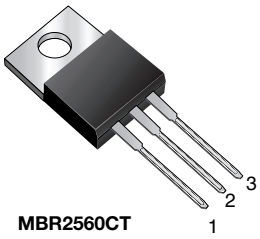
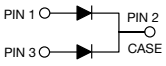
Dual Common Cathode Schottky Rectifier

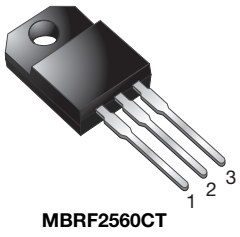
TO-220AB



MBR2560CT



ITO-220AB



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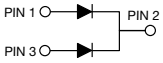
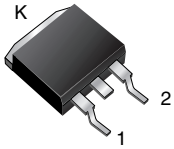


D²PAK (TO-263AB)



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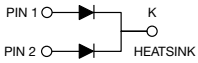


LINKS TO ADDITIONAL RESOURCES

3D Models

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 12.5 A
V_{RRM}	60 V
I_{FSM}	150 A
V_F	0.65 V at 15 A
T_J max.	150 °C
Package	TO-220AB, ITO-220AB, D²PAK (TO-263AB)
Circuit configuration	Common cathode

FEATURES

- Power pack
- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for D²PAK (TO-263AB) package)
- Solder bath temperature 275 °C maximum, 10 s, per JESD 22-B106 (for TO-220AB and ITO-220AB package)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT
HALOGEN FREE Available

TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, DC/DC converters, or polarity protection application.

MECHANICAL DATA

Case: TO-220AB, ITO-220AB, D²PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/N-M3 - RoHS-compliant, halogen-free, commercial grade

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 and M3 suffix meets JESD 201 class 1A whisker test

Polarity: as marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T_C = 25 °C unless otherwise noted)				
PARAMETER		**SYMBOL**	**MBR2560CT, MBRF2560CT, MBRB2560CT**	**UNIT**
Maximum repetitive peak reverse voltage		V_{RRM}	60	V
Working peak reverse voltage		V_{RWM}	60	
Maximum DC blocking voltage		V_{DC}	60	
Maximum average forward rectified current at T_C = 130 °C	total device	$I_{F(AV)}$	25	A
	per diode		12.5	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode		I_{FSM}	150	A
Peak repetitive reverse surge current per diode at t_p = 2 µs, 1 kHz		I_{RRM}	0.5	
Peak non-repetitive reverse energy (8/20 µs waveform) per diode		E_{RSM}	25	mJ
Electrostatic discharge capacitor voltage human body model: C = 100 pF, R = 1.5 kΩ		V_C	25	kV
Voltage rate of change (rated V_R)		dV/dt	10 000	V/µs
Operating junction temperature range		T_J	-65 to +150	°C
Storage temperature range		T_{STG}	-65 to +175	
Isolation voltage (ITO-220AB only) from terminal to heatsink t = 1 min		V_{AC}	1500	V

ELECTRICAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)					
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**MBR2560CT, MBRF2560CT, MBRB2560CT**	**UNIT**
Maximum instantaneous forward voltage per diode	I_F = 15 A	T_C = 25 °C	V_F (1)	0.75	V
		T_C = 125 °C		0.65	
Maximum instantaneous reverse current at blocking voltage per diode		T_C = 25 °C	I_R (1)	1.0	mA
		T_C = 125 °C		50	

Note

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)					
PARAMETER	**SYMBOL**	**MBR**	**MBRF**	**MBRB**	**UNIT**
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	1.5	4.5	1.5	°C/W

ORDERING INFORMATION (Example)					
PACKAGE	**PREFERRED P/N**	**UNIT WEIGHT (g)**	**PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
TO-220AB	MBR2560CT-E3/45	1.85	45	50/tube	Tube
ITO-220AB	MBRF2560CT-E3/45	1.99	45	50/tube	Tube
D^2PAK (TO-263AB)	MBRB2560CT-M3/I	1.35	I	800/reel	Tape and reel

RATINGS AND CHARACTERISTICS CURVES (T_C = 25 °C unless otherwise noted)

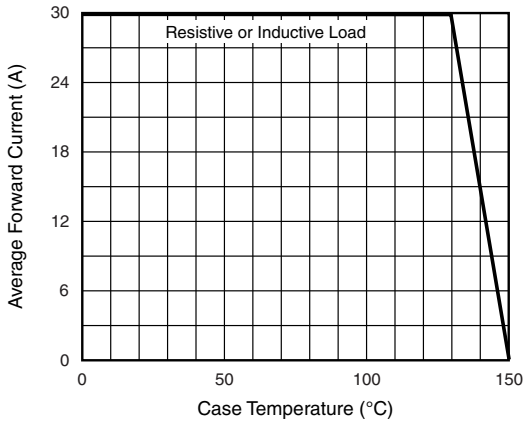


Fig. 1 - Forward Current Derating Curve

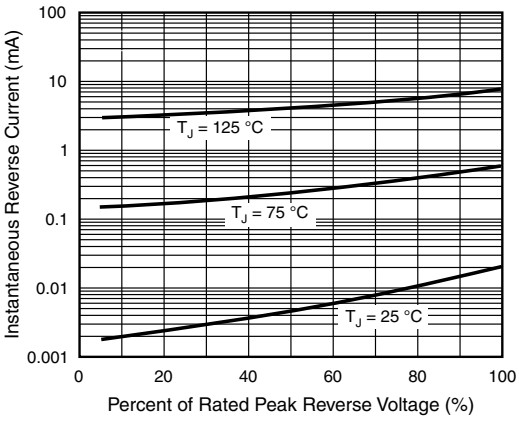


Fig. 4 - Typical Reverse Characteristics Per Diode

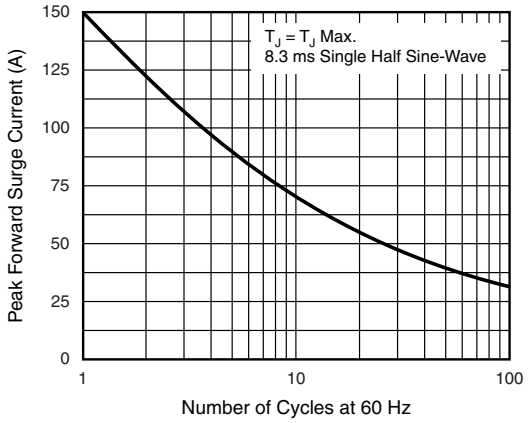


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

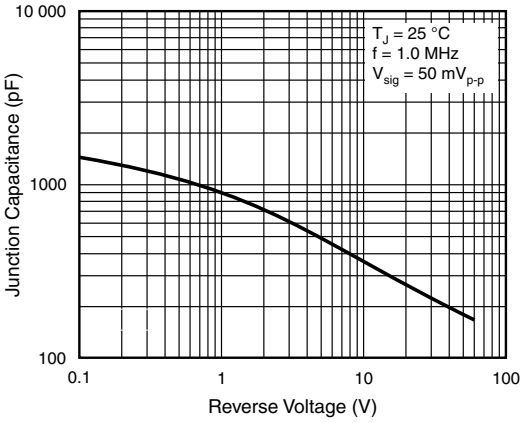


Fig. 5 - Typical Junction Capacitance Per Diode

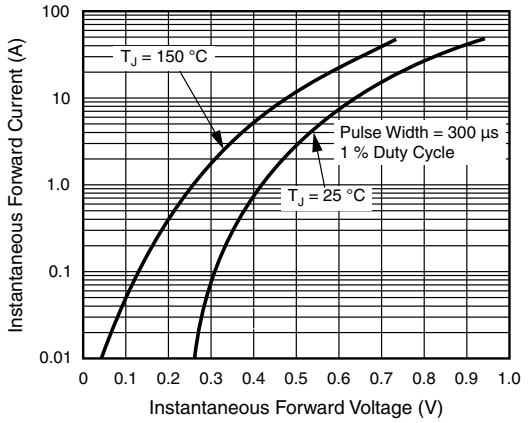


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

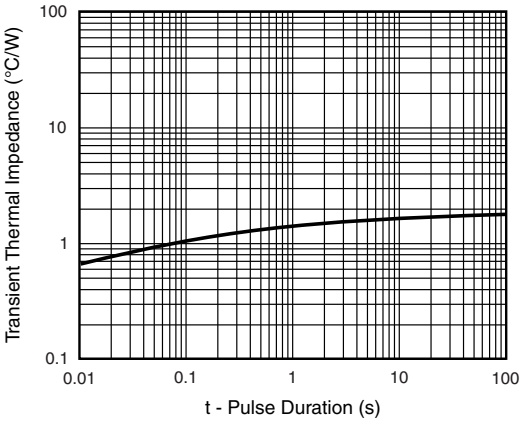
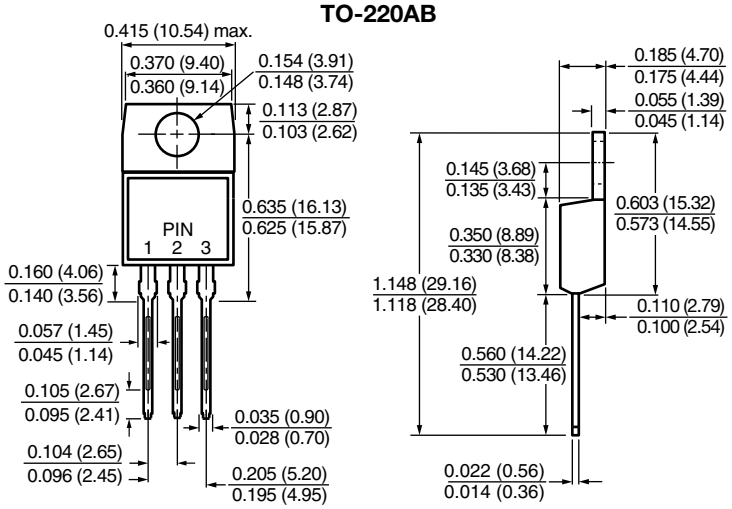


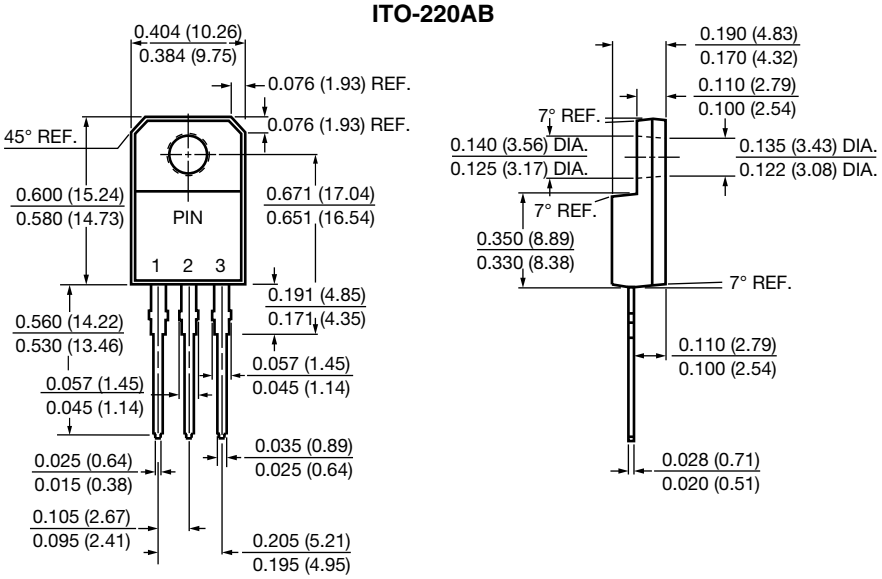
Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

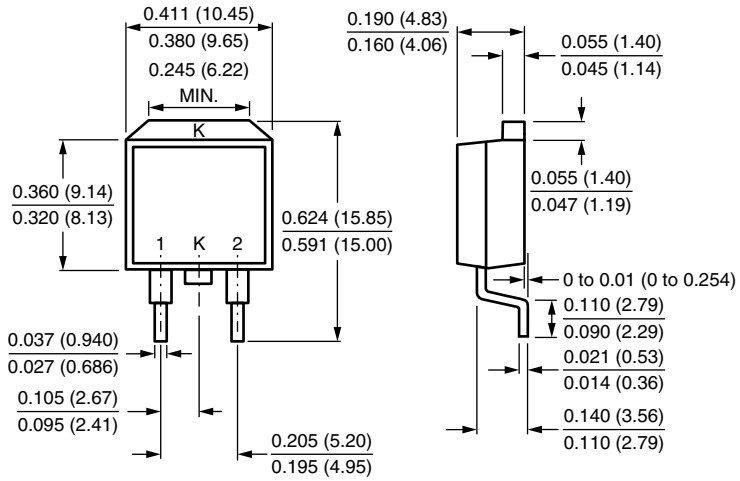
TO-220AB



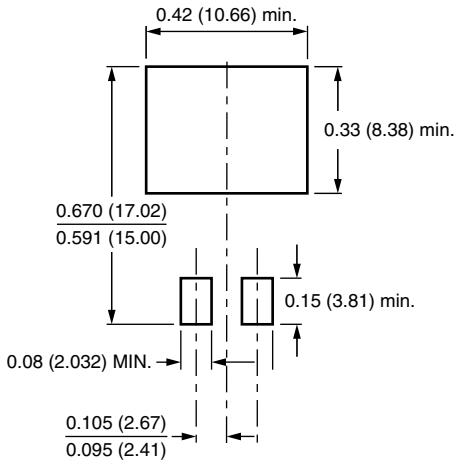
ITO-220AB



D²PAK (TO-263AB)



Mounting Pad Layout



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