

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 °C junction temperature. Typical application are in switching Mode Power Supplies such as adaptors, DC/DC converters, free-wheeling and polarity protection diodes.

- * Low Forward Voltage.
- * Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Guarantee Reverse Avalanche.
- * Guard-Ring for Stress Protection.
- * Low Power Loss & High efficiency.
- * 175 °C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-0
- * ESD: 4KV(Min.) Human-Body Model



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

MAXIMUM RATINGS

Characteristic	Symbol	MBRA10100L	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Rectifier Forward Current Total Device (Rated V_R), $T_C=125$	$I_{F(AV)}$	10	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 halfwave, single phase, 60Hz)	I_{FSM}	150	A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +175	

THERMAL RESISTANCES

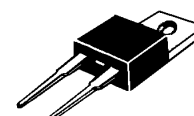
Typical Thermal Resistance junction to case	$R_{\theta jc}$	3.4	/w
---	-----------------	-----	----

ELECTRIAL CHARACTERISTICS

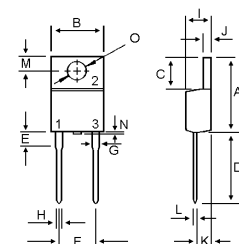
Characteristic	Symbol	MBRA10100L			Unit
Maximum Instantaneous Forward Voltage ($I_F=0.1$ Amp $T_C=25$) ($I_F=1.0$ Amp $T_C=25$) ($I_F=2.5$ Amp $T_C=25$) ($I_F=5$ Amp $T_C=25$) ($I_F=10$ Amp $T_C=25$)	V_F	Min	Typ	Max	V
		---	0.29	0.35	
		---	0.44	0.49	
		---	0.63	0.68	
		---	0.71	0.80	
		---	0.84	0.92	

SCHOTTKY BARRIER RECTIFIERS

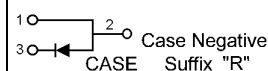
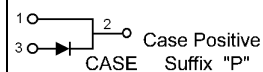
**10 AMPERES
100 VOLTS**



TO-220A



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	6.02	6.52
D	13.06	14.62
E	3.57	4.07
F	4.84	5.32
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
N	---	1.00
O	3.70	3.90



Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ$) (Rated DC Voltage, $T_C = 125^\circ$)	I_R	0.08 10	mA
--	-------	------------	----

MBRA10100L

FIG-1 FORWARD CURRENT DERATING CURVE

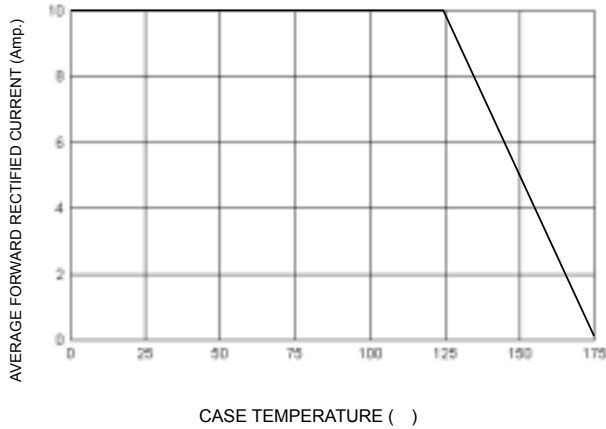


FIG-2 TYPICAL FORWARD CHARACTERISTICS

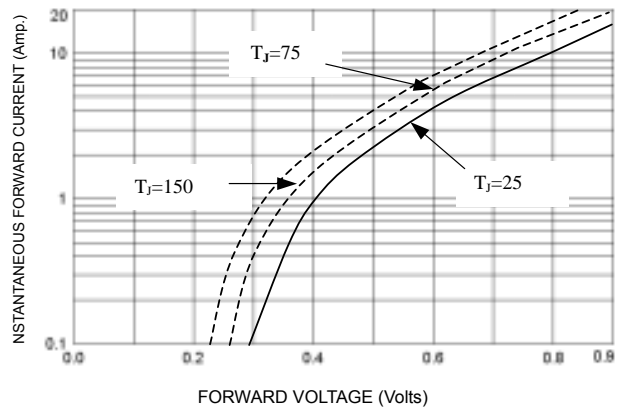


FIG-3 TYPICAL REVERSE CHARACTERISTICS

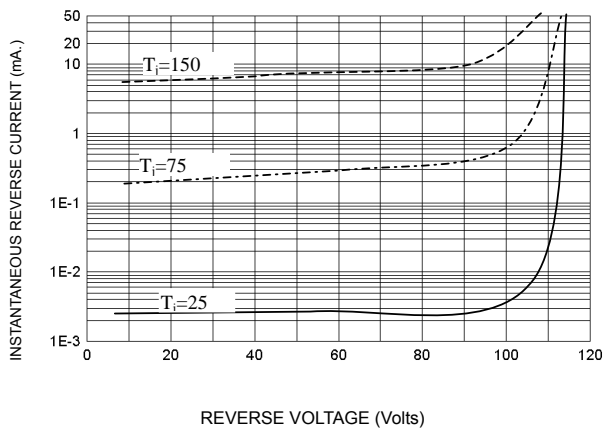


FIG-4 TYPICAL JUNCTION CAPACITANCE

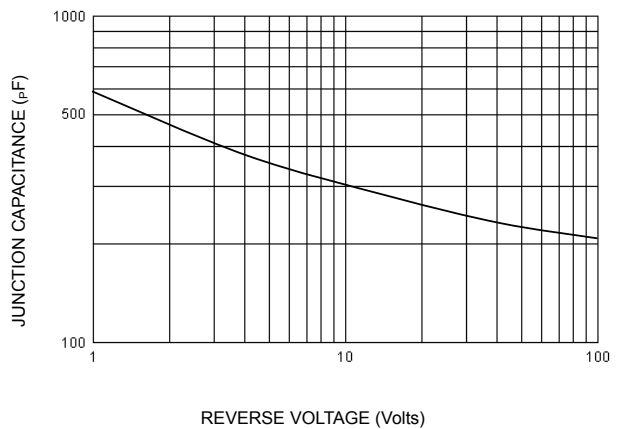
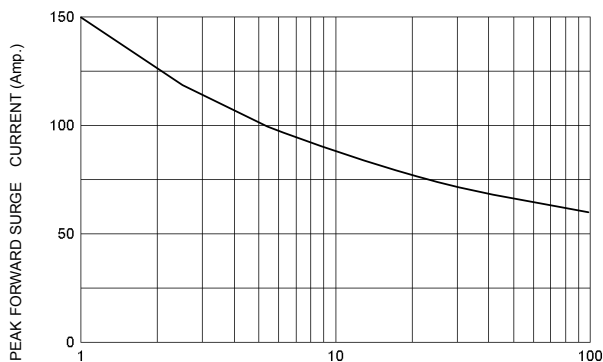


FIG-5 PEAK FORWARD SURGE CURRENT



NUMBER OF CYCLES AT 60 Hz