

## Schottky Barrier Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 175 junction temperature. Typical application are in switching Mode Power Supplies such as adaptators, DC/DC convertes, free-wheeling and polarity protection diodes.

### Features

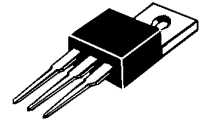
- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 175 Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-0



\* In compliance with EU RoHs 2002/95/EC directives

### SCHOTTKY BARRIER RECTIFIERS

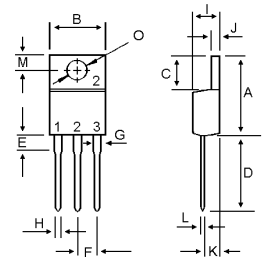
**20 AMPERES  
120 VOLTS**



TO-220AB

### MAXIMUM RATINGS

Characteristic	Symbol	MBR20120CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	120	V
RMS Reverse Voltage	$V_{R(RMS)}$	84	V
Average Rectifier Forward Current (per diode) Total Device (Rated $V_R$ ), $T_C=125$	$I_{F(AV)}$	10 20	A
Peak Repetitive Forward Current (Rate $V_R$ , Square Wave, 20kHz)	$I_{FM}$	20	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	$I_{FSM}$	150	A
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +175	



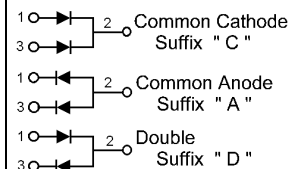
DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	5.02	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	2.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.98
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

### THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta j-c}$	4.0	/w
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### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MBR20120CT	Unit
Maximum Instantaneous Forward Voltage (per diode) ( $I_F = 10$ Amp $T_C = 25$ ) ( $I_F = 10$ Amp $T_C = 125$ )	$V_F$	0.85 0.78	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25$ ) (Rated DC Voltage, $T_C = 125$ )	$I_R$	0.01 10	mA



# MBR20120CT

FIG-1 FORWARD CURRENT DERATING CURVE

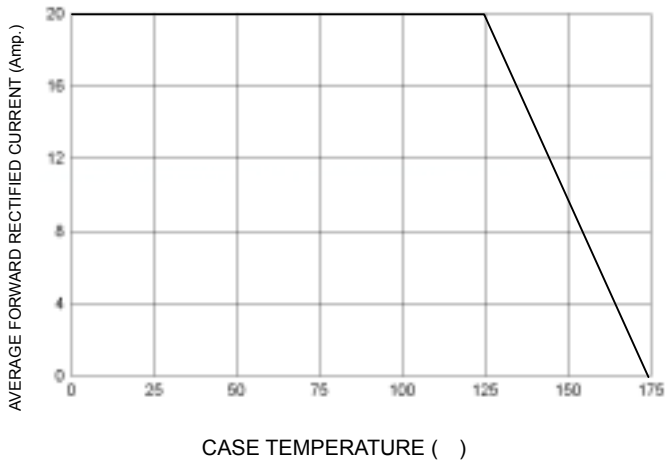


FIG-2 TYPICAL FORWARD CHARACTERISTICS

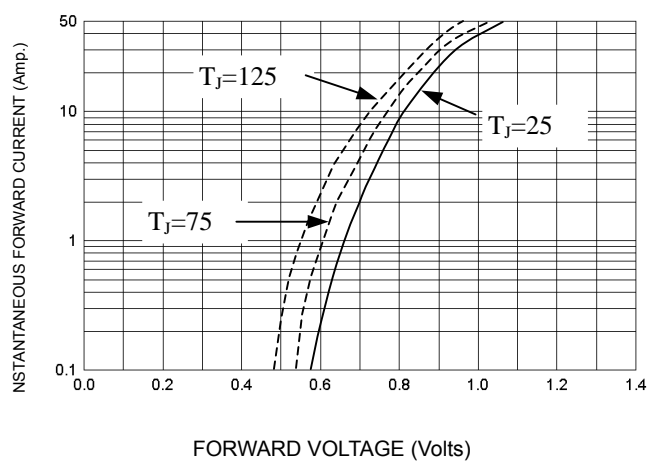


FIG-3 TYPICAL REVERSE CHARACTERISTICS

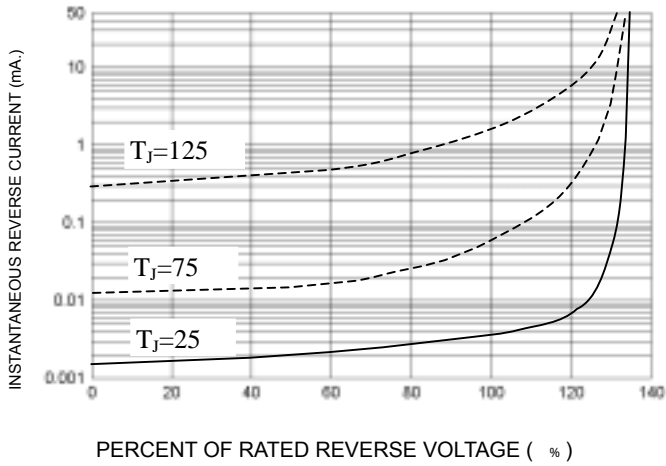


FIG-4 TYPICAL JUNCTION CAPACITANCE

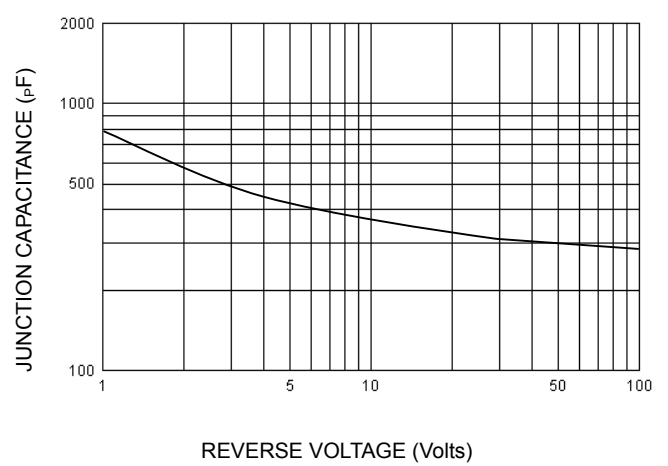
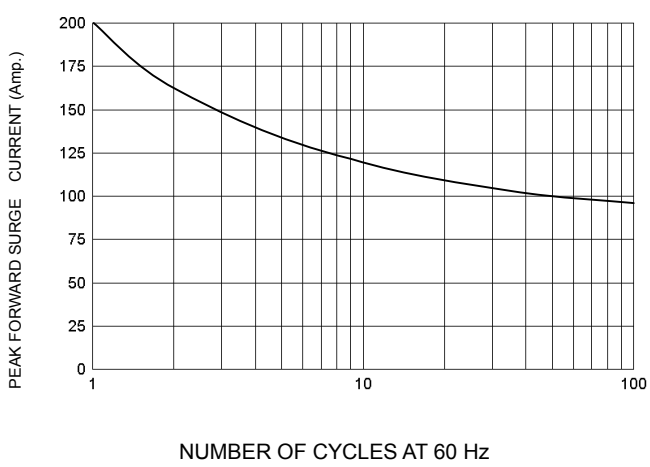


FIG-5 PEAK FORWARD SURGE CURRENT



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