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[Vishay Semiconductor/Diodes Division](#)
[MBR30H100CT-M3/4W](#)

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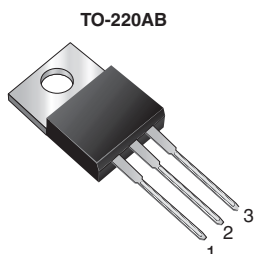
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MBR30H90CT, MBR30H100CT

Vishay General Semiconductor

Dual Common Cathode High Voltage Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance



FEATURES

- Power pack
- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High frequency operation
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: TO-220AB

Molding compound meets UL 94 V-0 flammability rating
 Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 15 A
V_{RRM}	90 V, 100 V
I_{FSM}	275 A
V_F	0.67 V
I_R	5.0 μ A
T_J max.	175 °C
Package	TO-220AB
Diode variations	Dual common cathode

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)				
PARAMETER	SYMBOL	MBR30H90CT	MBR30H100CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	90	100	V
Working peak reverse voltage	V_{RWM}	90	100	V
Maximum DC blocking voltage	V_{DC}	90	100	V
Maximum average forward rectified current (fig. 1)	$I_{F(AV)}$	total device		A
		per diode		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	275		A
Peak repetitive reverse current per diode at $t_p = 2$ μ s, 1 kHz	I_{RRM}	1.0		A
Voltage rate of change (rated V_R)	dV/dt	10 000		V/ μ s
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175		°C



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	TEST CONDITIONS	VALUE	UNIT	
Maximum instantaneous forward voltage per diode	V _F ⁽¹⁾	I _F = 15 A	T _J = 25 °C	0.82	V
			T _J = 125 °C	0.67	
		I _F = 30 A	T _J = 25 °C	0.93	
			T _J = 125 °C	0.80	
Maximum reverse current at rated V _R per diode	I _R ⁽²⁾	T _J = 25 °C	5.0	μA	
		T _J = 125 °C	6.0	mA	

Notes

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	MBR30H90CT	MBR30H100CT	UNIT
Typical thermal resistance per diode	R _{θJC}		1.9	°C/W

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	MBR30H100CT-M3/4W	1.85	4W	50/tube	Tube

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

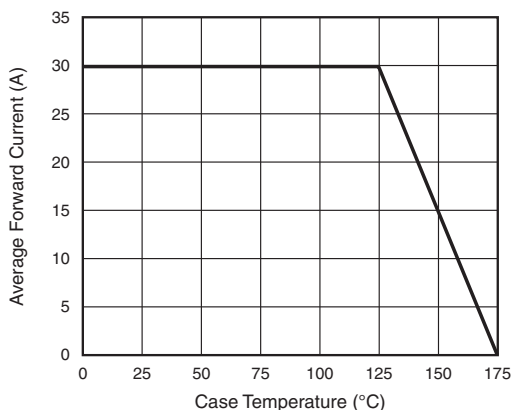


Fig. 1 - Forward Derating Curve Per Diode

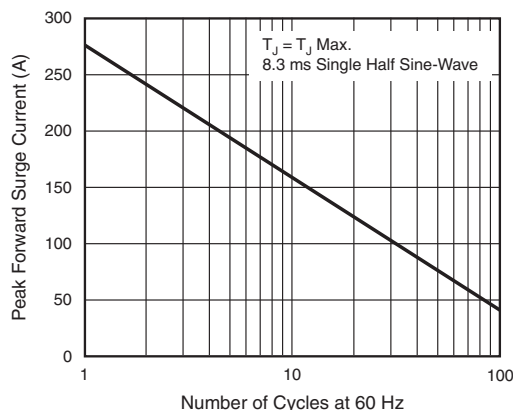


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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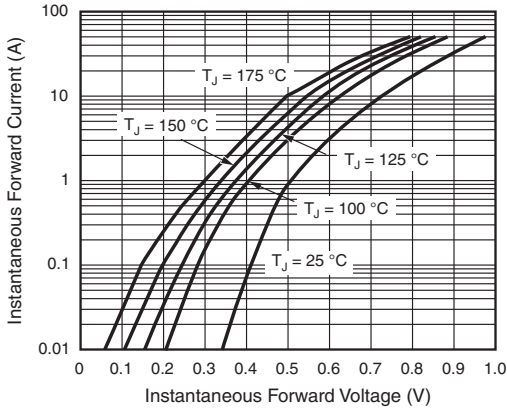


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

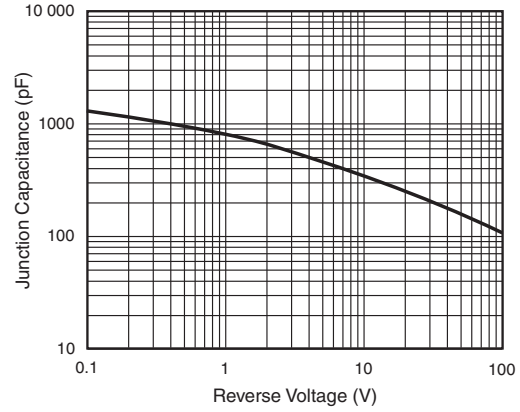


Fig. 5 - Typical Junction Capacitance Per Diode

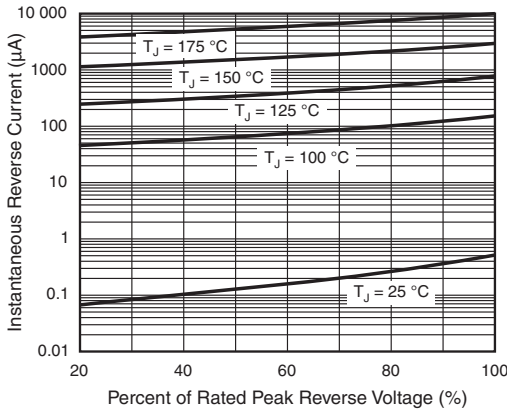


Fig. 4 - Typical Reverse Characteristics Per Diode

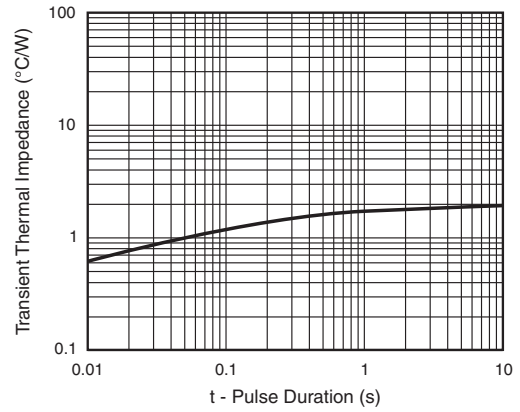
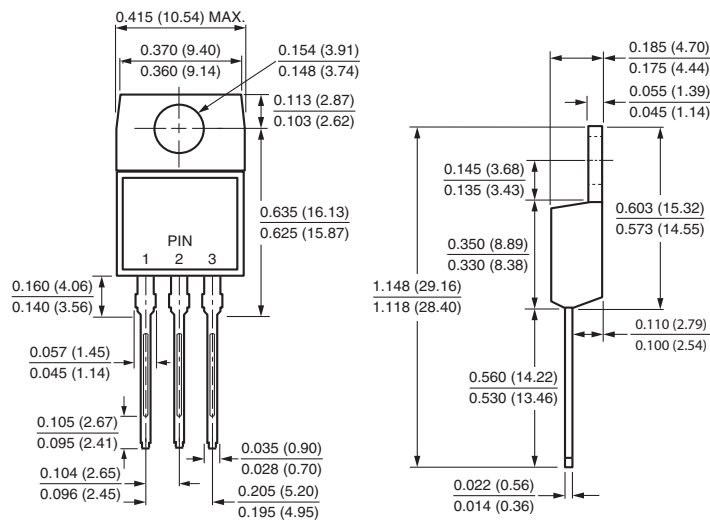


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-220AB





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