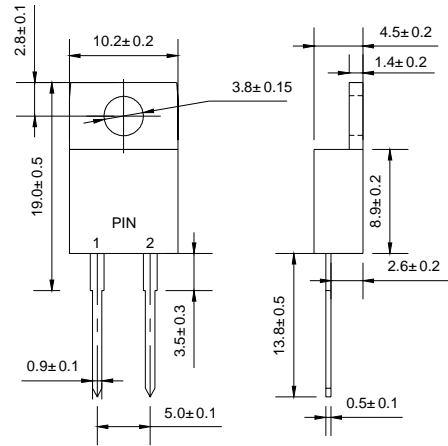




## TO-220AC



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%.

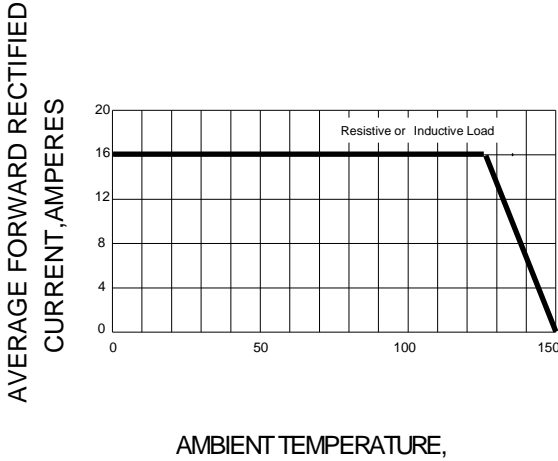
		MBR 1630	MBR 1635	MBR 1640	MBR 1645	MBR 1650	MBR 1660	MBR 1690	MBR 16100	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	30	35	40	45	50	60	90	100	V
Maximum RMS Voltage	$V_{RMS}$	21	25	28	32	35	42	63	70	V
Maximum DC blocking voltage	$V_{DC}$	30	35	40	45	50	60	90	100	V
Maximum average forward total 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
		0.57			0.65		-			
Maximum reverse current @ $T_c=25^\circ\text{C}$	$I_R$	0.2			1.0					mA
at rated DC blocking voltage @ $T_c=125^\circ\text{C}$		40			50					
Maximum thermal resistance (Note2)	$R_{\theta JC}$	1.5								$^\circ\text{C/W}$
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.

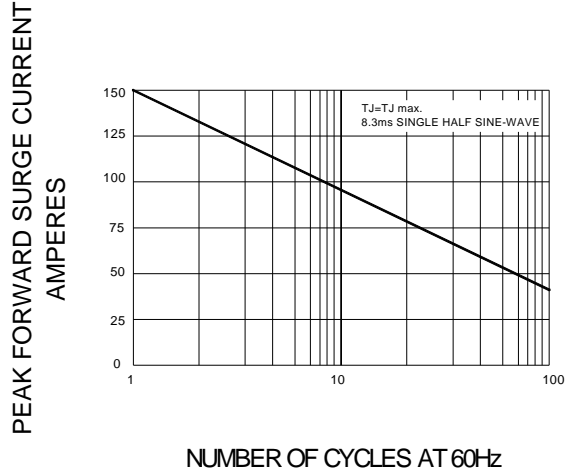
2. Thermal resistance from junction to case.

## Ratings AND Characteristic Curves

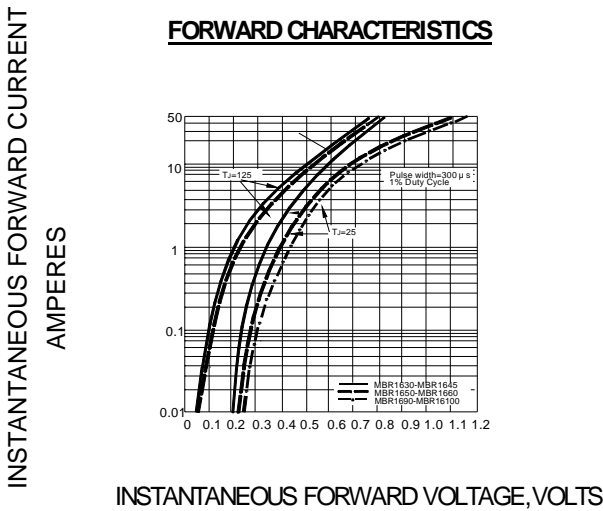
**FIG.1 – FORWARD CURRENT DERATING CURVE**



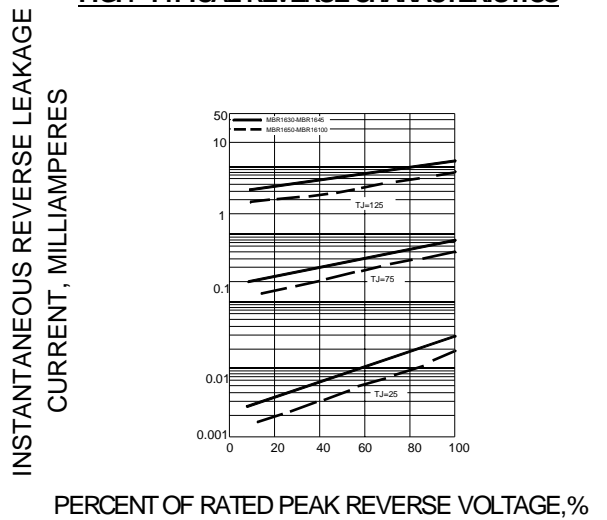
**FIG.2 –MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



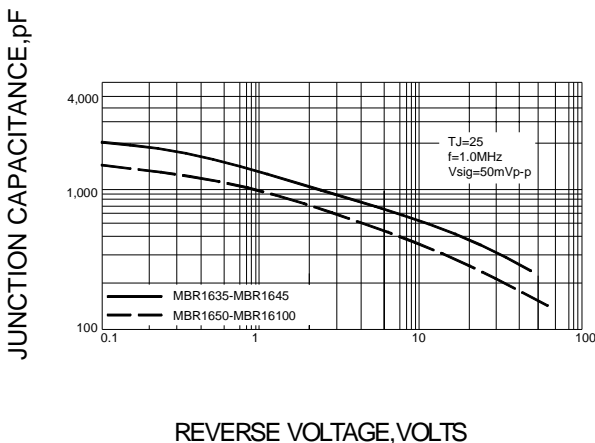
**FIG.3 –TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS**



**FIG.5-TYPICAL JUNCTION CAPACITANCE**



**FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE**

