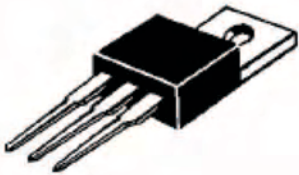


Schottky Barrier Rectifiers



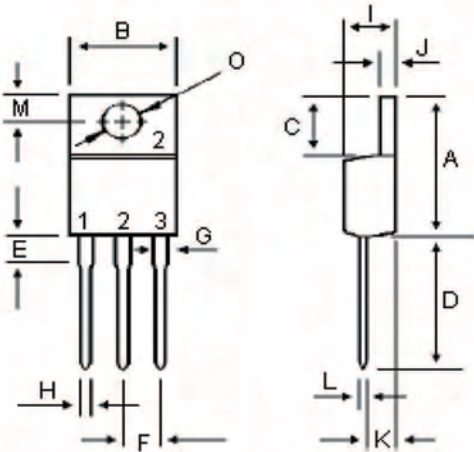
Using the schottky barrier principle with a molybdenum barrier metal. These state-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes.

Features:



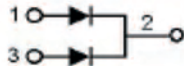
- Low forward voltage.
- Low switching noise.
- High current capacity.
- Guarantee reverse avalanche.
- Guard-ring for stress protection.
- Low power loss and high efficiency.
- 150°C operating junction temperature.
- Low stored charge majority carrier conduction.
- Plastic material used carries Underwriters Laboratory Flammability classification 94V-O.

**20 Amperes
40-60 Volts
TO-220AB**



Dimensions : Millimetres

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	5.02	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	2.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.98
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90



Common Cathode

Part Number Table

Description	Part Number
Schottky Barrier Rectifiers	MBR2040CTL
Schottky Barrier Rectifiers	MBR2045CT
Schottky Barrier Rectifiers	MBR2060CT

Schottky Barrier Rectifiers



Maximum Ratings

Characteristic	Symbol	MBR2040	MBR2045	MBR2060	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	45	60	V
RMS Reverse Voltage	$V_R (RMS)$	28	32	42	
Average Rectifier Forward Current (per diode) Total Device (Rated V_R), $T_C = 125^\circ\text{C}$	$I_F (AV)$	10 20			A
Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz)	I_{FM}	20			
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	I_{FSM}	200			
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +150			$^\circ\text{C}$

Thermal Resistances

Typical Thermal Resistance junction to case	$R_{\theta jc}$	3.8	$^\circ\text{C/W}$
Per diode		3.4	
Total		3.0	
Coupling	$R_{\theta c}$		

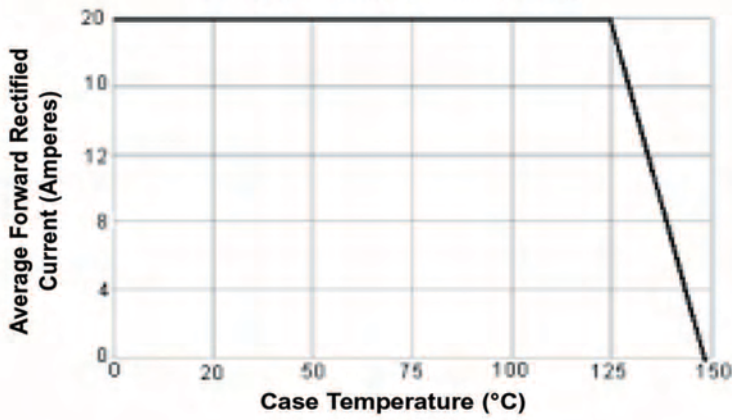
Electrical Characteristics

Characteristic	Symbol	MBR2040	MBR2045	MBR2060	Units
Maximum Instantaneous Forward Voltage ($I_F = 10$ Amperes $T_C = 25^\circ\text{C}$) ($I_F = 10$ Amperes $T_C = 100^\circ\text{C}$)	V_F	0.55 0.48		0.70 0.60	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ\text{C}$) (Rated DC Voltage, $T_C = 125^\circ\text{C}$)	I_R	0.5 20			mA

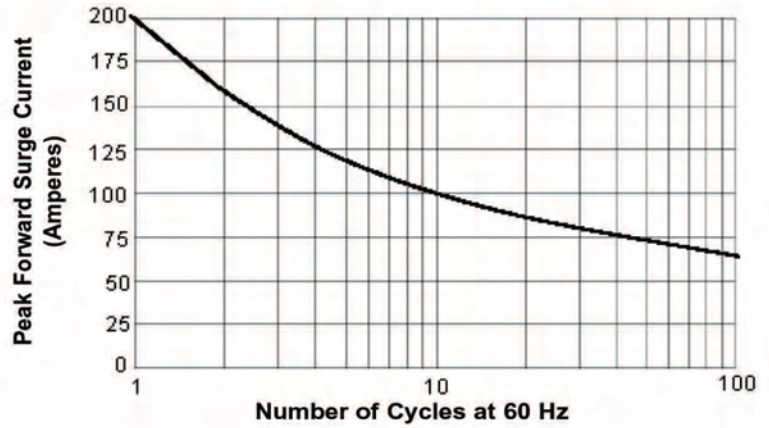
Schottky Barrier Rectifiers



Forward Current Derating Curve



Peak Forward Surge Current



Typical Reverse Characteristics

