MOSPEC

MBR30100C

Schottky Barrier Rectifiers

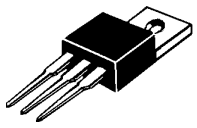
Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The properietary barrier technology allows for reliable operation up to 150℃ junction temperature. Typical application are in switching Mode Power Supplies such as adaptators, DC/DC convertes,free-wheeling and polarity protection diodes.

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

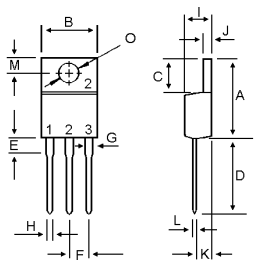
Plating pb free is indicated by box

SCHOTTKY BARRIER RECTIFIERS

30 AMPERES
100 VOLTS



TO-220AB



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

Common Cathode
Suffix “C”

MAXIMUM RATINGS

Characteristic	Symbol	MBR30100C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Rectifier Forward Current Total Device (Rated V_R), T_C=100℃	$I_{F(AV)}$	15 30	A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	30	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	250	A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +150	℃

THERMAL RESISTANCES

Typical Thermal Resistance junction to case Per diode Total Coupling	$R_{\theta j\text{-}c}$ $R_{\theta c}$	 3.0 2.2 2.0	℃/w

Where the diodes1 and 2 are used simultaneously:

$\triangle T_J$(diode 1)＝P(diode1)×$R_{\theta(j\text{-}c)}$(Per diode)＋P(diode2)×$R_{\theta c}$

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MBR30100C	Unit
Maximum Instantaneous Forward Voltage (I_F =15 Amp T_C = 25℃) (I_F =15 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	0.1 15	mA

To evaluation the conduction losses use the following equation:

$P=0.58\times I_{F(AV)}+0.01\times I_{F(RMS)}^2$

MBR30100C

FIG-1 FORWARD CURRENT DERATING CURVE

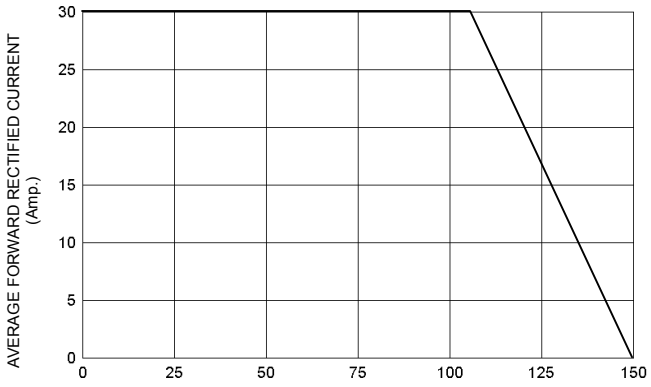


FIG-2 TYPICAL FORWARD CHARACTERISITICS

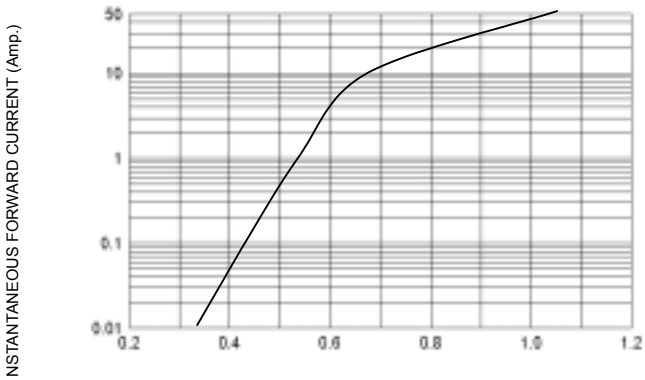


FIG-3 TYPICAL REVERSE CHARACTERISTICS

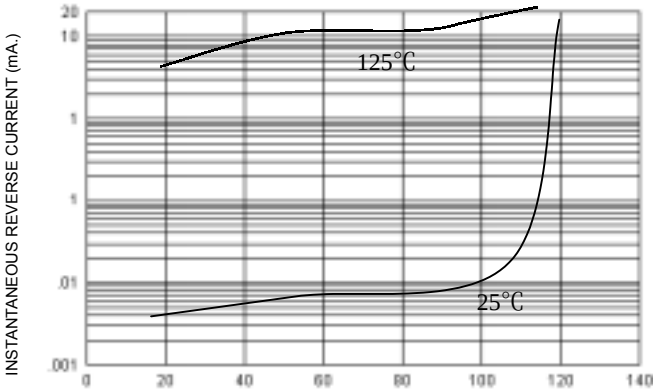


FIG-4 TYPICAL JUNCTION CAPACITANCE

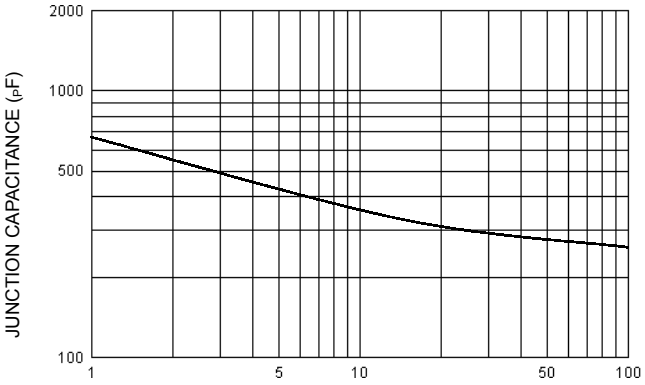


FIG-5 PEAK FORWARD SURGE CURRENT