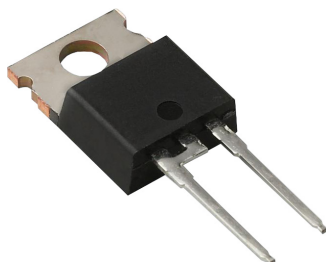


RoHS
Compliant



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

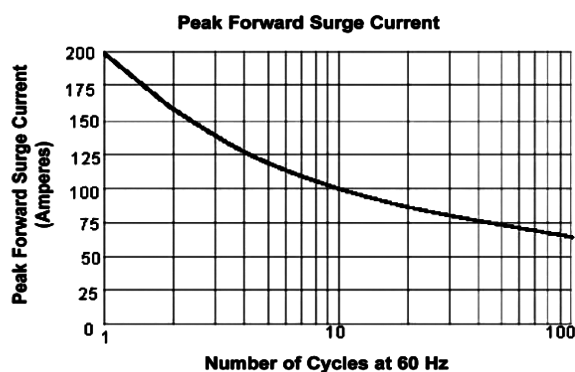
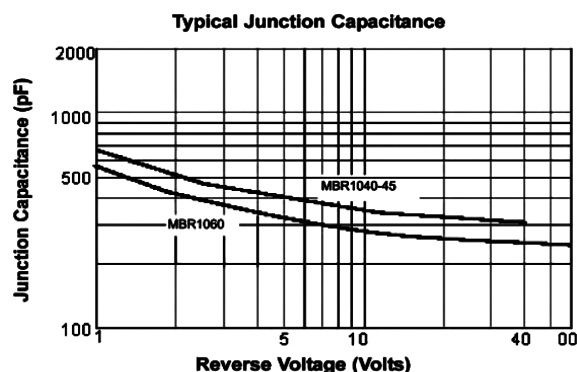
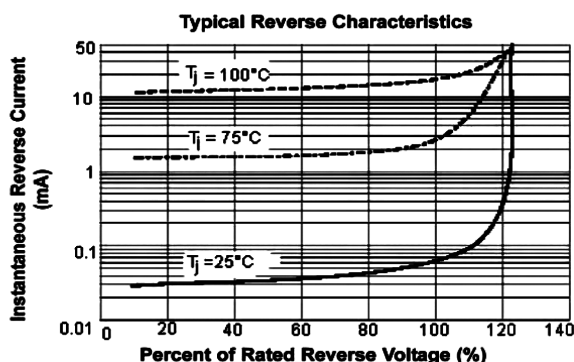
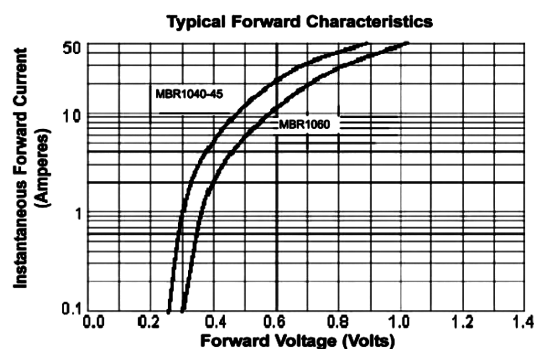
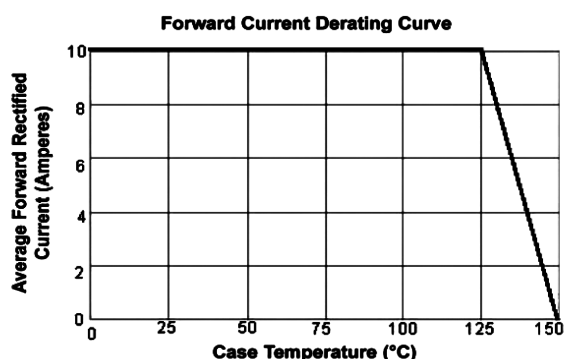
Typical Thermal Resistance junction to case	$R_{\theta JC}$	3.4	°C/W
---	-----------------	-----	------

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
Element14.com/multicomp-pro

multicomp^{PRO}

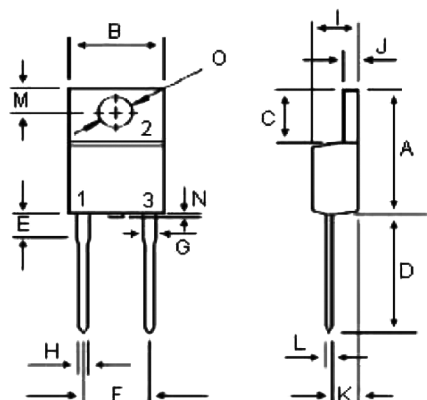
Electrical Characteristics

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

Important Notice : This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.