MOSPEC

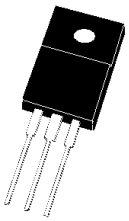
MBRF30100CK

Schottky Barrier Rectifiers
Full Plastic Dual Schottky Barrier Power 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

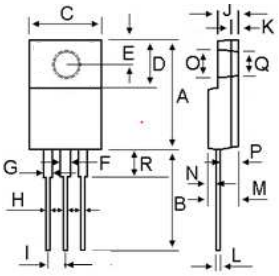
30 AMPERES
100 VOLTS



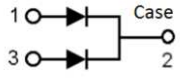
ITO-220AB

Features

- ∗Low Forward Voltage.
- ∗Low Switching noise.
- ∗High Current Capacity
- ∗Guarantee Reverse Avalanche.
- ∗Guard-Ring for Stress Protection.
- ∗Low Power Loss & High efficiency.
- ∗High Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction.
- ∗Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- ∗Pb free
- ∗In compliance with EU RoHs directives



DIM	MILLIMETERS	
	MIN	MAX
A	14.80	16.10
B	12.65	14.40
C	9.70	10.36
D	4.60	6.80
E	2.50	3.50
F	0.90	1.45
G	0.90	1.45
H	0.50	0.90
I	2.40	2.70
J	2.34	3.30
K	0.55	1.30
L	0.36	0.80
M	4.20	4.90
N	1.10	1.80
O	2.90	3.50
P	2.30	3.15
Q	2.90	3.50
R	2.80	4.85



MAXIMUM RATINGS

Characteristic	Symbol	MBRF30100CK	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)	$I_{F(AV)}$	15 30	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-ware, single phase, 60Hz)	I_{FSM}	250	A
Operating Junction Temperature Range	T_J	+175	℃
Storage Temperature Range	T_{stg}	-65 to +150	℃

THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta jc}$	3.2	℃/w

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage (I_F =15 Amp T_C = 25℃) (I_F =15 Amp T_C = 125℃)	V_F	 ---	0.75 0.65	0.86 ---	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	 ---	0.1 500	10 ---	uA
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P		290		pF

FIG-1 FORWARD CURRENT DERATING CURVE

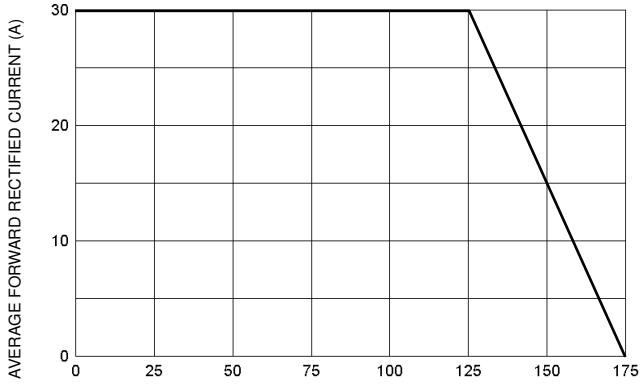


FIG-2 TYPICAL FORWARD CHARACTERISTICS

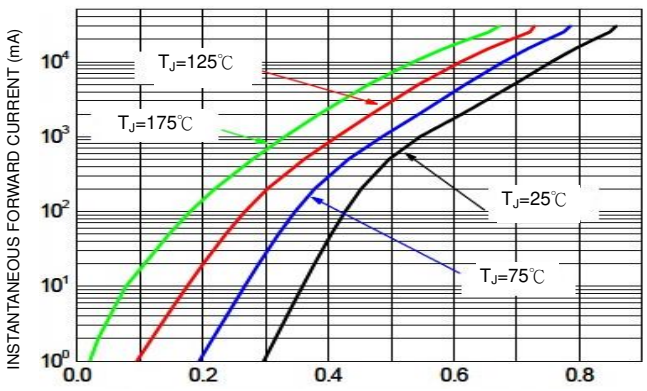


FIG-3 TYPICAL REVERSE CHARACTERISTICS

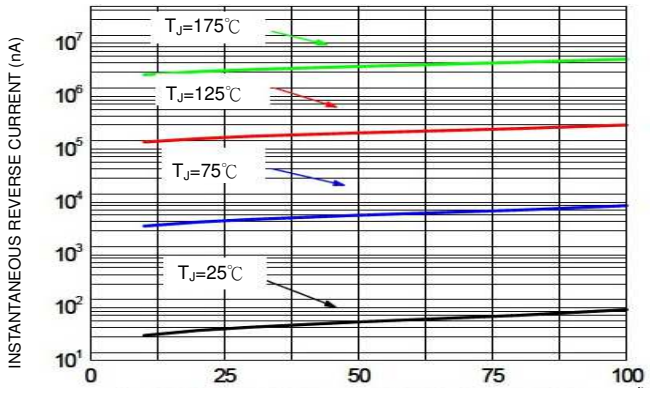


FIG-4 TYPICAL JUNCTION CAPACITANCE

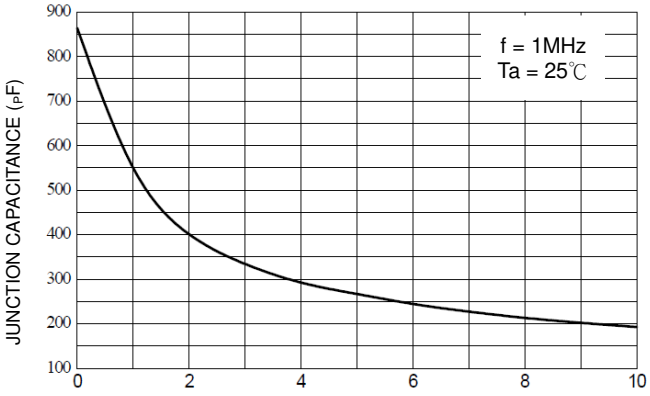
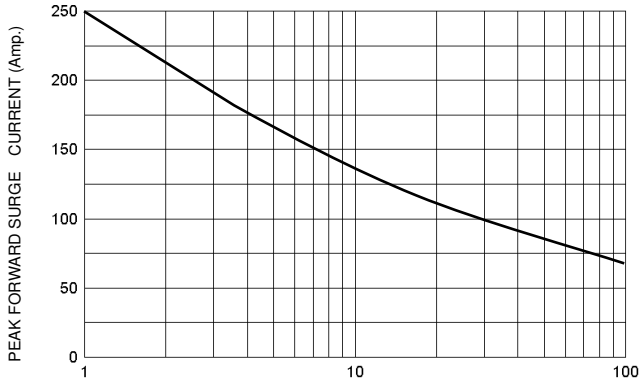


FIG-5 PEAK FORWARD SURGE CURRENT



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