

### Switchmode Full Plastic Dual Schottky Barrier Power 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 & High efficiency.
- \* 175 Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory

#### Mechanical Data

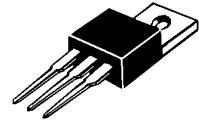
- \* Case :JEDEC TO-220AB molded plastic body
- \* Terminals:Plated lead,solderable per MIL-STD-750, Method 2026
- \* Polarity:As marked
- \* Mounting Torque: 5 in-lbs. max
- \* Weight:1.7 g approx.
- \* High temperature soldering guaranteed 260 /10 seconds



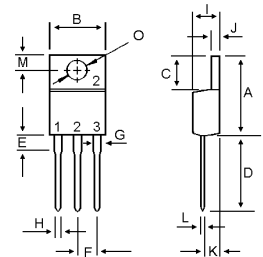
Plating pb free is indicated by box

#### SCHOTTKY BARRIER RECTIFIERS

**10 AMPERES  
30-60 VOLTS**



TO-220AB



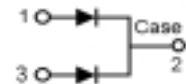
#### MAXIMUM RATINGS

Characteristic	Symbol	MBR10						Unit
		30CT	35CT	40CT	45CT	50CT	60CT	
Peak Repetitive Reverse Voltage	$V_{RRM}$							V
Working Peak Reverse Voltage	$V_{RWM}$	30	35	40	45	50	60	
DC Blocking Voltage	$V_R$							
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	35	42	V
Average Rectifier Forward Current	$I_{F(AV)}$	5.0						A
Total Device (Rated $V_R$ , $T_C=100$ )		10						
Peak Repetitive Forward Current	$I_{FM}$	10						A
(Rate $V_R$ , Square Wave, 20kHz)								
Non-Repetitive Peak Surge Current	$I_{FSM}$	100						A
(Surge applied at rate load conditions halfwave, single phase, 60Hz)								
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +175						

DIM	MILLIMETERS	
	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
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
O	3.70	3.90

#### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MBR10						Unit
		30CT	35CT	40CT	45CT	50CT	60CT	
Maximum Instantaneous Forward Voltage ( $I_F=5$ Amp $T_C=25$ ) ( $I_F=5$ Amp $T_C=125$ )	$V_F$		0.65			0.75		V
			0.56			0.65		
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C=25$ ) ( Rated DC Voltage, $T_C=125$ )	$I_R$			0.01				mA
				20				
Typical Thermal Resistance junction to case	$R_{\theta jc}$			2.8				/w



Common cathode  
Suffix "C"

# MBR1030CT Thru MBR1060CT

FIG-1 FORWARD CURRENT DERATING CURVE

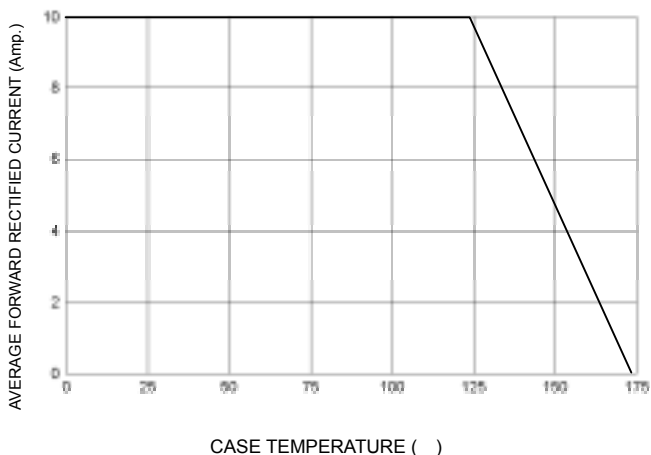


FIG-2 TYPICAL FORWARD CHARACTERISTICS

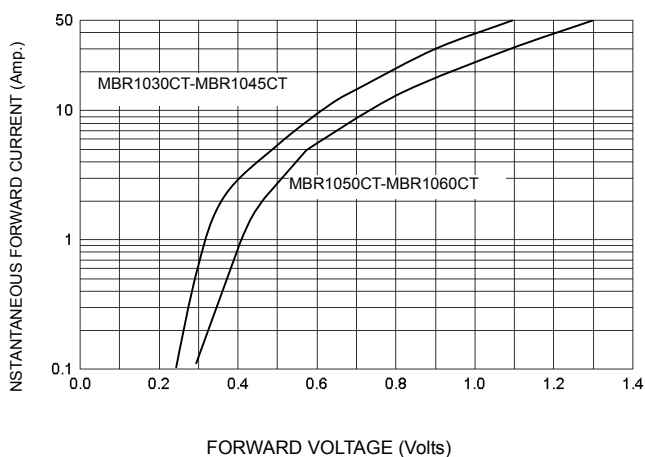


FIG-3 TYPICAL REVERSE CHARACTERISTICS

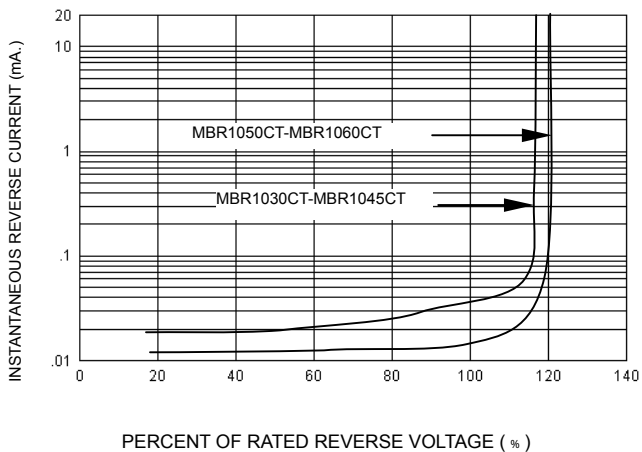


FIG-4 TYPICAL JUNCTION CAPACITANCE

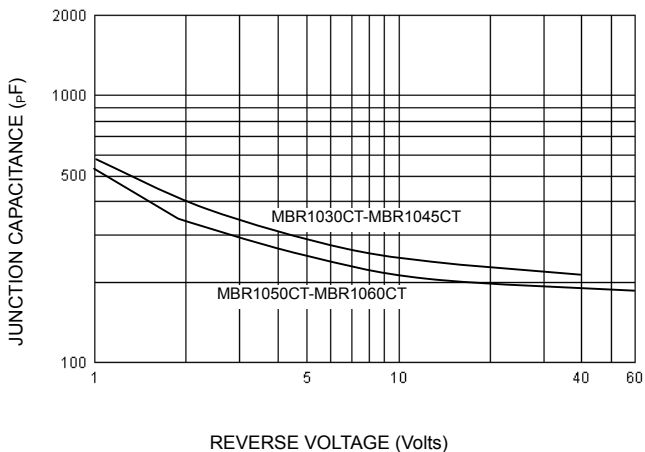


FIG-5 PEAK FORWARD SURGE CURRENT

