

**VOLTAGE RANGE: 30 - 100 V**  
**CURRENT: 40 A**

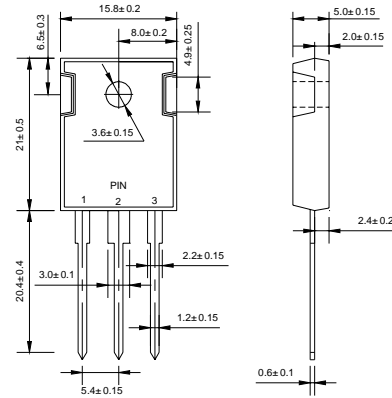
### Features

- ◇ 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-3P, molded plastic body
- ◇ Terminals: 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.

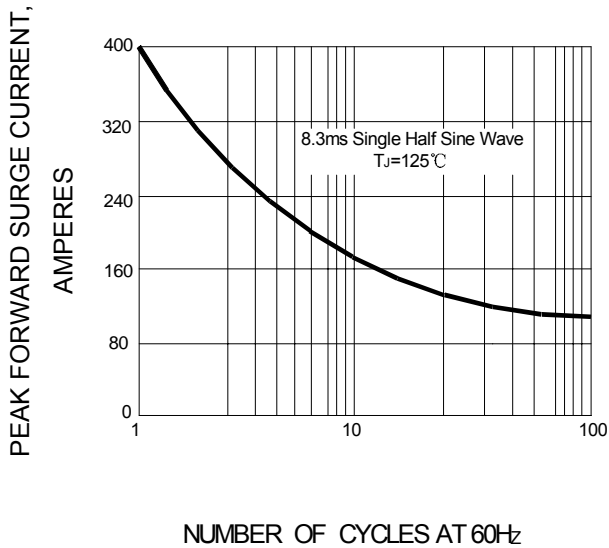
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

		MBR 4030PT	MBR 4035PT	MBR 4040PT	MBR 4045PT	MBR 4050PT	MBR 4060PT	MBR 4080PT	MBR 40100PT	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	30	35	40	45	50	60	80	100	V
Maximum RMS Voltage	$V_{RMS}$	21	25	28	32	35	42	56	70	V
Maximum DC blocking voltage	$V_{DC}$	30	35	40	45	50	60	80	100	V
Maximum average forward total device rectified current @ $T_C = 105^\circ\text{C}$	$I_{F(AV)}$	40								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	400								A
Maximum forward voltage ( $I_F=20A, T_C=25^\circ\text{C}$ ) ( $I_F=20A, T_C=125^\circ\text{C}$ ) ( $I_F=40A, T_C=25^\circ\text{C}$ ) ( $I_F=40A, T_C=125^\circ\text{C}$ )	$V_F$	-				0.80				V
		0.57				0.70				
		0.84				0.95				
		0.72				0.85				
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	$I_R$	1.0								mA
		100								
Maximum thermal resistance (Note2)	$R_{\theta JC}$	1.4								$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	- 55 ---- + 150								$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 ---- + 150								$^\circ\text{C}$

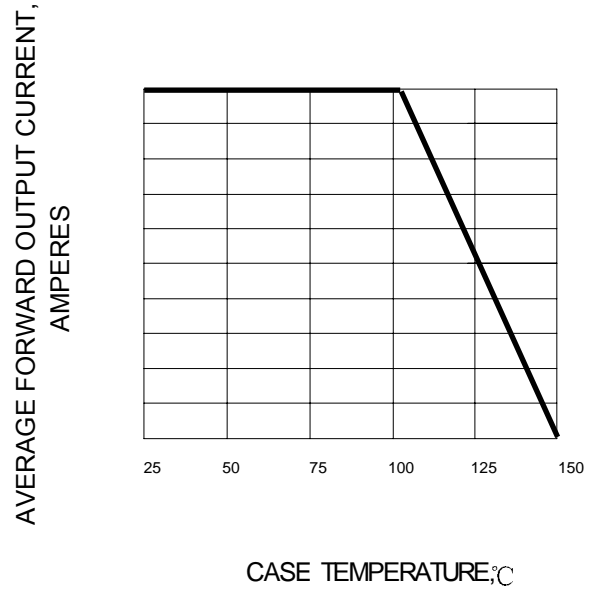
NOTE: 1. Thermal resistance from junction to case.

## Ratings AND Characteristic Curves

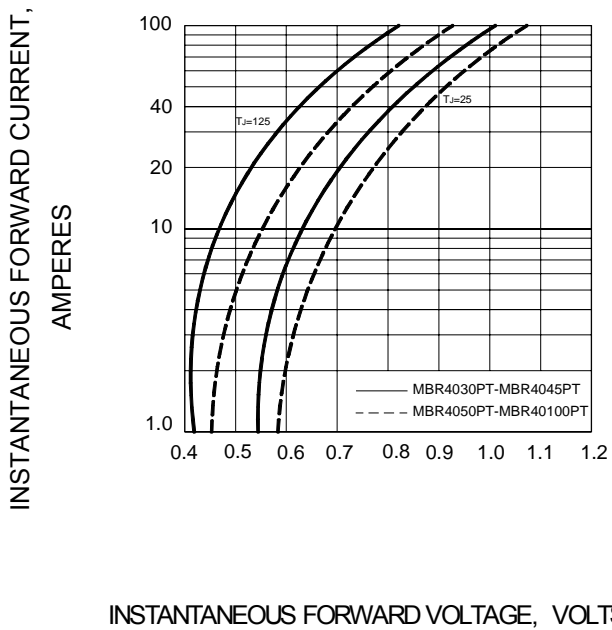
**FIG.1 – PEAK FORWARD SURGE CURRENT**



**FIG.2 – FORWARD DERATING CURVE**



**FIG.3 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.4 – TYPICAL REVERSE CHARACTERISTIC**

