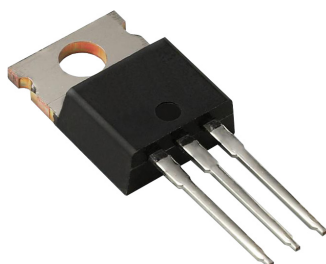


**RoHS
Compliant**



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.
- 150°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 : 20 Amperes

Maximum Ratings

Characteristic	Symbol	MBR2040CTL	MBR2045CT	MBR2060CT	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
Total Device (Rated V_R), $T_c = 125^{\circ}C$		20			
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			$^{\circ}C$

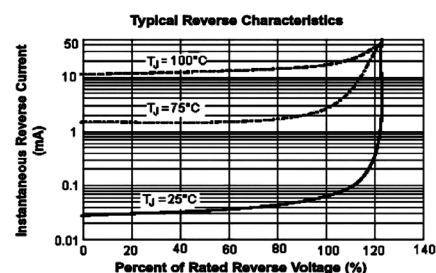
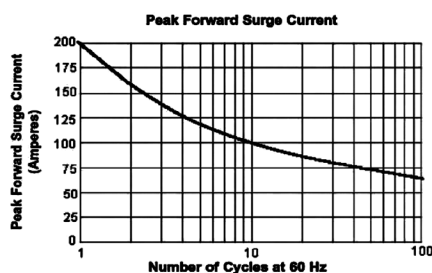
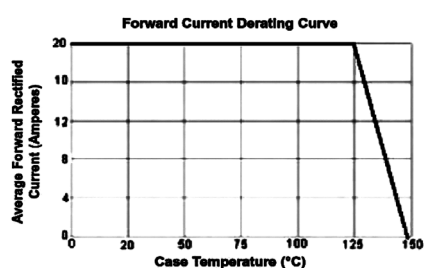
Thermal Resistances

Typical Thermal Resistance junction to case	$R_{\theta JC}$	3.8	$^\circ\text{C/W}$
Per diode			
Total		3.4	
Coupling	$R_{\theta JC}$	3	

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

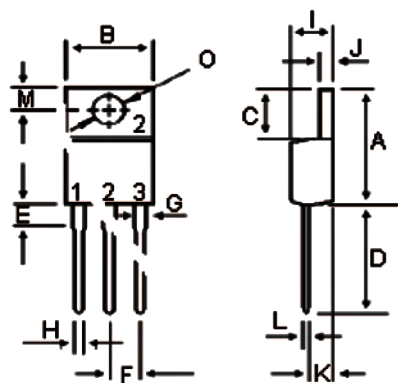
Electrical Characteristics

Characteristic	Symbol	MBR2040CTL	MBR2045CT	MBR2060CT	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		0.5 20		mA



Diagram

TO-220AB



Common Cathode



Dim.	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

Dim.	Min.	Max.
H	0.72	0.96
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
O	3.7	3.9

Dimensions : Millimetres

Part Number Table

Description	Part Number
Schottky Barrier Rectifiers, 45V	MBR2045CT
Schottky Barrier Rectifiers, 60V	MBR2060CT
Schottky Barrier Rectifiers, 40V	MBR2040CTL

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