

MBR1020-MBR10100

Schottky Barrier Rectifiers

VOLTAGE RANGE: 30 - 100 V
CURRENT: 10 A



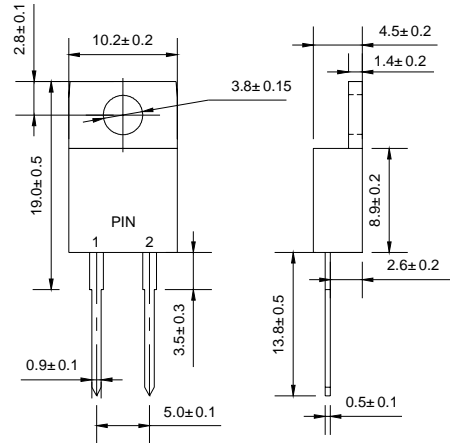
TO-220AC

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
- ◇ Polarity: As marked
- ◇ Position: Any
- ◇ Weight: 0.069 ounces, 1.96 gram



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 @ $T_c = 125^\circ\text{C}$	$I_{F(AV)}$	10									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150									A
Maximum forward voltage ($I_F=10\text{A}, T_c=25^\circ\text{C}$) ($I_F=10\text{A}, T_c=125^\circ\text{C}$) (Note 1) ($I_F=20\text{A}, T_c=25^\circ\text{C}$) ($I_F=20\text{A}, T_c=125^\circ\text{C}$)	V_F			-			0.80	0.80	0.80	0.80	V
				0.57			0.70	0.70	0.65	0.65	
				0.84			0.95	0.95	0.95	0.95	
				0.72			0.85	0.85	0.75	0.75	
Maximum reverse current @ $T_c=25^\circ\text{C}$ at rated DC blocking voltage @ $T_c=125^\circ\text{C}$	I_R	0.1									m A
		15							6.0 ³⁾		
Maximum thermal resistance (Note2)	$R_{\theta JC}$	2.0									$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ---- + 150									$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150									$^\circ\text{C}$

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

2. Thermal resistance from junction to case.

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

Ratings AND Characteristic Curves

FIG.1 – FORWARD CURRENT DERATING CURVE

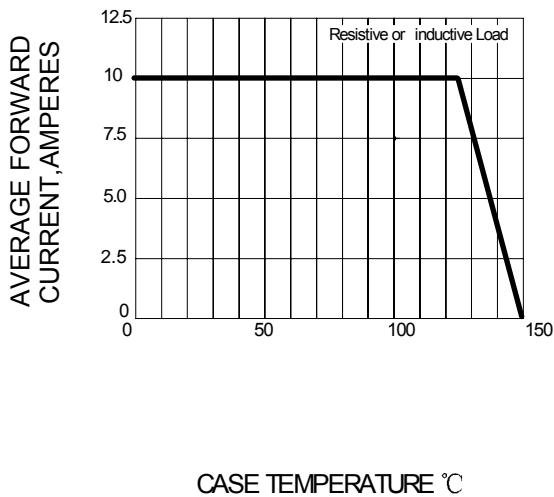


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

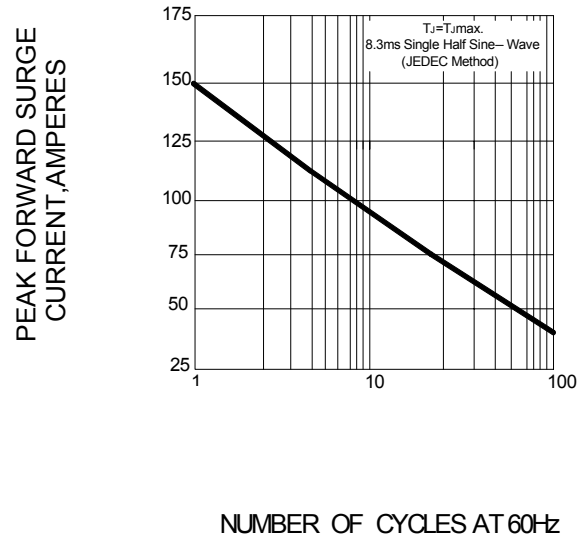


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC PERLEG

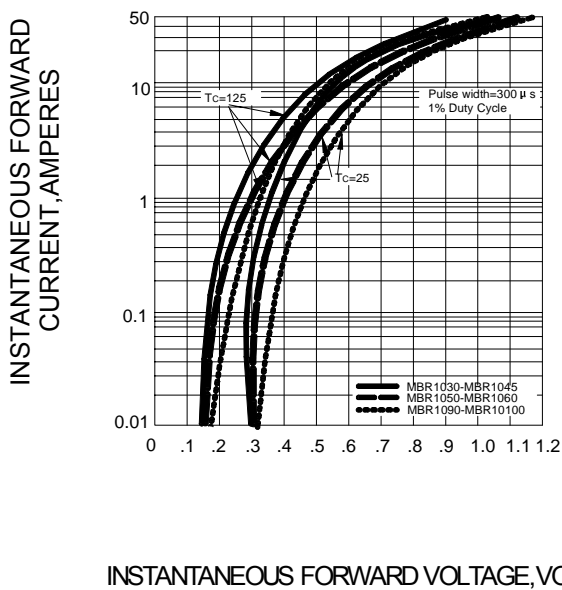


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

