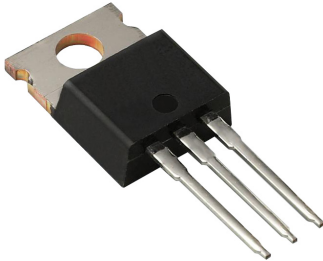


RoHS  
Compliant



## 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	$V_{RRM}$				V
Working Peak Reverse Voltage	$V_{RWM}$	40	45	60	
DC Blocking Voltage	$V_R$				
RMS Reverse Voltage	$V_{R(RMS)}$	28	32	42	
Average Rectifier Forward Current 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		$^\circ\text{C}$

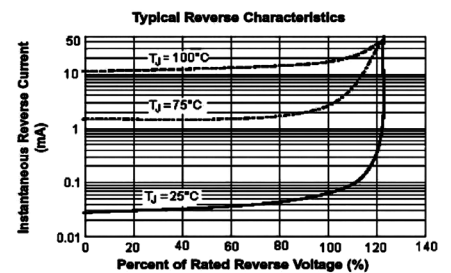
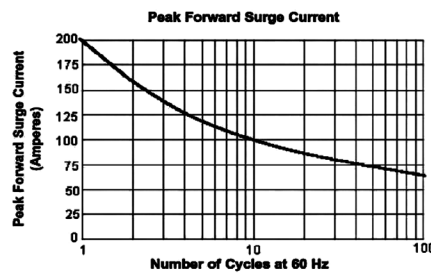
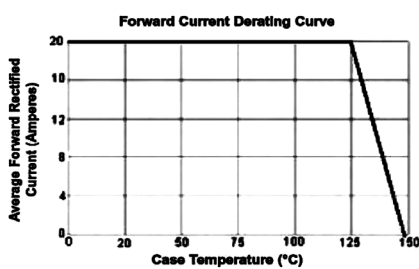
## Thermal Resistances

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

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

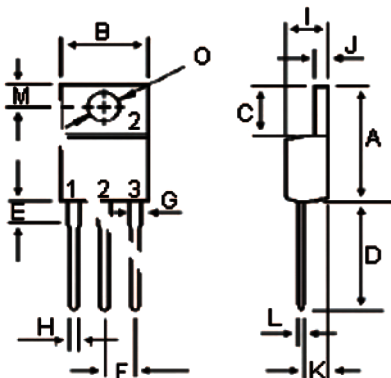
## Electrical Characteristics

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



Dim.	Min.	Max.	Dim.	Min.	Max.
A	14.68	15.32	H	0.72	0.96
B	9.78	10.42	I	4.22	4.98
C	5.02	6.52	J	1.14	1.38
D	13.06	14.62	K	2.2	2.98
E	3.57	4.07	L	0.33	0.55
F	2.42	2.66	M	2.48	2.98
G	1.12	1.36	O	3.7	3.9

Dimensions : Millimetres

Common Cathode



## 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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