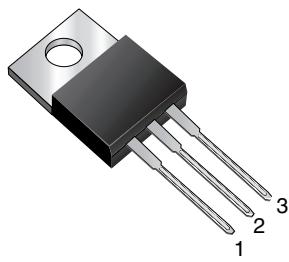


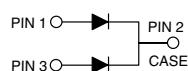
## Dual Common Cathode Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance

TO-220AB



MBR30H60CT



**RoHS**  
COMPLIANT

### 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 bath temperature 275 °C maximum, 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

### 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

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102  
E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** as marked

**Mounting Torque:** 10 in-lbs maximum

PRIMARY CHARACTERISTICS	
I <sub>F(AV)</sub>	2 x 15 A
V <sub>RRM</sub>	60 V
I <sub>FSM</sub>	150 A
V <sub>F</sub>	0.59 V
I <sub>R</sub>	60 µA
T <sub>J</sub> max.	175 °C
Package	TO-220AB
Diode variations	Common cathode

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	MBR30H60CT	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	60	V
Working peak reverse voltage	V <sub>RWM</sub>	60	V
Maximum DC blocking voltage	V <sub>DC</sub>	60	V
Maximum average forward rectified current (fig. 1)	I <sub>F(AV)</sub>	30	A
per diode		15	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	150	A
Peak repetitive reverse surge current per diode at t <sub>p</sub> = 2 µs, 1 kHz	I <sub>RRM</sub>	0.5	A
Peak non-repetitive reverse energy (8/20 µs waveform)	E <sub>RSR</sub>	20	mJ
Non-repetitive avalanche energy per diode at 25 °C, I <sub>AS</sub> = 4 A, L = 10 mH	E <sub>AS</sub>	80	mJ
Electrostatic discharge capacitor voltage human body model: C = 100 pF, R = 1.5 kΩ	V <sub>C</sub>	25	kV
Voltage rate of change (rated V <sub>R</sub> )	dV/dt	10 000	V/µs
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	MBR30H60CT		UNIT
Maximum instantaneous forward voltage per diode	$I_F = 15\text{ A}$	$T_C = 25^\circ\text{C}$	$V_F^{(1)}$	-	0.68	V
	$I_F = 15\text{ A}$	$T_C = 125^\circ\text{C}$		0.55	0.59	
	$I_F = 30\text{ A}$	$T_C = 25^\circ\text{C}$		-	0.83	
	$I_F = 30\text{ A}$	$T_C = 125^\circ\text{C}$		0.68	0.71	
Maximum reverse current per diode at working peak reverse voltage		$T_J = 25^\circ\text{C}$	$I_R^{(2)}$	-	60	$\mu\text{A}$
		$T_J = 125^\circ\text{C}$		4.0	15	mA

**Notes**

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

(2) Pulse test: pulse width  $\leq 40\text{ ms}$

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	MBR			UNIT
Typical thermal resistance junction to case per diode	$R_{\theta\text{JC}}$	1.5			$^\circ\text{C/W}$

<b>ORDERING INFORMATION</b> (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	MBR30H60CT-E3/45	1.85	45	50/tube	Tube

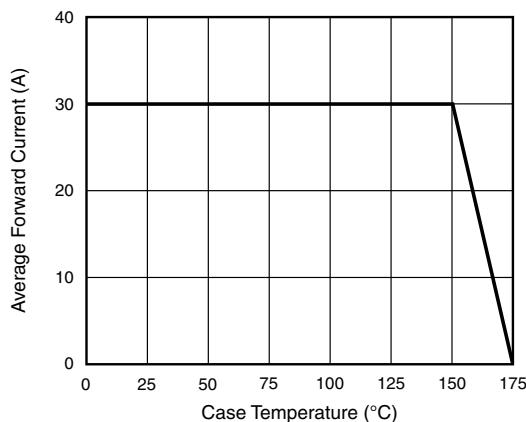
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)


Fig. 1 - Forward Derating Curve

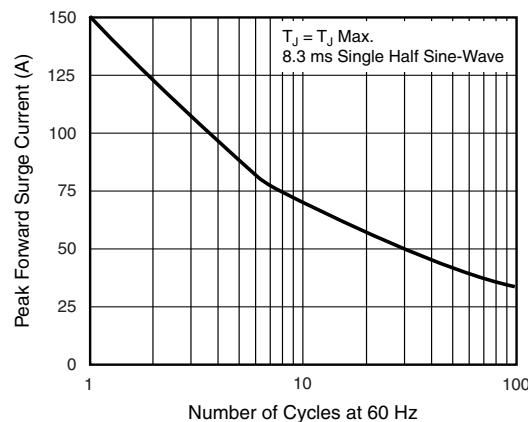


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

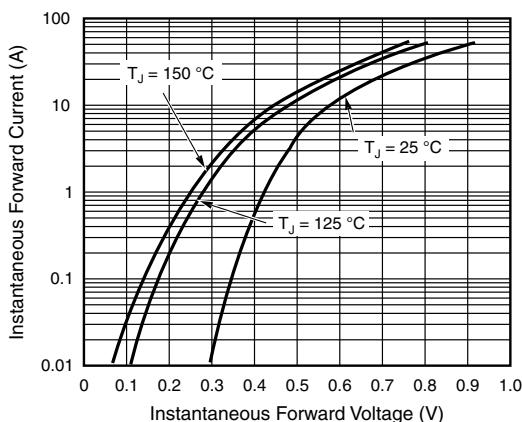


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

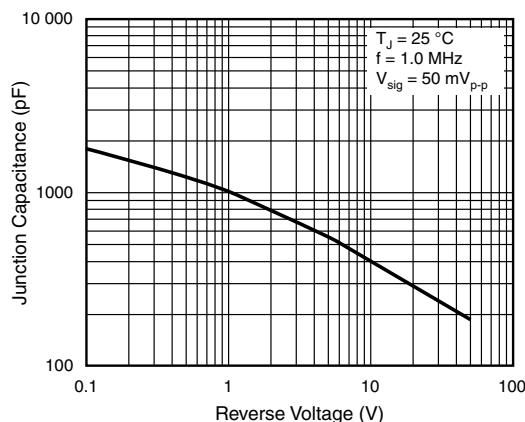


Fig. 5 - Typical Junction Capacitance Per Diode

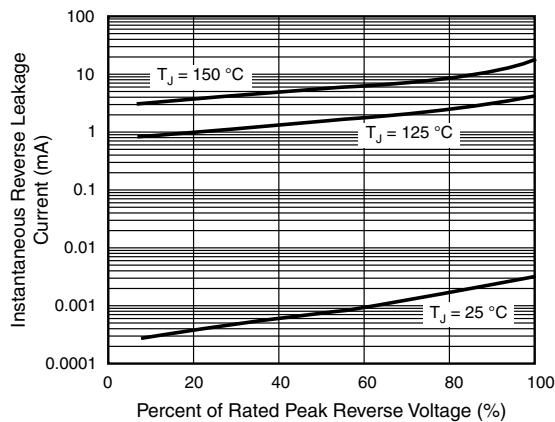


Fig. 4 - Typical Reverse Characteristics Per Diode

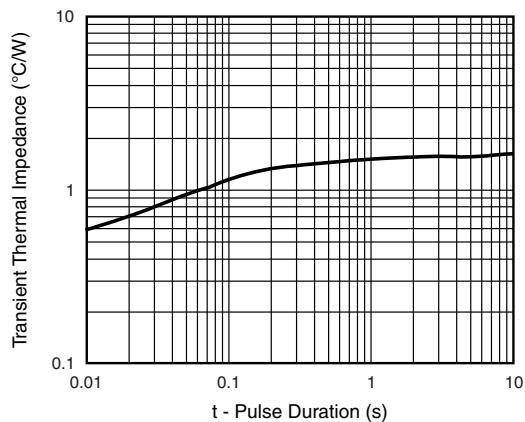
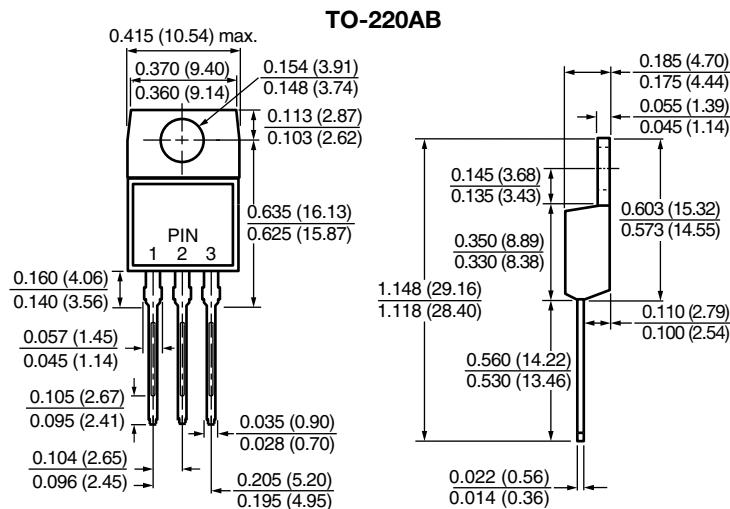


Fig. 6 - Typical Transient Thermal Impedance Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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