

SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE: 30 - 100 V
CURRENT: 10 A

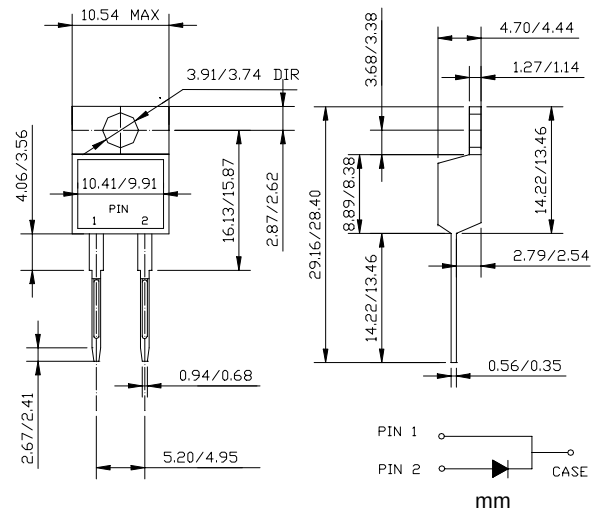
FEATURES

- ◇ High surge capacity.
- ◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ◇ Metal silicon junction, majority carrier conduction.
- ◇ High current capacity, low forward voltage drop.
- ◇ Guard ring for over voltage protection.

MECHANICAL DATA

- ◇ Case: JEDEC TO-220AC, molded plastic body
- ◇ Terminals: Leads, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Position: Any
- ◇ Weight: 0.064 ounces, 1.81 gram

TO-220AC



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

		MBR 1030	MBR 1035	MBR 1040	MBR 1045	MBR 1050	MBR 1060	MBR 1090	MBR 10100	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	30	35	40	45	50	60	90	100	V
Maximum RMS Voltage	V _{RMS}	21	25	28	32	35	42	63	70	V
Maximum DC blocking voltage	V _{DC}	30	35	40	45	50	60	90	100	V
Maximum average forw ard total device rectified current @T _C = 125°C	I _{F(AV)}	10								A
Peak forw ard surge current 8.3ms single half sine-w ave superimposed on rated load	I _{FSM}	150								A
Maximum forw ard voltage (I _F =10A,T _C =25 °C) (I _F =10A,T _C =125°C) (Note 1) (I _F =20A,T _C =25°C) (I _F =20A,T _C =125°C)	V _F	- 0.57 0.84 0.72				0.80 0.70 0.95 0.85		0.80 0.65 0.95 0.75		V
Maximum reverse current @T _C =25°C	I _R	0.1								m A
at rated DC blocking voltage @T _C =125°C		15						6.0 ³⁾		
Maximum thermal resistance (Note2)	R _{θJC}	2.0								°C/W
Operating junction temperature range	T _J	- 55 ---- + 150								°C
Storage temperature range	T _{STG}	- 55 ---- + 150								°C

NOTE: 1. Pulse test: 300μs pulse width, 1% duty cycle.

2. Thermal resistance from junction to case.

3. $T_C=100^\circ\text{C}$

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FIG.1 -- FORWARD CURRENT DERATING CURVE

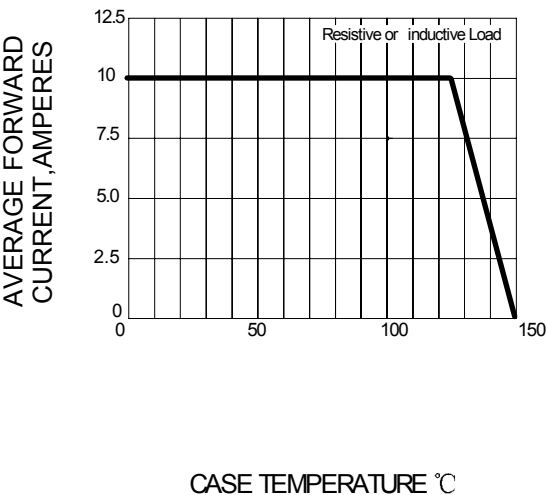


FIG.2 -- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

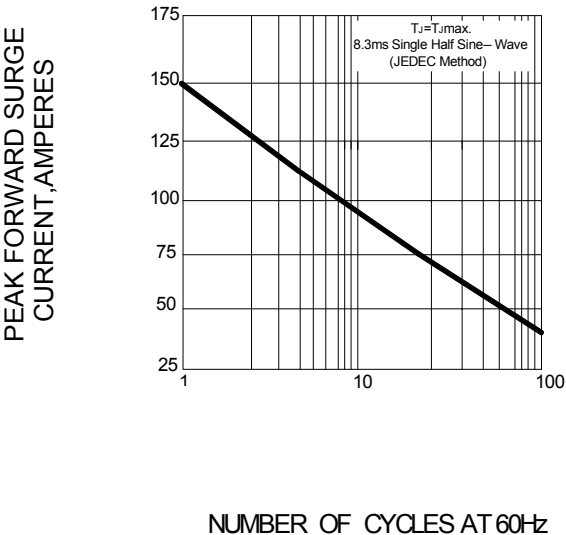


FIG.3 -- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC PER LEG

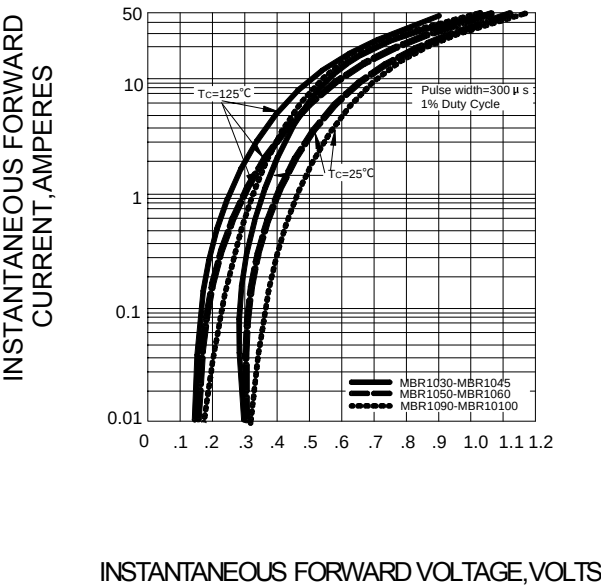


FIG.4 -- TYPICAL REVERSE CHARACTERISTICS

