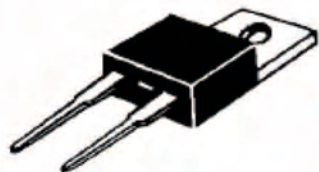


Schottky Barrier Rectifiers



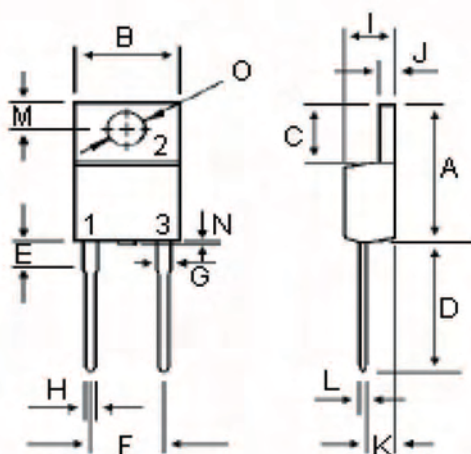
Using the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes.

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.

10 Amperes
40-60 Volts
TO-220A



Dimensions : Millimetres

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	6.02	6.52
D	13.06	14.62
E	3.57	4.07
F	4.84	5.32
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
N	---	1.00
O	3.70	3.90

Maximum Ratings

Characteristic	Symbol	MBR1040	MBR1045	MBR1060	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	I_F (AV)	10			A
Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz)	I_{FM}				
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			°C

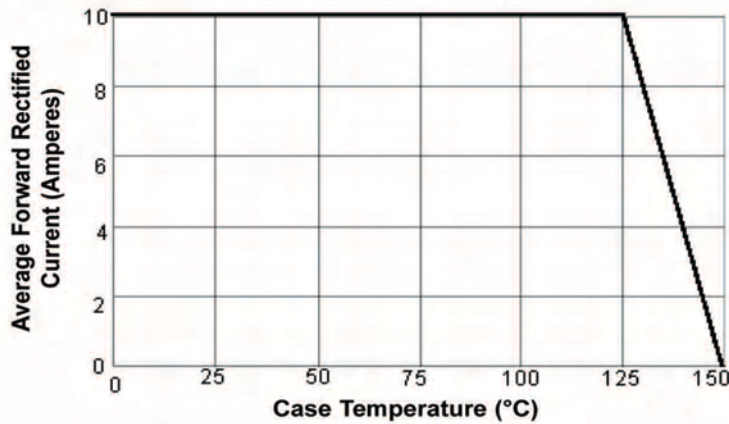
Electrical Characteristics

Characteristic	Symbol	MBR1040	MBR1045	MBR1060	Units
Maximum Instantaneous Forward Voltage ($I_F = 10$ Amperes $T_C = 25^\circ\text{C}$) ($I_F = 10$ Amperes $T_C = 125^\circ\text{C}$)	V_F	0.55 0.48		0.70 0.60	V
Typical Thermal Resistance Junction to Case	$R_{\theta j-c}$	3.4			°C/W
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

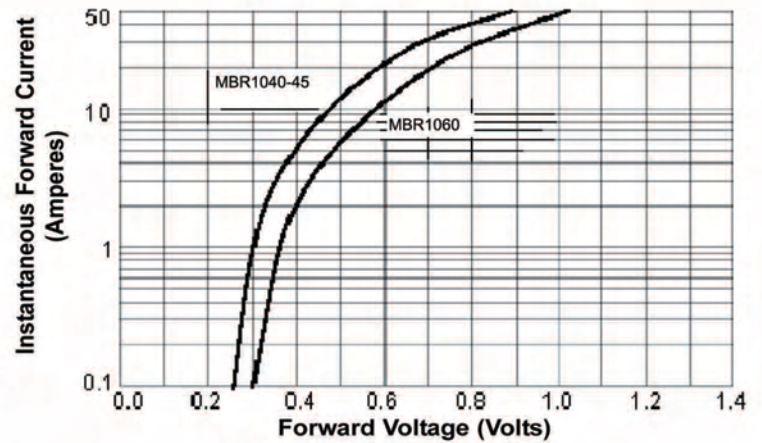
Schottky Barrier Rectifiers



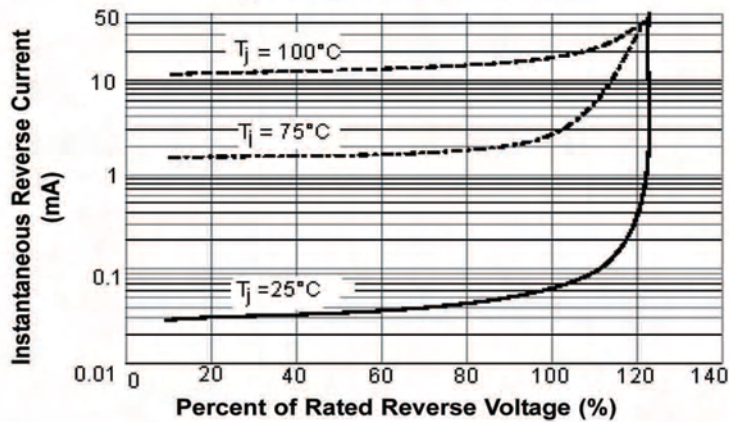
Forward Current Derating Curve



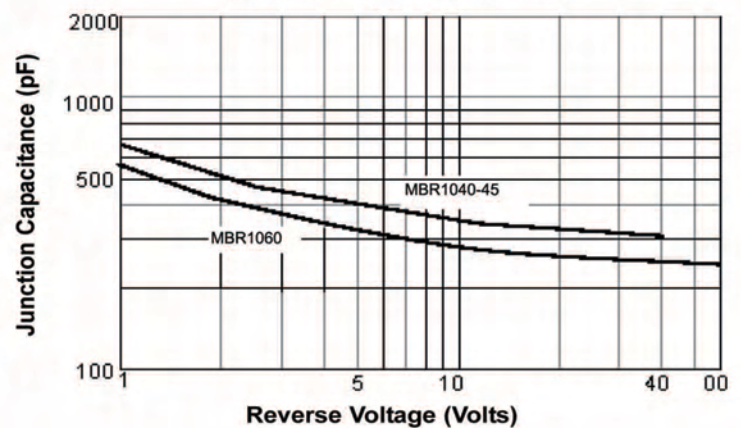
Typical Forward Characteristics



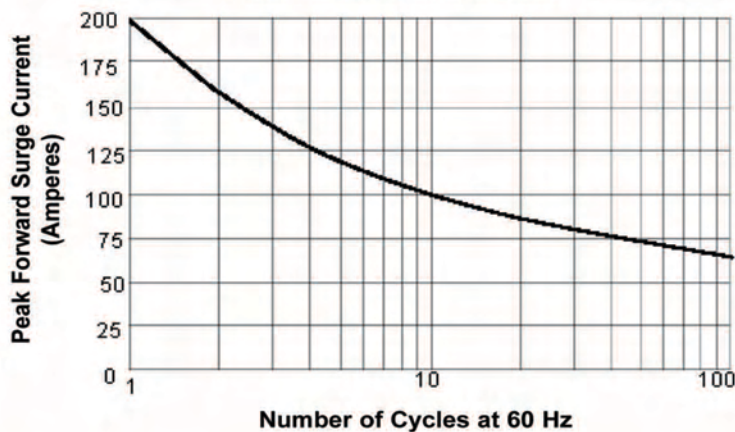
Typical Reverse Characteristics



Typical Junction Capacitance



Peak Forward Surge Current



Schottky Barrier Rectifiers



Part Number Table

Description	Part Number
Schottky Barrier Rectifiers	MBR1040
Schottky Barrier Rectifiers	MBR1045
Schottky Barrier Rectifiers	MBR1060



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