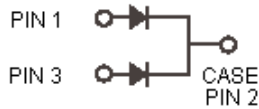
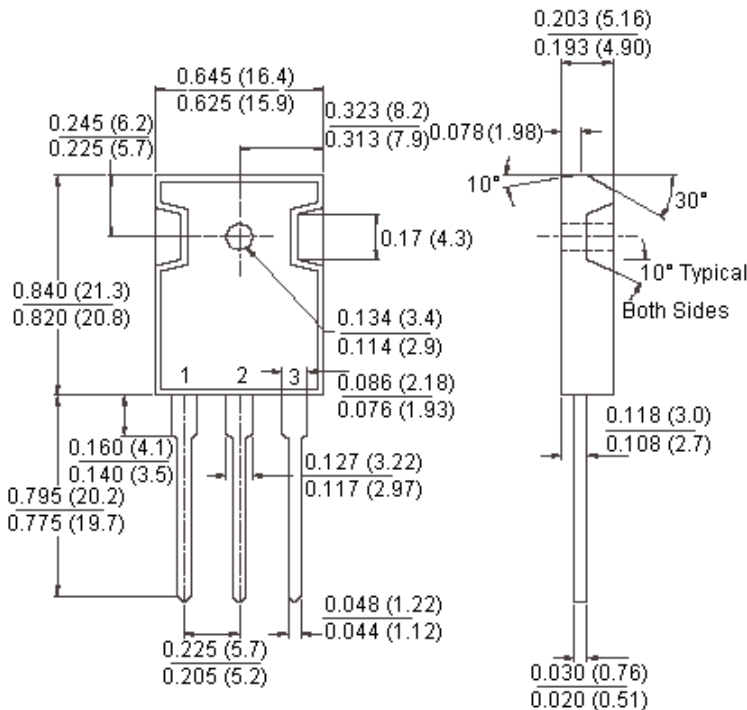




## Features:

- Plastic material.
- 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 over voltage protection.
- High temperature soldering guaranteed: 260°C/10 seconds, 0.17 inch (4.3mm) from case.

## TO-3P/TO-247AD



Dimensions : Inches (Millimetres)

## Mechanical Data:

Cases	: JEDED TO-3P/TO-247AD moulded plastic body.
Terminals	: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026.
Polarity	: As marked.
Mounting position	: Any.
Mounting torque	: 10in. - lbs. maximum.
Weight	: 0.2 ounce, 5.6 grams.

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%.

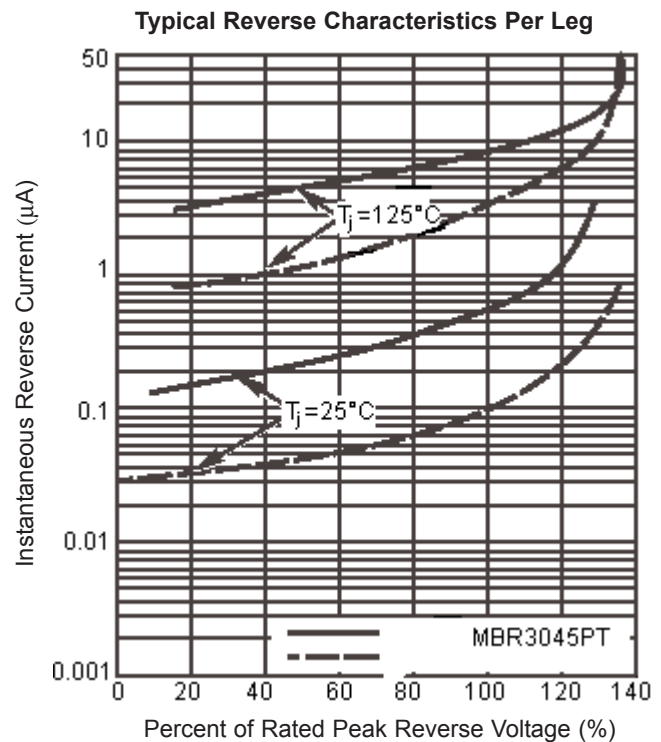
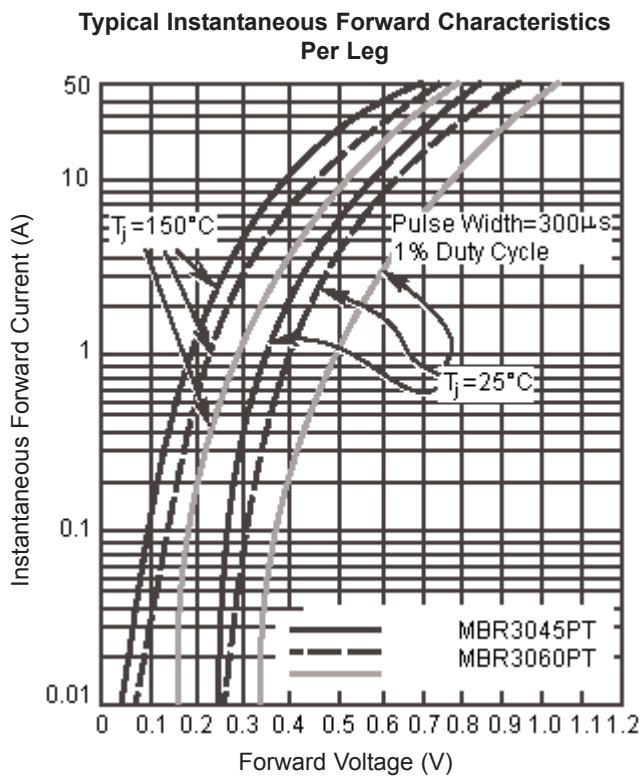
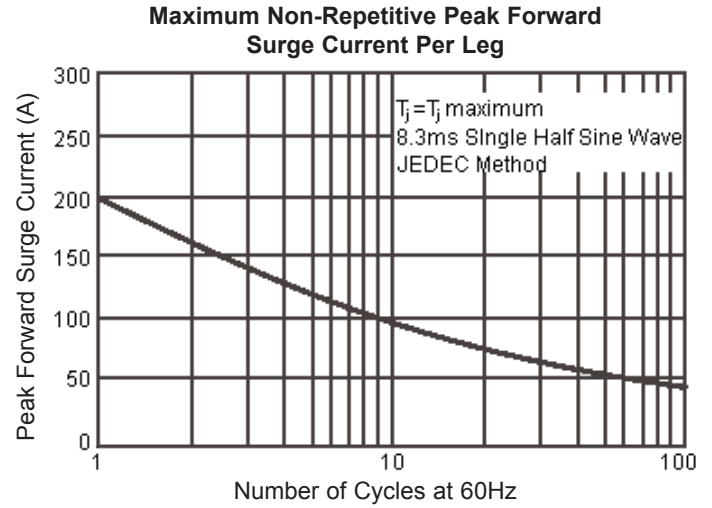
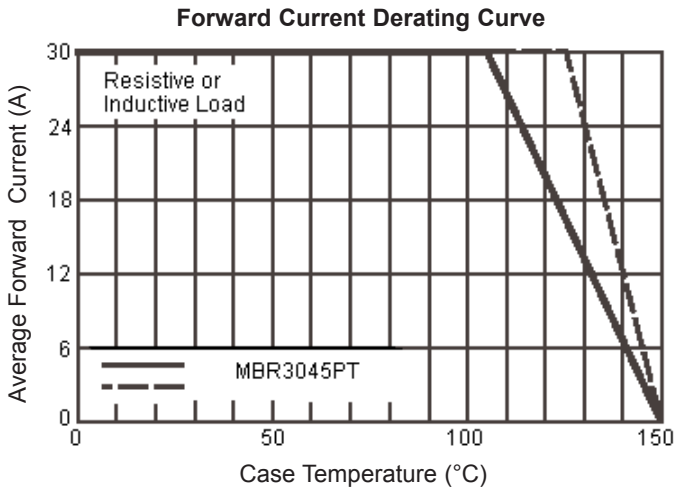
Type Number	Symbol	MBR3045PT	MBR3060PT	MBR30100PT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	45	60	100	V
Maximum RMS Voltage	$V_{RMS}$	31	42	70	
Maximum DC Blocking Voltage	$V_{DC}$	45	60	100	
Maximum Average Forward Rectified Current	$I_{(AV)}$	30			A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_C = 105^\circ\text{C}$	$I_{FRM}$	30			
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	200			
Peak Repetitive Reverse Surge Current (Note 2)	$I_{RRM}$	2.0	1.0		
Maximum Instantaneous Forward Voltage at (Note 1) $I_F = 15\text{A}, T_C = 25^\circ\text{C}$ $I_F = 15\text{A}, T_C = 125^\circ\text{C}$ $I_F = 30\text{A}, T_C = 25^\circ\text{C}$ $I_F = 30\text{A}, T_C = 125^\circ\text{C}$	$V_F$	- 0.60 0.82 0.72	0.75 0.65 - -	0.85 0.75 - -	V
Maximum Instantaneous Reverse Current at $T_C = 25^\circ\text{C}$ at Rated DC Blocking Voltage Per Leg at $T_C = 125^\circ\text{C}$	$I_R$	1.0			$\mu\text{A}$ $\mu\text{A}$
		20	15	0.5 10	
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	10,000			$\text{V}/\mu\text{S}$
Typical Junction Capacitance at 4V/1.0MHz	$C_j$	600	460	320	pF
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.4			$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	-65 to +150			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175			

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

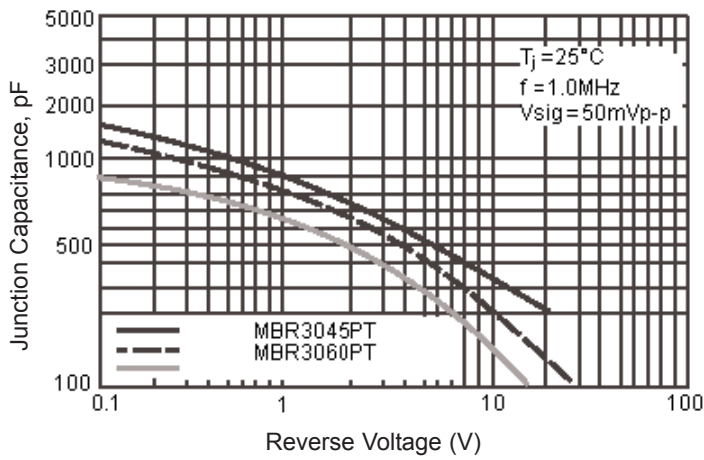
2. Pulse Test: 300 $\mu\text{s}$  Pulse Width, 1% Duty Cycle.

3. Thermal Resistance from Junction to Case Per Leg.

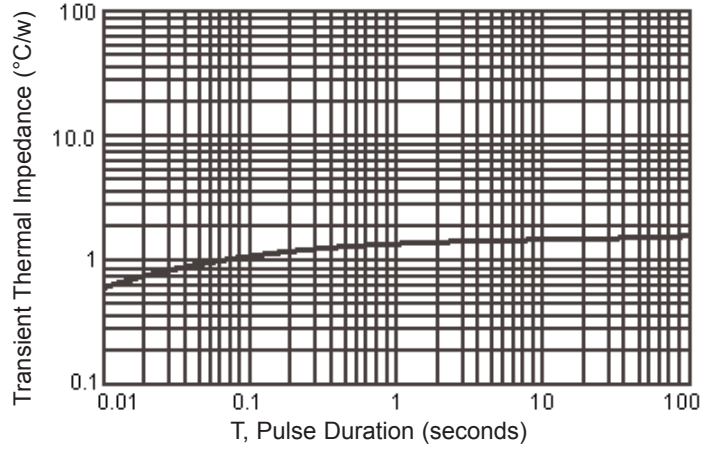
## Ratings and Characteristic Curves (MBR30100PT, MBR3045PT and MBR3060PT)



Typical Junction Capacitance Per Leg



Typical Transient Thermal Impedance Per Leg



## Part Number Table

Description	Part Number
Diode, Schottky, 30A, 100V	MBR30100PT
Diode, Schottky, 30A, 45V	MBR3045PT
Diode, Schottky, 30A, 60V	MBR3060PT

## Notes:

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