

### SCHOTTKY BARRIER RECTIFIERS

VOLTAGE RANGE: 30 - 100 V  
CURRENT: 10 A

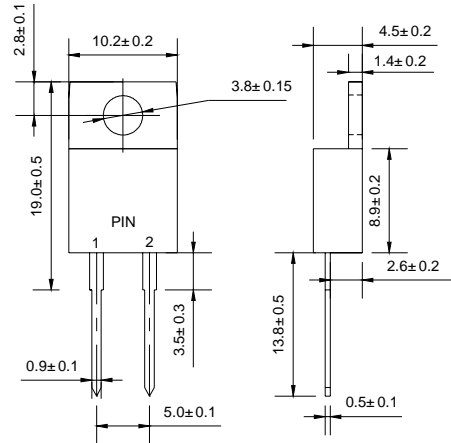
#### FEATURES

- ◇ 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: Solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Position: Any
- ◇ Weight: 0.069 ounces, 1.96 gram

#### TO-220AC



Dimensions in millimeters

#### 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 1020	MBR 1030	MBR 1035	MBR 1040	MBR 1045	MBR 1050	MBR 1060	MBR 1090	MBR 10100	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	20	30	35	40	45	50	60	90	100	V
Maximum RMS Voltage	$V_{RMS}$	14	21	25	28	32	35	42	63	70	V
Maximum DC blocking voltage	$V_{DC}$	20	30	35	40	45	50	60	90	100	V
Maximum average forward total device rectified current @ $T_c = 125^\circ C$	$I_{F(AV)}$	10									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	150									A
Maximum forward voltage ( $I_F=10A, T_c=25^\circ C$ ) ( $I_F=10A, T_c=125^\circ C$ ) (Note 1) ( $I_F=20A, T_c=25^\circ C$ ) ( $I_F=20A, T_c=125^\circ C$ )	$V_F$			-			0.80		0.80		V
				0.57			0.70		0.65		
				0.84			0.95		0.95		
				0.72			0.85		0.75		
Maximum reverse current @ $T_c=25^\circ C$ at rated DC blocking voltage @ $T_c=125^\circ C$	$I_R$	0.1									mA
		15							6.0 <sup>3)</sup>		
Maximum thermal resistance (Note2)	$R_{\theta JC}$	2.0									°C/W
Operating junction temperature range	$T_J$	- 55 ---- + 150									°C
Storage temperature range	$T_{STG}$	- 55 ---- + 150									°C

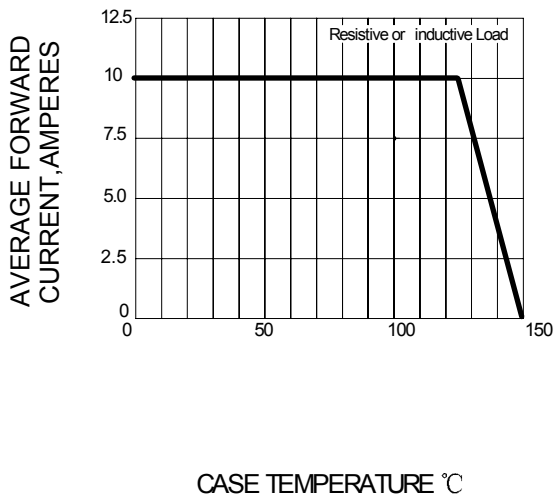
NOTE: 1. Pulse test: 300µs pulse width, 1% duty cycle.

2. Thermal resistance from junction to case.

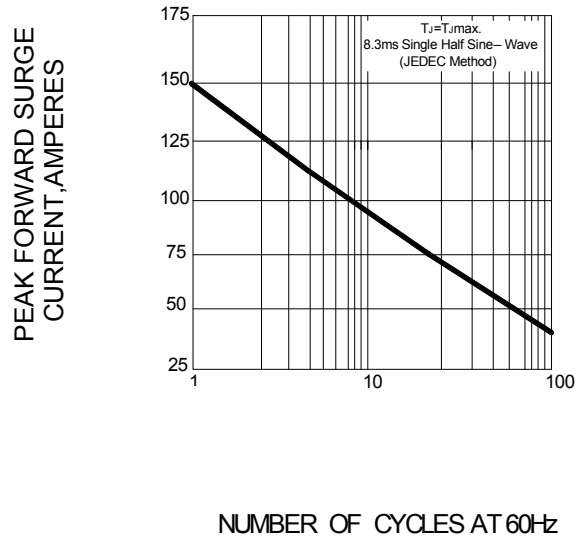
3.  $T_c=100^\circ C$

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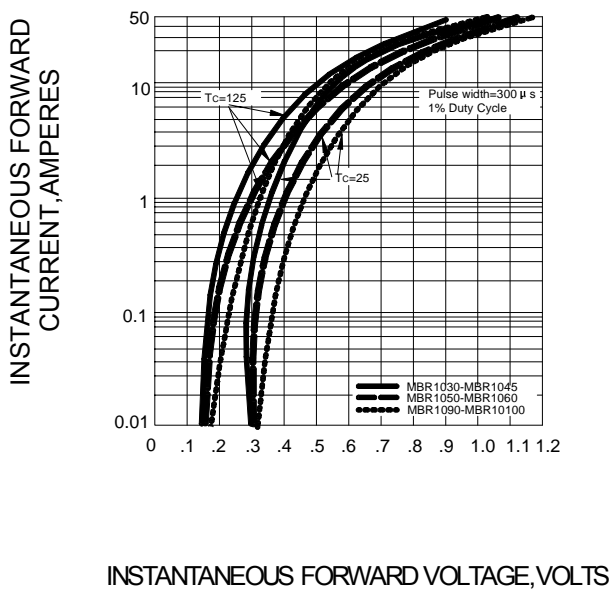
**FIG.1 – FORWARD CURRENT DERATING CURVE**



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



**FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC PER LEG**



**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**

