementary	60V/-60V	55
BSL308C/n-ch		30V	65	BSO615N G	complementary	60V/-60V	55
BSL308C/p-ch		-30V	65	BSO615N G	planar	60V	56
BSL308PE	OptiMOS™P3	-30V	65	BSP123	planar	100V	62
BSL314PE	OptiMOS™2	-30V	65	BSP125	planar	600V	62
BSL315P	OptiMOS™P2	-30V	65	BSP129	planar	240V	66
BSL316C/n-ch	OptiMOS™2	30V	65	BSP135	planar	600V	66
BSL316C/p-ch	OptiMOS™P2	-30V	65	BSP149	planar	200V	66
BSL8025N	OptiMOS™2	20V	65	BSP170P	planar	-60V	62
BSL806N	OptiMOS™P2	20V	65	BSP171P	planar	-60V	62
BSO033N03MS G	OptiMOS™	30V	55	BSP295	planar	60V	62
BSO040N03MS G	OptiMOS™	30V	55	BSP296	planar	100V	62
BSO051N03MS G	OptiMOS™	30V	55	BSP297	planar	200V	62
BSO052N03S	OptiMOS™	30V	55	BSP298	planar	400V	62
BSO053P03NS3E G	OptiMOS™P	-30V	55	BSP299	planar	500V	62
BSO064N03S	OptiMOS™	30V	55	BSP300	planar	800V	62
BSO065N03MS G	OptiMOS™	30V	55	BSP315P	planar	-60V	62
BSO070N08NS3 G	OptiMOS™3	80V	56	BSP316P	planar	-100V	62
BSO072N03S	OptiMOS™	30V	55	BSP317P	planar	-250V	62
BSO080P03NS3 G	OptiMOS™P	-30V	55	BSP318S	planar	60V	62
BSO080P03NS3E G	OptiMOS™P	-30V	55	BSP320S	planar	60V	62
BSO080P03S	OptiMOS™P	-30V	55	BSP321P	planar	-100V	62
BSO083N03MS G	OptiMOS™	30V	55	BSP322P	planar	-100V	62
BSO094N03S	OptiMOS™	30V	55	BSP324	planar	400V	62
BSO104N03S	OptiMOS™	30V	55	BSP372	planar	100V	62
BSO110N03MS G	OptiMOS™	30V	55	BSP373	planar	100V	62
BSO130N03MS G	OptiMOS™	30V	55	BSP613P	planar	-60V	62
BSO130P03S	OptiMOS™P	-30V	55	BSP88	planar	200V	62
BSO140N08NS3 G	OptiMOS™3	80V	56	BSP89	planar	200V	62
BSO150N03	OptiMOS™	30V	55	BSP92P	planar	-250V	62
BSO150N03	OptiMOS™	30V	56	BSR202N	OptiMOS™2	20V	63
BSO180N10NS3 G	OptiMOS™3	100V	56	BSR302N	OptiMOS™2	30V	63
BSO200N03	OptiMOS™P	30V	55	BSR315P	planar	-60V	63
				BSR316P	planar	-100V	63
				BSR802N	OptiMOS™2	20V	63

Product Name	Product Description	Voltage Class	Page
BSR92P	planar	-250V	63
BSS119	planar	100V	63
BSS123	planar	100V	63
BSS126	planar	600V	66
BSS127	planar	600V	63
BSS131	planar	240V	63
BSS138N	planar	60V	63
BSS138W	planar	60V	64
BSS139	planar	250V	66
BSS159N	planar	60V	66
BSS169	planar	100V	66
BSS192P	planar	-250V	62
BSS205N	OptiMOS™2	20V	63
BSS209PW	OptiMOS™2	-20V	64
BSS214N	OptiMOS™2	20V	63
BSS214NW	OptiMOS™2	20V	64
BSS215P	OptiMOS™2	-20V	63
BSS223PW	OptiMOS™2	-20V	64
BSS225	planar	600V	62
BSS306N	OptiMOS™2	30V	63
BSS306N		60V	63
BSS308PE	OptiMOS™P3	-30V	63
BSS314PE		-30V	63
BSS315P	OptiMOS™P2	-30V	63
BSS316N	OptiMOS™2	30V	63
BSS670S2L	OptiMOS™	55V	63
BSS7728N	planar	60V	63
BSS806N	OptiMOS™2	20V	63
BSS816NW	OptiMOS™2	20V	64
BSS83P	planar	-60V	63
BSS84P	planar	-60V	63
BSS84PW	planar	-60V	64
BSS87	planar	240V	62
BSV236SP	OptiMOS™P	-20V	64
BSZ018NE2LS	OptiMOS™	25V	61
BSZ020N03LS	OptiMOS™	30V	61
BSZ033N03LSCG	OptiMOS™	30V	61
BSZ033N03MS G	OptiMOS™	30V	61
BSZ035N03LS G	OptiMOS™	30V	61
BSZ035N03MS G	OptiMOS™	30V	61
BSZ040N04LS G	OptiMOS™	40V	61
BSZ042N04NS G	OptiMOS™	40V	61
BSZ049N03LSCG	OptiMOS™	30V	61
BSZ049N03MS G	OptiMOS™	30V	61
BSZ050N03LS G	OptiMOS™	30V	61
BSZ050N03MS G	OptiMOS™	30V	61
BSZ058N03LS G	OptiMOS™	30V	61
BSZ058N03MS G	OptiMOS™	30V	61
BSZ060NE2LS	OptiMOS™	25V	61
BSZ067N06LS3 G	OptiMOS™3	60V	61
BSZ076N06NS3 G	OptiMOS™3	60V	61
BSZ086P03NS3 G	OptiMOS™P	-30V	61
BSZ086P03NS3E G	OptiMOS™P	-30V	61
BSZ088N03LS G	OptiMOS™	30V	61
BSZ088N03MS G	OptiMOS™	30V	61
BSZ0901NS	OptiMOS™	30V	61
BSZ0902NS	OptiMOS™	30V	61
BSZ097N04LS G	OptiMOS™	40V	61
BSZ100N03LS G	OptiMOS™	30V	61
BSZ100N03MS G	OptiMOS™	30V	61
BSZ100N06LS3 G	OptiMOS™3	60V	61
BSZ105N04NS G	OptiMOS™	40V	61
BSZ110N06NS3 G	OptiMOS™3	60V	61

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BSZ115N03LSCG	OptiMOS™	30V	61
BSZ115N03MSCG	OptiMOS™	30V	61
BSZ120P03NS3E G	OptiMOS™P	-30V	61
BSZ123N08NS3 G	OptiMOS™3	80V	61
BSZ130N03LS G	OptiMOS™	30V	61
BSZ130N03MS G	OptiMOS™	30V	61
BSZ165N04NS G	OptiMOS™	40V	61
BSZ180P03NS3E G	OptiMOS™P	-30V	61
BSZ340N08NS3 G	OptiMOS™3	80V	61
BUZ73A	planar	200V	49
BUZ30	planar	200V	40
BUZ30	planar	200V	46
BUZ31	planar	200V	40
BUZ31	planar	200V	46
BUZ31	planar	200V	49
BUZ31L	planar	200V	40
BUZ32	planar	200V	40
BUZ32	planar	200V	46
BUZ73	planar	200V	40
BUZ73	planar	200V	49
BUZ73 E3046	planar	200V	40
BUZ73ALH	planar	200V	49
BUZ73L	planar	200V	40
IDB06E60	Emitter Controlled Diodes	600V	70
IDB06S60C	thinQ!™ 2G	600V	68
IDB09E60	Emitter Controlled Diodes	600V	69
IDB09E60	Emitter Controlled Diodes	600V	70
IDB09E60	Emitter Controlled Diodes	600V	70
IDB09E60	Emitter Controlled Diodes	1200V	70
IDB10S60C	thinQ!™ 2G	600V	68
IDB12E120	Emitter Controlled Diodes	1200V	70
IDB15E60	Emitter Controlled Diodes	600V	70
IDB18E120	Emitter Controlled Diodes	1200V	70
IDB23E60	Emitter Controlled Diodes	600V	70
IDB30E120	Emitter Controlled Diodes	1200V	70
IDB30E60	Emitter Controlled Diodes	600V	70
IDB45E60	Emitter Controlled Diodes	600V	70
IDD03E60	Emitter Controlled Diodes	600V	70
IDD03SG60C	thinQ!™ 3G	600V	68
IDD04S60C	thinQ!™ 2G	600V	68
IDD04SG60C	thinQ!™ 3G	600V	68
IDD05SG60C	thinQ!™ 3G	600V	68
IDD06E60	Emitter Controlled Diodes	600V	70
IDD06SG60C	thinQ!™ 3G	600V	68
IDD08SG60C	thinQ!™ 3G	600V	68
IDD09E60	Emitter Controlled Diodes	600V	70
IDD09SG60C	thinQ!™ 3G	600V	68
IDD10SG60C	thinQ!™ 3G	600V	68
IDD12SG60C	thinQ!™ 3G	600V	68
IDD15E60	Emitter Controlled Diodes	600V	70
IDH02SG120	thinQ!™ 3G	1200V	67
IDH03SG60C	thinQ!™ 3G	600V	67
IDH04S60C	thinQ!™ 2G	600V	67
IDH04SG60C	thinQ!™ 3G	600V	67
IDH05S120	thinQ!™ 3G	1200V	67
IDH05SG60C	thinQ!™ 3G	600V	67
IDH06S60C	thinQ!™ 2G	600V	67
IDH06SG60C	thinQ!™ 3G	600V	67
IDH08S120	thinQ!™ 3G	1200V	67
IDH08S60C	thinQ!™ 2G	600V	67
IDH08SG60C	thinQ!™ 3G	600V	67
IDH09E120	Emitter Controlled Diodes	1200V	69
IDH09SG60C	thinQ!™ 3G	600V	67

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IDH10S60C	thinQ™ 2G	600V	67	IGW75N60T	TRENCHSTOP™ Single Version	600V	71
IDH10SG60C	thinQ™ 3G	600V	67	IHD06N60RA	TRENCHSTOP™ RC-H	600V	75
IDH12E120	Emitter Controlled Diodes	1200V	69	IHD10N60RA	TRENCHSTOP™ RC-H	600V	75
IDH12SG60C	thinQ™ 3G	600V	67	IHP10T120	TRENCHSTOP™ Duo Pack	1200V	74
IDH15S120	thinQ™ 3G	1200V	67	IHW15N120R2	TRENCHSTOP™ RC-H	1200V	72
IDH18E120	Emitter Controlled Diodes	1200V	69	IHW15N120R3	TRENCHSTOP™ RC-H	1200V	72
IDH30E120	Emitter Controlled Diodes	1200V	69	IHW15T120	TRENCHSTOP™ RC-H	1200V	72
IDP04E120	Emitter Controlled Diodes	1200V	69	IHW15T120	TRENCHSTOP™ RC-H	1200V	72
IDP06E60	Emitter Controlled Diodes	600V	69	IHW20N120R2	TRENCHSTOP™ RC-H	1200V	72
IDP09E120	Emitter Controlled Diodes	1200V	69	IHW20N120R3	TRENCHSTOP™ RC	1200V	72
IDP12E120	Emitter Controlled Diodes	1200V	69	IHW20T120	TRENCHSTOP™ RC-H	1200V	72
IDP15E60	Emitter Controlled Diodes	600V	69	IHW25N120R2	TRENCHSTOP™ RC	1200V	72
IDP18E120	Emitter Controlled Diodes	1200V	69	IHW30N100R	TRENCHSTOP™ RC-H	1000V	71
IDP23E60	Emitter Controlled Diodes	600V	69	IHW30N100T	TRENCHSTOP™ Duo Pack	1000V	71
IDP30E120	Emitter Controlled Diodes	1200V	69	IHW30N110R3	TRENCHSTOP™ RC-H	1100V	71
IDP30E60	Emitter Controlled Diodes	600V	69	IHW30N120R	TRENCHSTOP™ RC-H	1200V	72
IDP45E60	Emitter Controlled Diodes	600V	69	IHW30N120R2	TRENCHSTOP™ RC-H	1200V	72
IDT02S60C	thinQ™ 2G	600V	67	IHW30N160R2	TRENCHSTOP™ RC-H	1600V	72
IDT03S60C	thinQ™ 2G	600V	67	IHW30N60T	TRENCHSTOP™ RC-H	600V	71
IDT04S60C	thinQ™ 2G	600V	67	IHW30N90R	TRENCHSTOP™ RC-H	900V	71
IDT05S60C	thinQ™ 2G	600V	67	IHW30N90T	TRENCHSTOP™ Duo Pack	900V	71
IDT06S60C	thinQ™ 2G	600V	67	IHW40N60R	TRENCHSTOP™ RC-H	600V	71
IDT08S60C	thinQ™ 2G	600V	67	IHW40T120	TRENCHSTOP™ Duo Pack	1200V	72
IDT10S60C	thinQ™ 2G	600V	67	IHW40T60	TRENCHSTOP™ Duo Pack	600V	71
IDT12S60C	thinQ™ 2G	600V	67	IHY15N120R3	TRENCHSTOP™ RC-H	1200V	73
IDT16S60C	thinQ™ 2G	600V	67	IHY20N120R3	TRENCHSTOP™ RC-H	1200V	73
IDW100E60	Emitter Controlled Diodes	600V	69	IHY30N160R2	TRENCHSTOP™ RC-H	600V	73
IDW75E60	Emitter Controlled Diodes	600V	69	IKA03N120H2	High Speed 2 Duo Pack	1200V	74
IGA03N120H2	High Speed 2 IGBT Single Version	1200V	74	IKA06N60T	TRENCHSTOP™ Duo Pack	600V	74
IGB01N120H2	High Speed 2 IGBT Single Version	1200V	76	IKA10N60T	TRENCHSTOP™ Duo Pack	600V	74
IGB03N120H2	High Speed 2 IGBT Single Version	1200V	76	IKA15N60T	TRENCHSTOP™ Duo Pack	600V	74
IGB10N60T	TRENCHSTOP™ Single Version	600V	75	IKB01N120H2	High Speed 2 IGBT Duo Pack	1200V	76
IGB10N60T	TRENCHSTOP™ Single Version	600V	75	IKB03N120H2	High Speed 2 IGBT Duo Pack	1200V	76
IGB15N60T	TRENCHSTOP™ Single Version	600V	75	IKB06N60T	TRENCHSTOP™ Duo Pack	600V	75
IGB30N60T	TRENCHSTOP™ Single Version	600V	73	IKB10N60T	TRENCHSTOP™ Duo Pack	600V	75
IGB30N60T	TRENCHSTOP™ Single Version	600V	76	IKB15N60T	TRENCHSTOP™ Duo Pack	600V	75
IGB50N60T	TRENCHSTOP™ Single Version	600V	76	IKB20N60T	TRENCHSTOP™ Duo Pack	600V	76
IGD01N120H2	High Speed 2 IGBT Single Version	1200V	75	IKD04N60R	RC-Drives	600V	75
IGD06N60T	TRENCHSTOP™ Single Version	600V	75	IKD04N60RA	RC-Drives	600V	75
IGP01N120H2	High Speed 2 IGBT Single Version	1200V	74	IKD06N60R	RC-Drives	600V	75
IGP03N120H2	High Speed 2 IGBT Single Version	1200V	74	IKD06N60RA	RC-Drives	600V	75
IGP06N60T	TRENCHSTOP™ Single Version	600V	73	IKD10N60R	RC-Drives	600V	75
IGP10N60T	TRENCHSTOP™ Single Version	600V	73	IKD10N60RA	RC-Drives	600V	75
IGP15N60T	TRENCHSTOP™ Single Version	600V	73	IKD15N60R	RC-Drives	600V	75
IGP30N60H3	High Speed IGBT 3 Single Version	600V	73	IKD15N60RA	RC-Drives	600V	75
IGP50N60T	TRENCHSTOP™ Single Version	600V	73	IKI04N60T	TRENCHSTOP™ Duo Pack	600V	76
IGW03N120H2	High Speed 2 IGBT Single Version	1200V	72	IKP01N120H2	High Speed 2 IGBT Duo Pack	1200V	74
IGW08T120	TRENCHSTOP™ Single Version	1200V	72	IKP03N120H2	High Speed 2 IGBT Duo Pack	1200V	74
IGW15N120HS3	High Speed 3	1200V	72	IKP04N60T	TRENCHSTOP™ Duo Pack	600V	73
IGW15T120	TRENCHSTOP™ Single Version	1200V	72	IKP06N60T	TRENCHSTOP™ Duo Pack	600V	73
IGW25T120	TRENCHSTOP™ Single Version	1200V	72	IKP10N60T	TRENCHSTOP™ Duo Pack	600V	73
IGW30N100T	TRENCHSTOP™ Single Version	1000V	71	IKP15N60T	TRENCHSTOP™ Duo Pack	600V	73
IGW30N60T	TRENCHSTOP™ Single Version	600V	71	IKP20N60T	TRENCHSTOP™ Duo Pack	600V	73
IGW40T120	TRENCHSTOP™ Single Version	1200V	72	IKU04N60R	RC-Drives	600V	76
IGW50N60T	TRENCHSTOP™ Single Version	600V	71	IKU06N60R	RC-Drives	600V	76
				IKU10N60R	RC-Drives	600V	76
				IKU15N60R	RC-Drives	600V	76
				IKW03N120H2	High Speed 2 IGBT Duo Pack	1200V	72
				IKW08T120	TRENCHSTOP™ Duo Pack	1200V	72
				IKW15N120H3	High Speed 3	1200V	72
				IKW15N120T2	TRENCHSTOP™ 2 Duo Pack	1200V	72
				IKW15T120	TRENCHSTOP™ Duo Pack	1200V	72

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IKW20N60T	TRENCHSTOP™ Duo Pack	600V	71
IKW25N120T2	TRENCHSTOP™ 2	1200V	72
IKW25T120	TRENCHSTOP™ Duo Pack	1200V	72
IKW30N100T	TRENCHSTOP™ Duo Pack	1000V	71
IKW30N60T	TRENCHSTOP™ Duo Pack	600V	71
IKW40N120T2	TRENCHSTOP™ 2 Duo Pack	1200V	72
IKW40T120	TRENCHSTOP™ Duo Pack	1200V	72
IKW50N60T	TRENCHSTOP™ Duo Pack	600V	71
IKW75N60T	TRENCHSTOP™ Duo Pack	600V	71
IP65N190C6	CoolMOS™C6	600V	47
IP65N280C6	CoolMOS™C6	600V	47
IP65N380C6	CoolMOS™C6	600V	47
IP65N600C6	CoolMOS™C6	600V	47
IPA028N08N3 G	OptiMOS™	80V	42
IPA030N10N3 G	OptiMOS™	100V	42
IPA032N06N3 G	OptiMOS™	60V	42
IPA037N08N3 G	OptiMOS™	80V	42
IPA045N10N3 G	OptiMOS™	100V	42
IPA057N06N3 G	OptiMOS™	60V	42
IPA057N08N3 G	OptiMOS™	80V	42
IPA086N10N3 G	OptiMOS™	100V	42
IPA093N06N3 G	OptiMOS™	60V	42
IPA100N08N3 G	OptiMOS™	80V	42
IPA105N15N3 G	OptiMOS™	150V	42
IPA126N10N3 G	OptiMOS™	100V	42
IPA180N10N3 G	OptiMOS™	100V	42
IPA190N65C6	CoolMOS™C6	650V	43
IPA190N65C6	CoolMOS™C6	650V	50
IPA280N65C6	CoolMOS™C6	650V	43
IPA280N65C6	CoolMOS™C6	650V	50
IPA380N65C6	CoolMOS™C6	650V	43
IPA380N65C6	CoolMOS™C6	650V	50
IPA380N65C6	CoolMOS™C6	650V	52
IPA50R140CP	CoolMOS™CP	500V	42
IPA50R199CP	CoolMOS™CP	500V	42
IPA50R250CP	CoolMOS™CP	500V	42
IPA50R299CP	CoolMOS™CP	500V	42
IPA50R350CP	CoolMOS™CP	500V	42
IPA50R399CP	CoolMOS™CP	500V	42
IPA50R520CP	CoolMOS™CP	500V	42
IPA600N65C	CoolMOS™C6	650V	50
IPA600N65C6	CoolMOS™C6	650V	43
IPA600N65C6	CoolMOS™C6	650V	52
IPA60R099C6	CoolMOS™C6	600V	42
IPA60R125C6	CoolMOS™C6	600V	42
IPA60R125CP	CoolMOS™CP	600V	42
IPA60R160C6	CoolMOS™C6	600V	42
IPA60R165CP	CoolMOS™CP	600V	42
IPA60R190C6	CoolMOS™C6	600V	42
IPA60R199CP	CoolMOS™CP	600V	42
IPA60R1K2C6	CoolMOS™C6	600V	43
IPA60R250CP	CoolMOS™CP	600V	42
IPA60R280C6	CoolMOS™C6	600V	42
IPA60R299CP	CoolMOS™CP	600V	42
IPA60R380C6	CoolMOS™C6	600V	43
IPA60R385CP	CoolMOS™CP	600V	43
IPA60R450C6	CoolMOS™C6	600V	43
IPA60R520C6	CoolMOS™C6	600V	43
IPA60R520CP	CoolMOS™CP	600V	43
IPA60R600C6	CoolMOS™C6	600V	43
IPA60R600CP	CoolMOS™CP	600V	43
IPA60R750C6	CoolMOS™C6	600V	43
IPA60R950C6	CoolMOS™C6	600V	43

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IPA65R099C6	CoolMOS™C6	650V	43
IPA90R1k0C3	CoolMOS™C3	900V	43
IPA90R1k2C3	CoolMOS™C3	900V	43
IPA90R340C3	CoolMOS™C3	900V	43
IPA90R500C3	CoolMOS™C3	900V	43
IPA90R800C3	CoolMOS™C3	900V	43
IPB009N03L G	OptiMOS™	30V	44
IPB009N03L G	OptiMOS™	30V	44
IPB011N04L G	OptiMOS™	40V	44
IPB011N04L G	OptiMOS™3	40V	45
IPB011N04N G	OptiMOS™	40V	44
IPB011N04N G	OptiMOS™3	40V	45
IPB015N04L G	OptiMOS™	40V	45
IPB015N04N G	OptiMOS™	40V	45
IPB016N06L3 G	OptiMOS™	60V	44
IPB017N06N3 G	OptiMOS™	60V	44
IPB019N06L3 G	OptiMOS™	60V	45
IPB019N08N3 G	OptiMOS™	80V	44
IPB020N04L G	OptiMOS™	40V	45
IPB020N04N	OptiMOS™3	40V	45
IPB020N04N G	OptiMOS™	40V	44
IPB020NE7N3 G	OptiMOS™3	75V	45
IPB021N06N3 G	OptiMOS™	60V	45
IPB022N04L G	OptiMOS™	40V	45
IPB023N04N G	OptiMOS™	40V	45
IPB023N06N3 G	OptiMOS™	60V	44
IPB025N08N3 G	OptiMOS™	80V	46
IPB025N10N3 G	OptiMOS™	100V	44
IPB027N10N3 G	OptiMOS™3	100V	46
IPB029N06N3 G	OptiMOS™	60V	45
IPB030N08N3 G	OptiMOS™	80V	44
IPB031NE7N3 G	OptiMOS™3	75V	45
IPB034N03L G	OptiMOS™	30V	44
IPB034N06L3 G	OptiMOS™	60V	45
IPB034N06N3 G	OptiMOS™	60V	44
IPB035N08N3 G	OptiMOS™	80V	46
IPB036N12N3 G	OptiMOS™3	120V	46
IPB037N06N3 G	OptiMOS™	60V	45
IPB038N12N3 G	OptiMOS™3	120V	46
IPB039N04L G	OptiMOS™	40V	45
IPB039N10N3 G	OptiMOS™	100V	44
IPB041N04N G	OptiMOS™	40V	45
IPB042N03L G	OptiMOS™	30V	44
IPB042N10N3 G	OptiMOS™3	100V	46
IPB048N06L G	OptiMOS™	60V	45
IPB048N06N3 G	OptiMOS™	60V	45
IPB049N06L3 G	OptiMOS™	60V	45
IPB049NE7N3 G	OptiMOS™3	75V	45
IPB04CN10N G	OptiMOS™2	100V	46
IPB050N06N G	OptiMOS™	60V	45
IPB050N06N3 G	OptiMOS™	60V	45
IPB052N04N G	OptiMOS™	40V	45
IPB054N06N3 G	OptiMOS™	60V	45
IPB054N08N3 G	OptiMOS™	80V	46
IPB055N03L G	OptiMOS™	30V	44
IPB05CN10N G	OptiMOS™2	100V	46
IPB065N03L G	OptiMOS™	30V	44
IPB065N06L G	OptiMOS™	60V	45
IPB065N15N3 G	OptiMOS™	150V	44
IPB067N08N3 G	OptiMOS™	80V	46
IPB069N10N3 G	OptiMOS™	100V	44
IPB06CN10N G	OptiMOS™2	100V	46
IPB070N06L G	OptiMOS™	60V	45

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IPB072N15N3 G	OptiMOS™3	150V	46
IPB075N04L G	OptiMOS™	40V	45
IPB080N03L G	OptiMOS™	30V	44
IPB080N06N G	OptiMOS™	60V	45
IPB081N06L3 G	OptiMOS™	60V	45
IPB083N10N3 G	OptiMOS™3	100V	46
IPB085N06L G	OptiMOS™	60V	45
IPB08CN10N G	OptiMOS™2	100V	46
IPB090N06N3 G	OptiMOS™	60V	45
IPB091N06N G	OptiMOS™	60V	45
IPB093N04L G	OptiMOS™	40V	45
IPB096N03L G	OptiMOS™	30V	44
IPB097N08N3 G	OptiMOS™	80V	46
IPB107N20N3 G	OptiMOS™	200V	46
IPB108N15N3 G	OptiMOS™	150V	46
IPB110N06L G	OptiMOS™	60V	45
IPB114N03L G	OptiMOS™	30V	44
IPB120N06N G	OptiMOS™	60V	45
IPB123N10N3 G	OptiMOS™3	100V	46
IPB12CN10N G	OptiMOS™2	100V	46
IPB136N08N3 G	OptiMOS™	80V	46
IPB144N12N3 G	OptiMOS™3	120V	46
IPB147N03L G	OptiMOS™	30V	44
IPB16CN10N G	OptiMOS™2	100V	46
IPB200N15N3 G	OptiMOS™3	150V	46
IPB200N25N3 G	OptiMOS™	250V	46
IPB230N06L3 G	OptiMOS™	60V	45
IPB260N06N3 G	OptiMOS™	60V	45
IPB26CN10N G	OptiMOS™2	100V	46
IPB320N20N3 G	OptiMOS™	200V	46
IPB34CN10N G	OptiMOS™2	100V	46
IPB50CN10N G	OptiMOS™2	100V	46
IPB50R140CP	CoolMOS™CP	500V	47
IPB50R199CP	CoolMOS™CP	500V	47
IPB50R250CP	CoolMOS™CP	500V	47
IPB50R299CP	CoolMOS™CP	500V	47
IPB530N15N3 G	OptiMOS™	150V	46
IPB600N25N3 G	OptiMOS™	250V	46
IPB60R099C6	CoolMOS™C6	600V	47
IPB60R099CP	CoolMOS™CP	600V	47
IPB60R125C6	CoolMOS™C6	600V	47
IPB60R125CP	CoolMOS™CP	600V	47
IPB60R160C6	CoolMOS™C6	600V	47
IPB60R165CP	CoolMOS™CP	600V	47
IPB60R190C6	CoolMOS™C6	600V	47
IPB60R199CP	CoolMOS™CP	600V	47
IPB60R250CP	CoolMOS™CP	600V	47
IPB60R280C6	CoolMOS™C6	600V	47
IPB60R299CP	CoolMOS™CP	600V	47
IPB60R380C6	CoolMOS™C6	600V	47
IPB60R385CP	CoolMOS™CP	600V	47
IPB60R520CP	CoolMOS™CP	600V	47
IPB60R600C6	CoolMOS™C6	600V	47
IPB60R600CP	CoolMOS™CP	600V	47
IPB60R950C6	CoolMOS™C6	600V	47
IPB79CN10N G	OptiMOS™2	100V	46
IPD031N03L G	OptiMOS™	30V	50
IPD031N06L3 G	OptiMOS™	60V	51
IPD034N06N3 G	OptiMOS™	60V	51
IPD035N06L3 G	OptiMOS™	60V	51
IPD036N04L G	OptiMOS™	40V	51
IPD038N04N G	OptiMOS™	40V	51

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IPD048N06L3 G	OptiMOS™	60V	51
IPD050N03L G	OptiMOS™	30V	50
IPD053N06N3 G	OptiMOS™	60V	51
IPD053N08N3 G	OptiMOS™	80V	51
IPD060N03L G	OptiMOS™	30V	50
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IPD068P03L3 G	OptiMOS™	-30V	50
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IPD079N06L3 G	OptiMOS™	60V	51
IPD082N10N3 G	OptiMOS™	100V	51
IPD088N04L G	OptiMOS™	40V	51
IPD088N06N3 G	OptiMOS™	60V	51
IPD090N03L G	OptiMOS™	30V	50
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IPD105N03L G	OptiMOS™	30V	50
IPD105N04L G	OptiMOS™	40V	51
IPD110N12N3 G	OptiMOS™	120V	51
IPD122N10N3 G	OptiMOS™	100V	51
IPD127N06L G	OptiMOS™	60V	51
IPD12CN10N G	OptiMOS™	100V	51
IPD135N03L G	OptiMOS™	30V	50
IPD135N08N3 G	OptiMOS™	80V	51
IPD144N06N G	OptiMOS™	60V	51
IPD160N04L G	OptiMOS™	40V	51
IPD16CN10N G	OptiMOS™	100V	51
IPD170N04N G	OptiMOS™	40V	51
IPD180N10N3 G	OptiMOS™	100V	51
IPD200N15N3 G	OptiMOS™	150V	51
IPD220N06L3 G	OptiMOS™	60V	51
IPD230N06L G	OptiMOS™	60V	51
IPD230N06N G	OptiMOS™	60V	51
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IPD350N06L G	OptiMOS™	60V	51
IPD400N06N G	OptiMOS™	60V	51
IPD49CN10N G	OptiMOS™	100V	51
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IPD600N25N3 G	OptiMOS™	250V	52
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IPD60R380C6	CoolMOS™C6	600V	52
IPD60R385CP	CoolMOS™CP	600V	52
IPD60R3K3C6	CoolMOS™C6	600V	52
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IPD60R600CP	CoolMOS™CP	600V	52
IPD60R750C6	CoolMOS™C6	600V	52
IPD60R950C6	CoolMOS™C6	600V	52
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IPD64CN10N G	OptiMOS™	100V	51
IPD78CN10N G	OptiMOS™	100V	51
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IPF060N03L G	OptiMOS™	30V	53
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IPF090N03L G	OptiMOS™	30V	53
IPF105N03L G	OptiMOS™	30V	53
IPF135N03L G	OptiMOS™	30V	53
IPI023NE7N3 G	OptiMOS™3	75V	48
IPI024N06N3 G	OptiMOS™3	60V	48
IPI028N08N3 G	OptiMOS™3	80V	48
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IPI034NE7N3 G	OptiMOS™3	75V	48
IPI037N06L3 G	OptiMOS™	60V	48
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IPI040N06N3 G	OptiMOS™	60V	48
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IPI052NE7N3 G	OptiMOS™3	75V	48
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IPI180N10N3 G	OptiMOS™3	100V	48
IPI200N15N3 G	OptiMOS™3	150V	48
IPI200N25N3 G	OptiMOS™	250V	49
IPI26CN10N G	OptiMOS™2	100V	48
IPI320N20N3 G	OptiMOS™	200V	49
IPI35CN10N G	OptiMOS™2	100V	48
IPI50CN10N G	OptiMOS™2	100V	48
IPI50R140CP	CoolMOS™ CP	500V	49
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IPI50R250CP	CoolMOS™ CP	500V	49
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IPI50R350CP	CoolMOS™ CP	500V	49
IPI50R399CP	CoolMOS™ CP	500V	49
IPI600N25N3 G	OptiMOS™	250V	49
IPI60R099CP	CoolMOS™CP	600V	49
IPI60R125CP	CoolMOS™CP	600V	49
IPI60R165CP	CoolMOS™CP	600V	49
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IPI90R500C3	CoolMOS™C3	900V	50
IPI90R800C3	CoolMOS™C3	900V	50
IPP015N04N G	OptiMOS™	40V	38
IPP023N04N G	OptiMOS™	40V	38
IPP023NE7N3 G	OptiMOS™	75V	38
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IPP030N10N3 G	OptiMOS™	100V	39
IPP032N06N3 G	OptiMOS™	60V	38
IPP034N03L G	OptiMOS™	-60V	38
IPP034NE7N3 G	OptiMOS™	75V	38
IPP037N06L3 G	OptiMOS™	60V	38
IPP037N08N3 G	OptiMOS™	80V	39
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IPP048N04N G	OptiMOS™	40V	38
IPP048N06L G	OptiMOS™	60V	38
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IPP04CN10N G	OptiMOS™	100V	39
IPP050N06N G	OptiMOS™	60V	38
IPP052N06L3 G	OptiMOS™	60V	38
IPP052NE7N3 G	OptiMOS™3	75V	38
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IPP50CN10N G	OptiMOS™	100V	39	IPU105N03L G	OptiMOS™	30V	54
IPP50R140CP	CoolMOS™CP	500V	40	IPU135N03L G	OptiMOS™	30V	54
IPP50R199CP	CoolMOS™CP	500V	40	IPU135N08N3 G	OptiMOS™	80V	54
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SPD03N60C3	CoolMOS™C3	600V	52
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SPD04N60C3	CoolMOS™C3	600V	52
SPD04N80C3	CoolMOS™C3	800V	52
SPD04P10P G	planar	-100V	50
SPD04P10PL G	planar	-100V	50
SPD06N60C3	CoolMOS™C3	600V	52
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MOSFETs

Power Diodes

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Type List

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SPI08N80C3	CoolMOS™C3	800V	50	SPP20N60CFD	CoolMOS™CFD	600V	40
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SPI11N60CFD	CoolMOS™CFD	600V	49	SPP21N50C3	CoolMOS™C3	500V	40
SPI11N65C3	CoolMOS™C3	650V	50	SPP24N60C3	CoolMOS™C3	600V	40
SPI12N50C3	CoolMOS™ C3	500V	49	SPP24N60CFD	CoolMOS™CFD	600V	40
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SPP11N60C3	CoolMOS™C3	600V	40	SPW35N60C3	CoolMOS™C3	600V	36
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