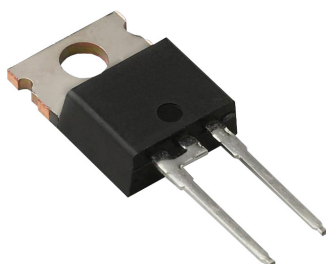


RoHS
Compliant



Description

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
- 175°C operating junction temperature
- Low stored charge majority carrier conduction
- Plastic material used carries Underwriters Laboratory
- Flammability classification 94V-0

Specifications

Reverse Voltage : 40 to 60 Volts

Forward Current : 10 Amperes

Maximum Ratings

Characteristic	Symbol	MBR1040	MBR1045	MBR1060	Units
Peak Repetitive Reverse Voltage	V_{RRM}	40	45	60	V
Working Peak Reverse Voltage	V_{RWM}				
DC Blocking Voltage	V_R				
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}				
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +175			°C

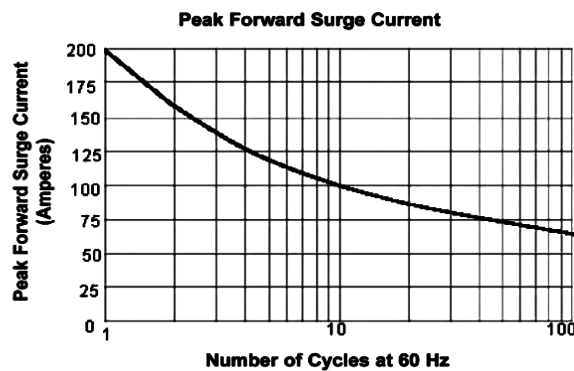
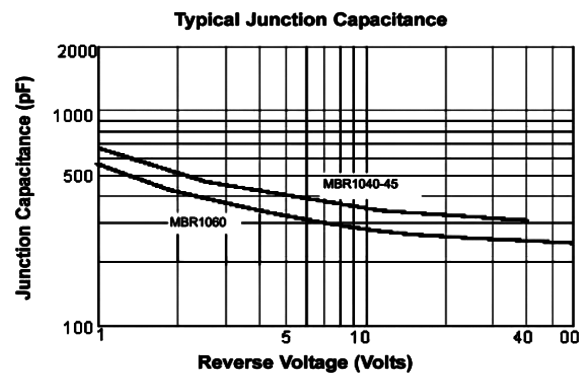
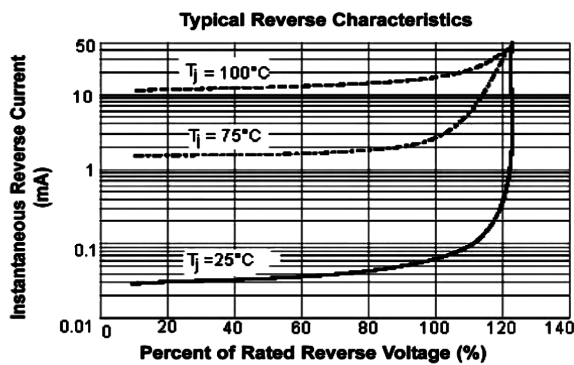
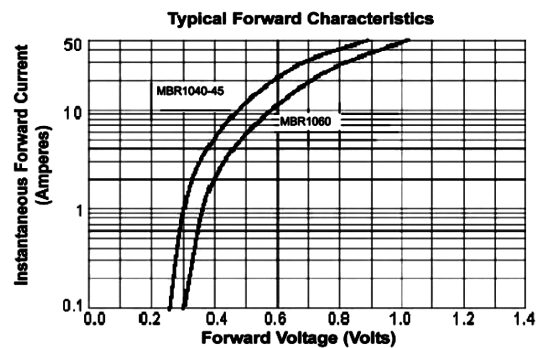
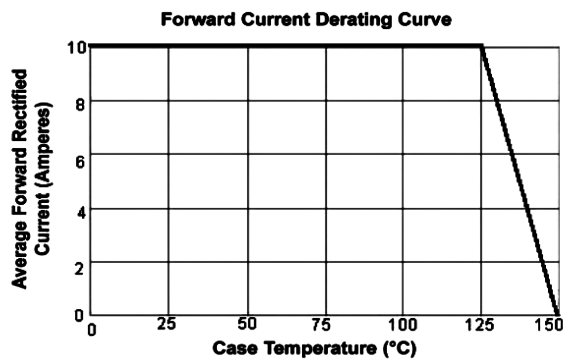
Thermal Resistances

Typical Thermal Resistance junction to case	$R_{\theta JC}$	3.4	°C/W
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Newark.com/multicomp-pro
Farnell.com/multicomp-pro
Element14.com/multicomp-pro

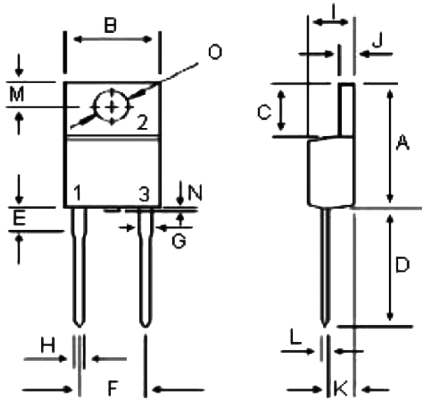
Electrical Characteristics

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		0.7 0.6	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		0.05 20		mA



Diagram

TO-220A



Dim.	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

Dim.	Min.	Max.
I	4.22	4.98
J	1.14	1.38
K	2.2	2.98
L	0.33	0.55
M	2.48	2.98
N	-	1
O	3.7	3.9

Dimensions : Millimetres

Part Number Table

Description	Part Number
Schottky Barrier Rectifier, 40V	MBR1040
Schottky Barrier Rectifier, 45V	MBR1045
Schottky Barrier Rectifier, 60V	MBR1060

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