MOSPEC

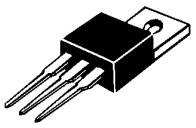
MBR10100CK

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 adaptors, DC/DC converters, free-wheeling and polarity protection diodes.

SCHOTTKY BARRIER RECTIFIERS

10 AMPERES
100 VOLTS

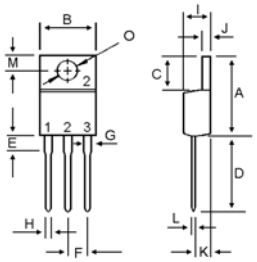


TO-220AB

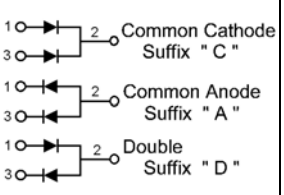
Features

- ＊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-O

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



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	16
B	9.78	10.42
C	5.02	6.6
D	13	14.62
E	3.1	4.19
F	2.42	2.66
G	1.1	1.5
H	0.7	0.96
I	4.22	4.98
J	1.14	1.4
K	2.2	3.3
L	0.279	0.55
M	2.48	3
O	3.5	4



MAXIMUM RATINGS

Characteristic	Symbol	MBR10100CK	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 (per diode) Total Device (Rated V_R), T_C=125℃	$I_{F(AV)}$	5.0 10	A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	10	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	125	A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +175	℃

THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta jc}$	3.8	℃/w

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	MBR10100CK	Unit
Maximum Instantaneous Forward Voltage (I_F =5.0 Amp T_C = 25℃) (I_F =5.0 Amp T_C = 125℃)	V_F	0.85 0.75	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	0.01 10	mA

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FIG-1 FORWARD CURRENT DERATING CURVE

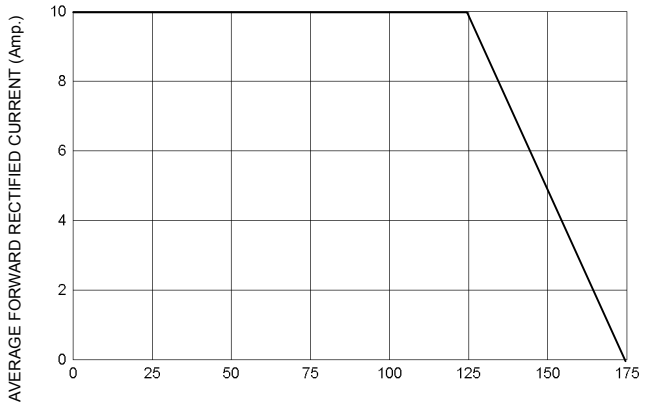


FIG-2 TYPICAL FORWARD CHARACTERISITICS

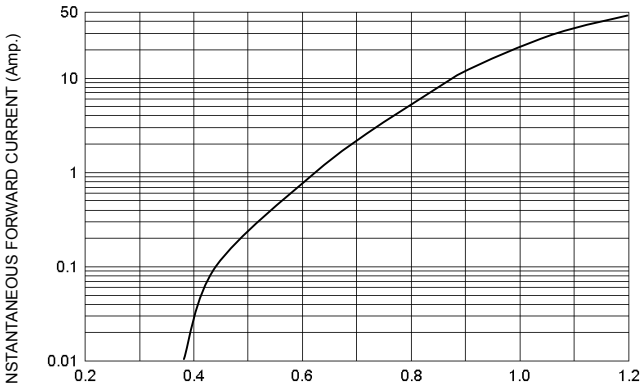


FIG-3 TYPICAL REVERSE CHARACTERISTICS

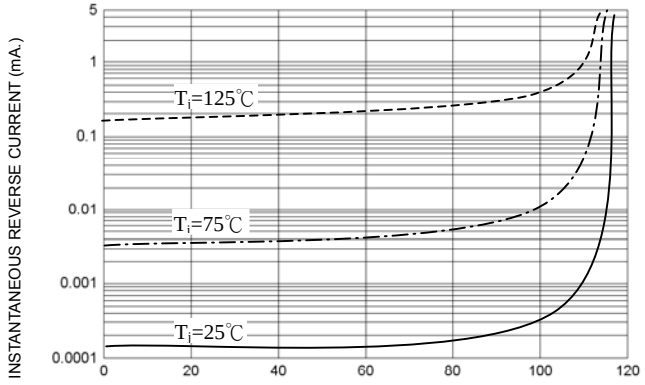


FIG-4 TYPICAL JUNCTION CAPACITANCE

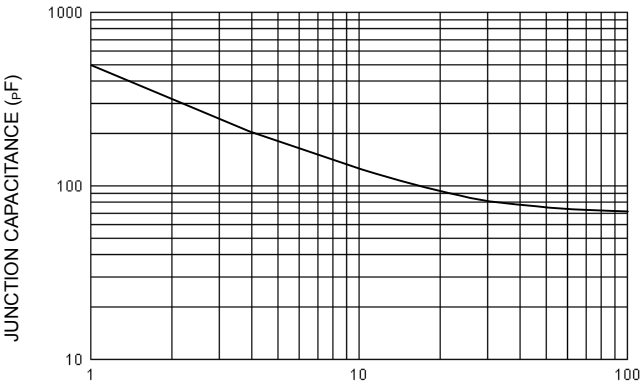
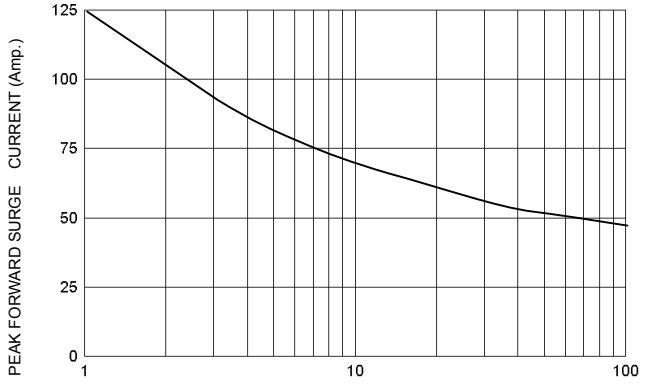


FIG-5 PEAK FORWARD SURGE CURRENT



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