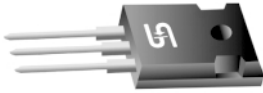




# MBR3035PT THRU MBR3060PT

## 30.0 AMPS. Schottky Barrier Rectifiers



Voltage Range  
35 to 60 Volts  
Current  
30.0 Amperes

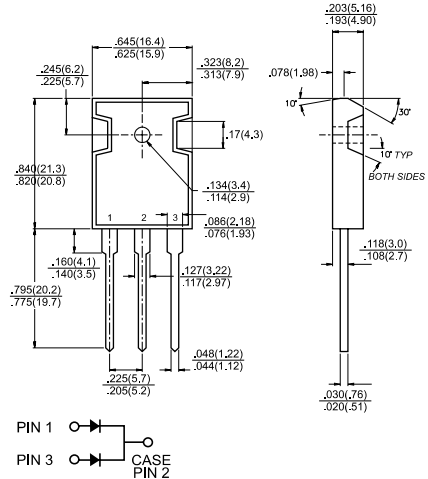
### Features

- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 250°C/10 seconds, 0.17" (4.3mm) from case

### Mechanical Data

- ✧ Cases: JEDEC TO-3P/TO-247AD molded plastic body
- ✧ Terminals: Leads solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 10 in. - lbs. max
- ✧ Weight: 0.2 ounce, 5.6 grams

### TO-3P/TO-247AD



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	MBR3035PT	MBR3045PT	MBR3050PT	MBR3060PT	Units
Maximum Recurrent Peak Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
Maximum DC Blocking Voltage	35	45	50	60	V
Maximum Average Forward Rectified Current (SEE F1G. 1)	30				A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_c=105^\circ\text{C}$	30.0				A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	200				A
Peak Repetitive Reverse Current (Note 2)	2.0		1.0		A
Maximum Instantaneous Forward Voltage at (Note 1) $I_F=20\text{A}$ , $T_c=25^\circ\text{C}$ $I_F=20\text{A}$ , $T_c=125^\circ\text{C}$ $I_F=30\text{A}$ , $T_c=25^\circ\text{C}$ $I_F=30\text{A}$ , $T_c=125^\circ\text{C}$	- 0.60 0.76 0.72		0.75 0.65 - -		V
Maximum Instantaneous Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage Per Leg (Note 1) @ $T_c=125^\circ\text{C}$	1.0 60.0		5.0 100.0		mA mA
Voltage Rate of Change at (Rated $V_R$ )	10,000		1,000		V/ $\mu\text{S}$
Maximum Thermal Resistance Per Leg (Note 3) R $\theta\text{JC}$	1.4				$^\circ\text{C/W}$
Operating Junction Temperature Range $T_J$	-65 to +150				$^\circ\text{C}$
Storage Temperature Range $T_{\text{STG}}$	-65 to +175				$^\circ\text{C}$

Notes: 1. 2.0us Pulse Width,  $f=1.0\text{ KHz}$

2. Pulse Test: 300us Pulse Width, 1% Duty Cycle

3. Thermal Resistance from Junction to case Per Leg

## RATINGS AND CHARACTERISTIC CURVES (MBR3035PT THRU MBR3060PT)

FIG.1- FORWARD CURRENT DERATING CURVE

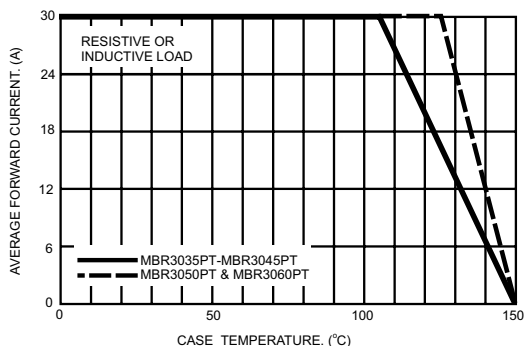


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

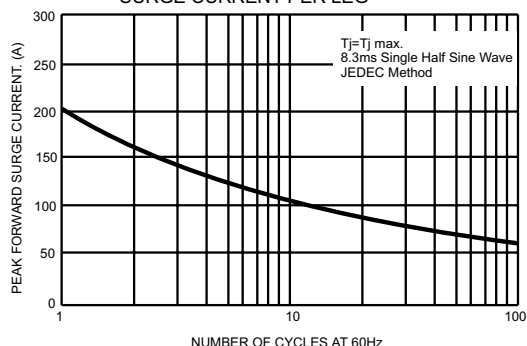


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

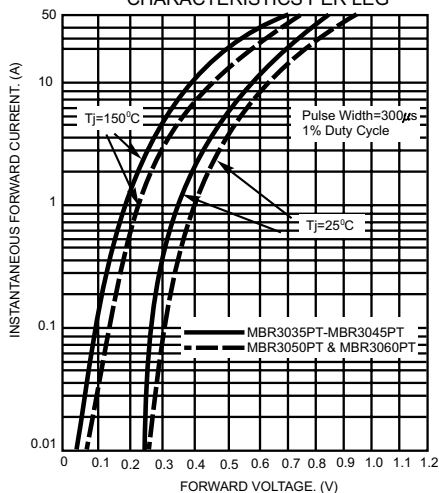


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

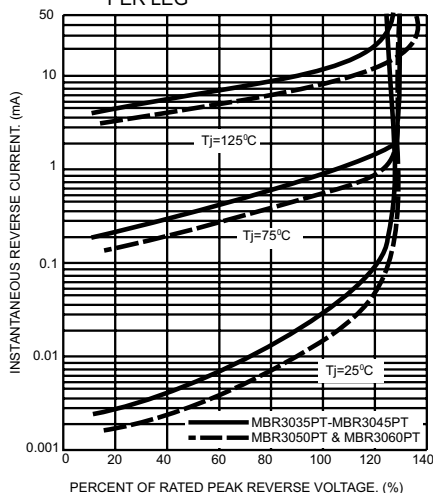


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

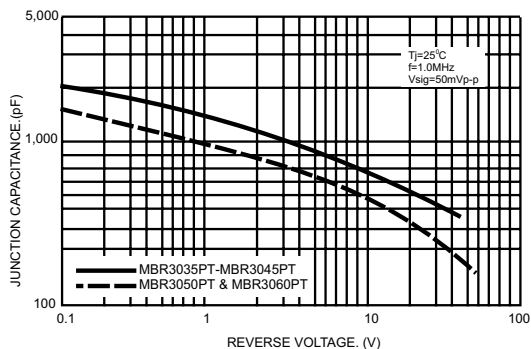


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

