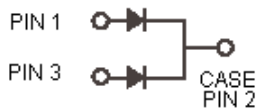
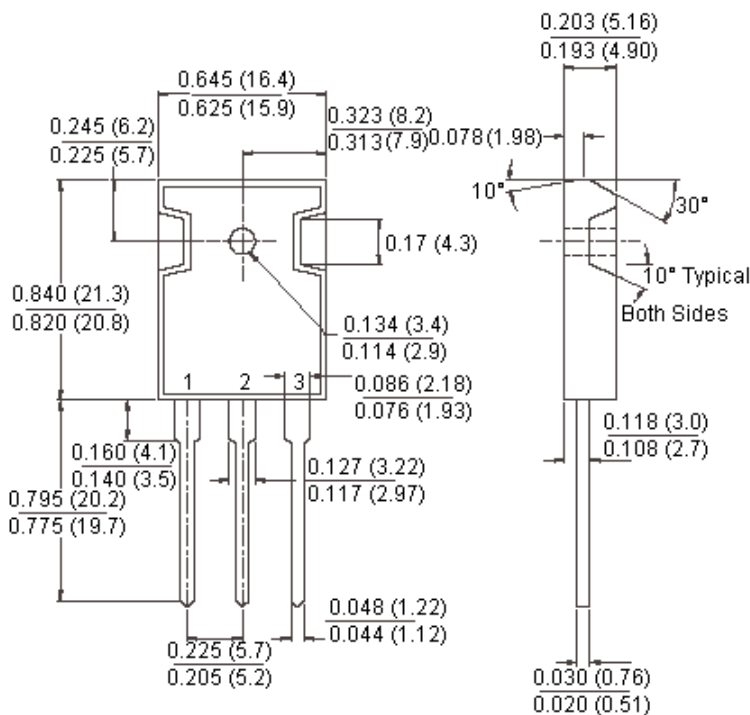




## Features:

- Plastic material.
- Metal silicon rectifier, 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	MBR4035PT	MBR4045PT	MBR4060PT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	60	V
Maximum RMS Voltage	$V_{RMS}$	24	31	42	
Maximum DC Blocking Voltage	$V_{DC}$	35	45	60	
Maximum Average Forward Rectified Current at $T_C = 125^\circ\text{C}$	$I_{(AV)}$	40			A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_C = 120^\circ\text{C}$	$I_{FRM}$	40			
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	330			
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	2.0	1.0		
Maximum Instantaneous Forward Voltage at (Note 2) $I_F = 20\text{A}, T_C = 25^\circ\text{C}$ $I_F = 20\text{A}, T_C = 125^\circ\text{C}$ $I_F = 40\text{A}, T_C = 25^\circ\text{C}$ $I_F = 40\text{A}, T_C = 125^\circ\text{C}$	$V_F$	0.75 0.65 0.80 0.75		0.77 0.67 - -	V
Maximum Instantaneous Reverse Current at $T_C = 25^\circ\text{C}$ at Rated DC Blocking Voltage Per Leg at $T_C = 125^\circ\text{C}$ (Note 1)	$I_R$	1.0			$\mu\text{A}$ $\mu\text{A}$
		30		20	
Voltage Rate of Change (Rated $V_R$ )	dV/dt	10,000	1,000		V/ $\mu\text{S}$
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.2			$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	-65 to +150			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175			

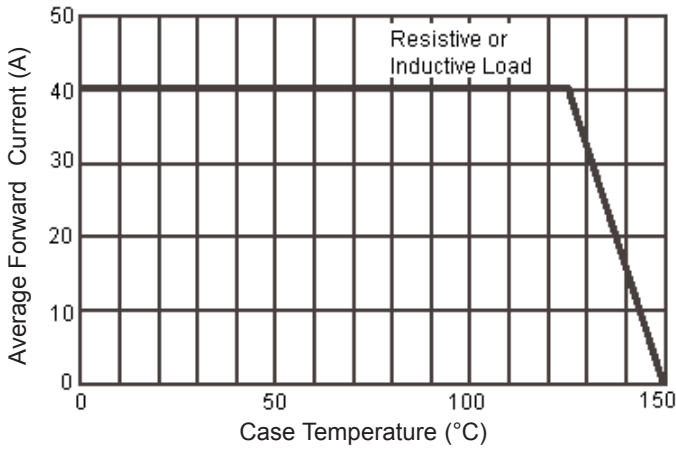
Notes: 1. 2.0 $\mu\text{s}$  Pulse Width,  $f = 1.0\text{KHz}$ .

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

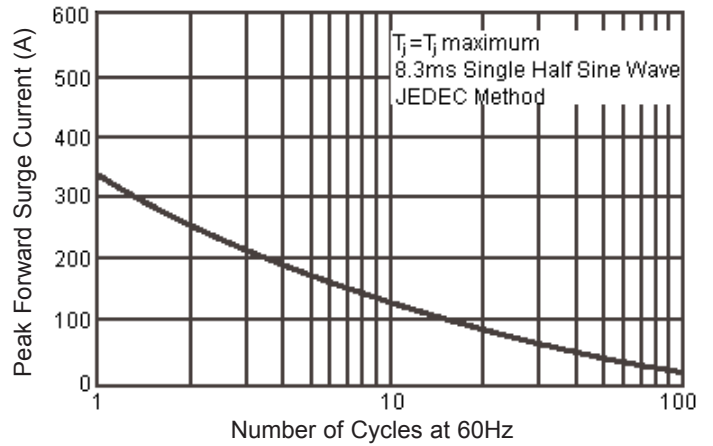
3. Thermal Resistance from Junction to Case Per Leg.

## Ratings and Characteristic Curves (MBR4035PT, MBR4045PT and MBR4060PT)

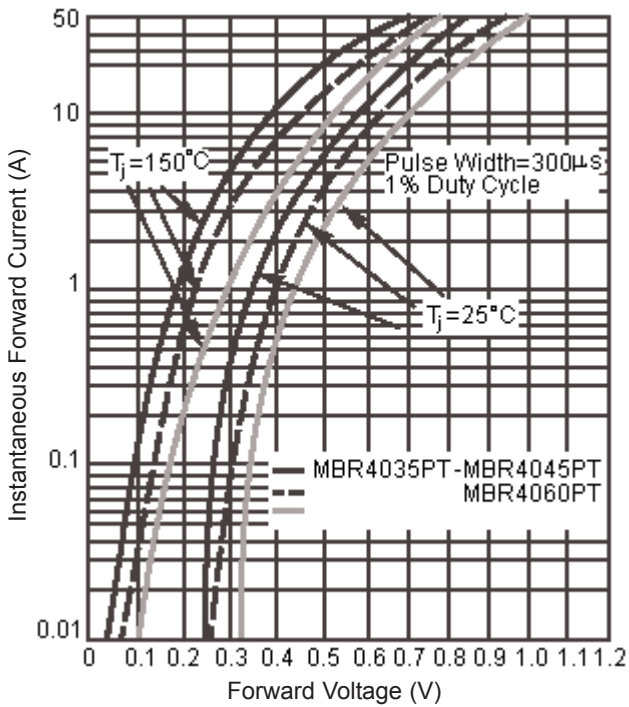
**Forward Current Derating Curve**



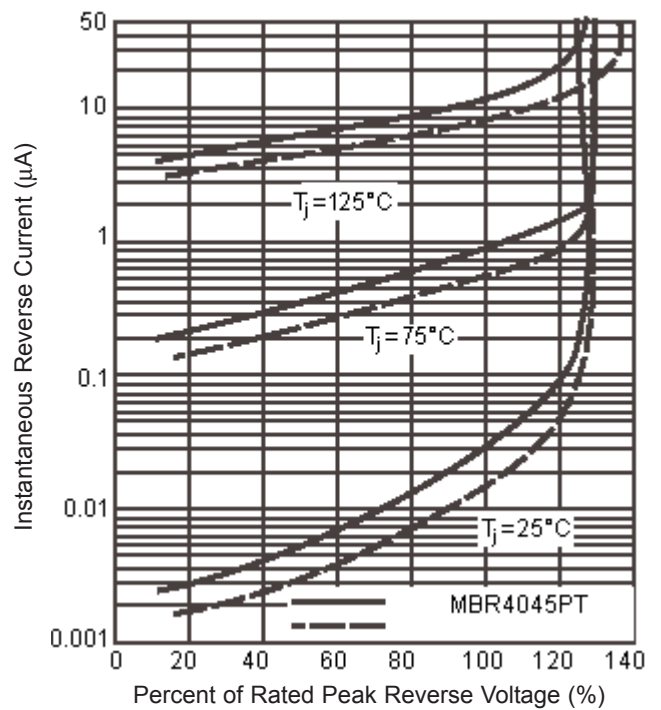
**Maximum Non-Repetitive Forward Surge Current Per Leg**



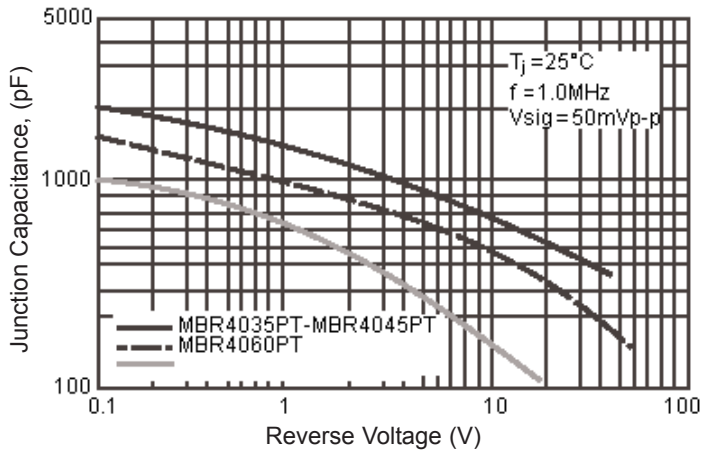
**Typical Instantaneous Forward Characteristics Per Leg**



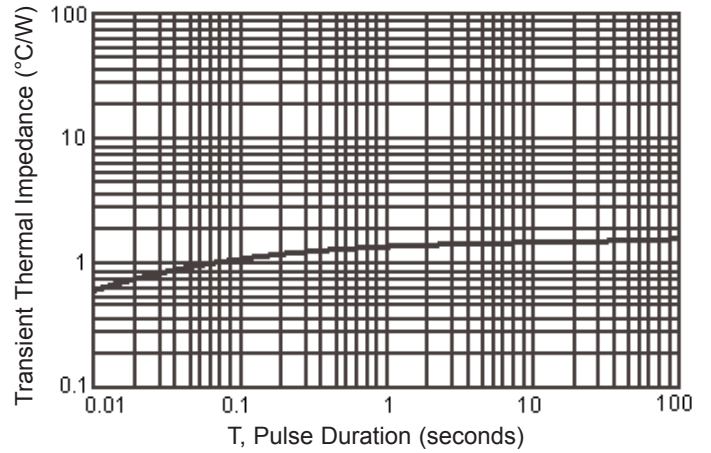
**Typical Reverse Characteristics Per Leg**



Typical Junction Capacitance Per Leg



Typical Transient Thermal Impedance Per Leg



## Part Number Table

Description	Part Number
Diode, Schottky, 40A, 35V	MBR4035PT
Diode, Schottky, 40A, 45V	MBR4045PT
Diode, Schottky, 40A, 60V	MBR4060PT

## Notes:

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