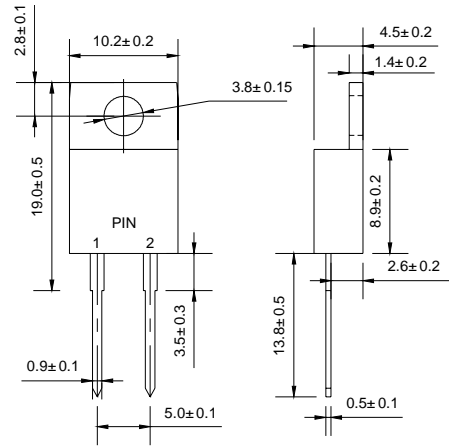




TO-220AC



Dimensions in millimeters

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

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 1630	MBR 1635	MBR 1640	MBR 1645	MBR 1650	MBR 1660	MBR 1690	MBR 16100	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 forward total device rectified current @ $T_c = 125^\circ\text{C}$	$I_{F(AV)}$	16								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150								A
Maximum forward voltage ($I_F=16\text{A}, T_c=25^\circ\text{C}$) (Note 1) ($I_F=16\text{A}, T_c=125^\circ\text{C}$)	V_F		0.63			0.75		0.85		V
Maximum reverse current @ $T_c=25^\circ\text{C}$ at rated DC blocking voltage @ $T_c=125^\circ\text{C}$	I_R		0.2				1.0			mA
			40				50			
Maximum thermal resistance (Note 2)	$R_{\theta JC}$	1.5								$^\circ\text{C}/\text{W}$
Operating junction temperature range	T_J	- 55 ---- + 150								$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 175								$^\circ\text{C}$

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

2. Thermal resistance from junction to case.

Ratings AND Characteristic Curves

FIG.1 – FORWARD CURRENT DERATING CURVE

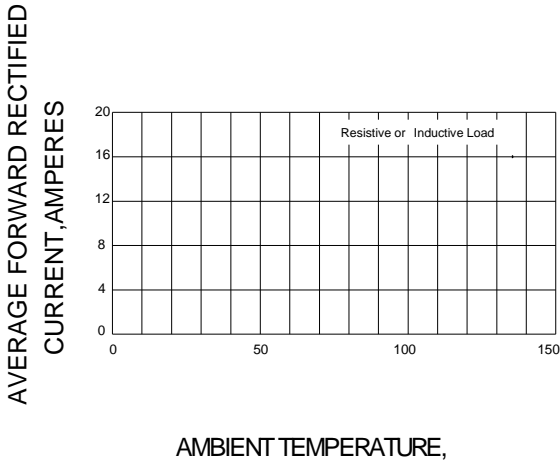


FIG.2 –MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

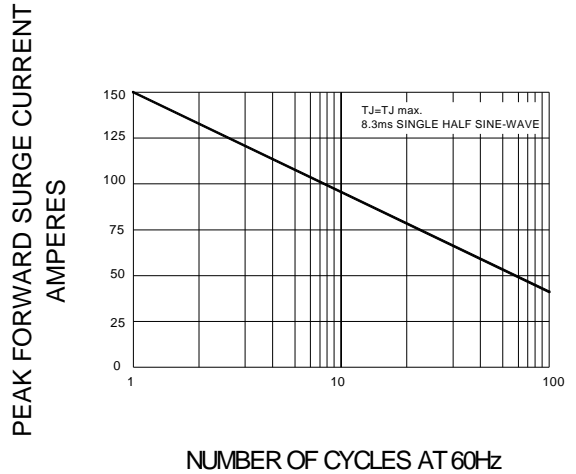


FIG.3 –TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

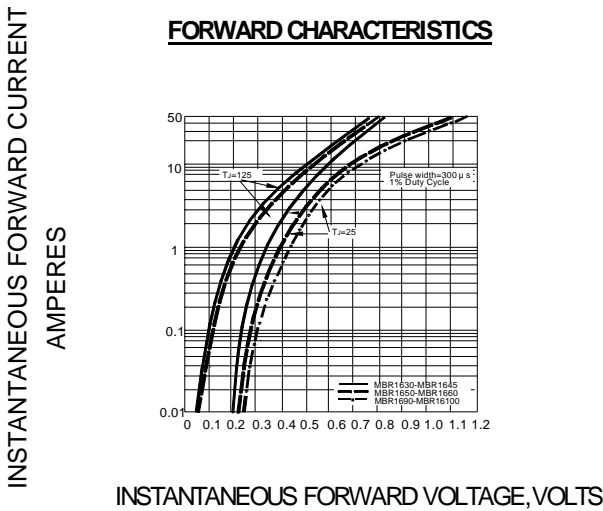


FIG.4-TYPICAL REVERSE CHARACTERISTICS

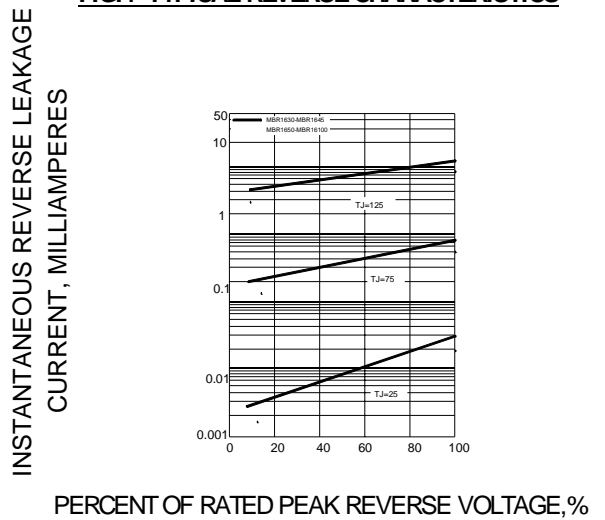


FIG.5-TYPICAL JUNCTION CAPACITANCE

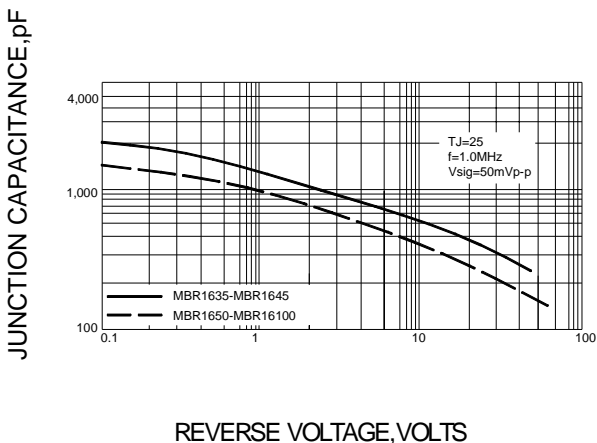


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

