

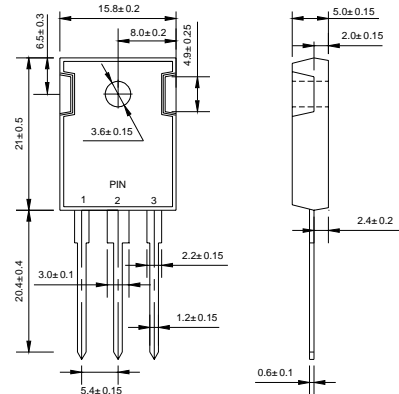
## Features

- ◇ 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-3P(TO-247AD), molded plastic body
- ◇ Terminals: Leads, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Position: Any
- ◇ Weight: 0.223 ounce, 6.3 grams

### TO-3P(TO-247AD)



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%.

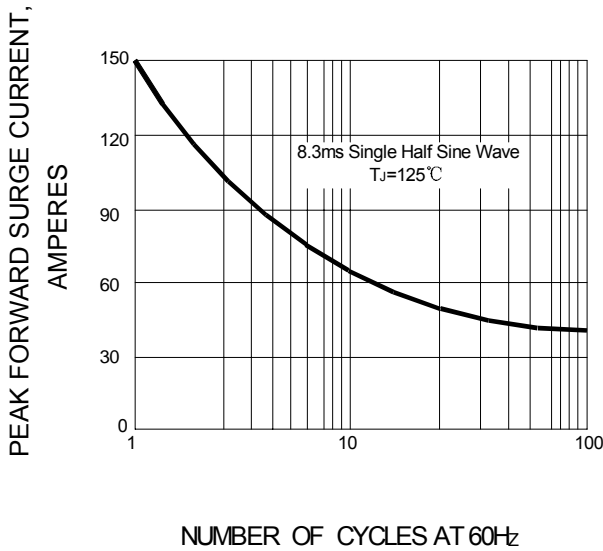
		MBR 2030PT	MBR 2035PT	MBR 2040PT	MBR 2045PT	MBR 2050PT	MBR 2060PT	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	30	35	40	45	50	60	V
Maximum RMS Voltage	$V_{RMS}$	21	25	28	32	35	42	V
Maximum DC blocking voltage	$V_{DC}$	30	35	40	45	50	60	V
Maximum average forward total device rectified current @ $T_c = 135^\circ\text{C}$	$I_{F(AV)}$	20						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	0.70	V
Maximum reverse current @ $T_c=25^\circ\text{C}$ at rated DC blocking voltage @ $T_c=125^\circ\text{C}$	$I_R$	0.1				0.15	0.15	m A
		15				150	150	
Maximum thermal resistance (Note2)	$R_{\theta JC}$	2.0						$^\circ\text{C}/\text{W}$
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.

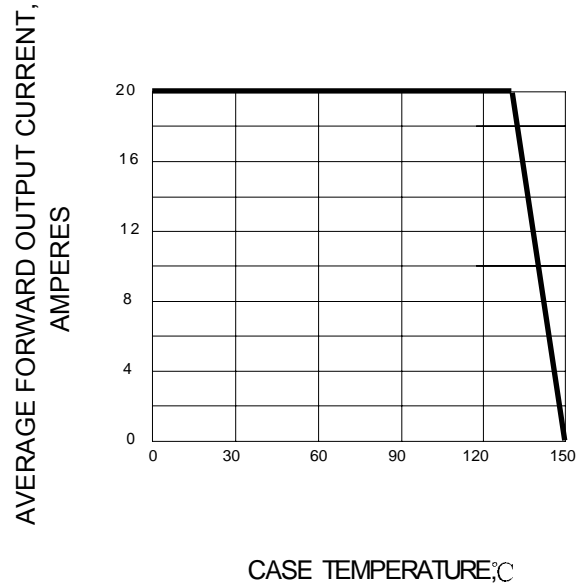
2. Thermal resistance from junction to case.

### Ratings AND Characteristic Curves

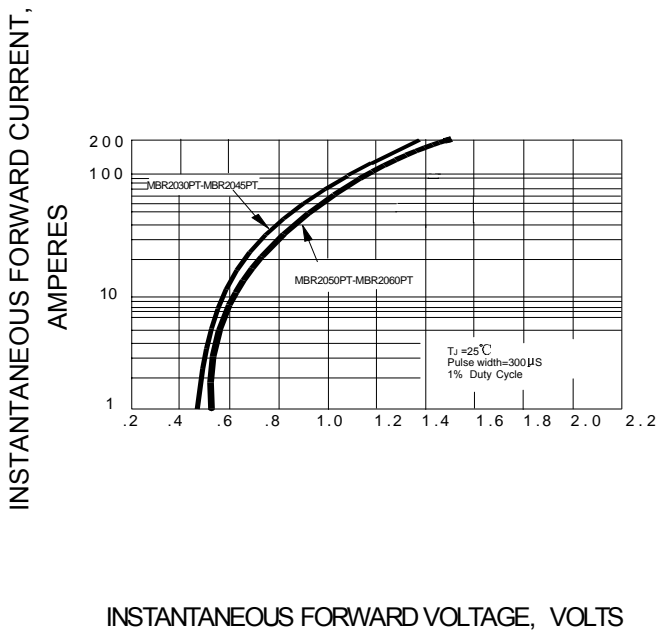
**FIG.1 – PEAK FORWARD SURGE CURRENT**



**FIG.2 – FORWARD DERATING CURVE**



**FIG.3 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.4 – TYPICAL REVERSE CHARACTERISTIC**

