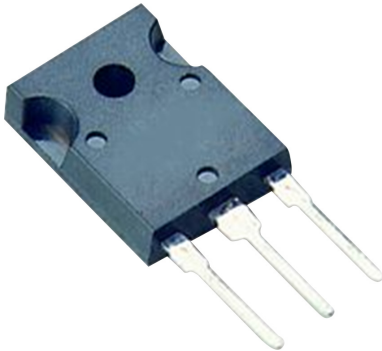


# Diode Schottky



RoHS  
Compliant



## 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" (4.3mm) from case

## Specifications:

### Mechanical Data:

Cases	: JEDEC 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. Max.
Weight	: 0.2oz, 5.6g

## 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%.

Parameter	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			



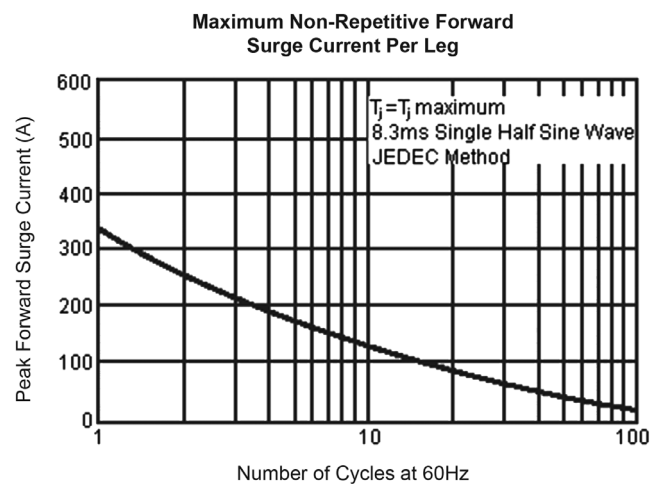
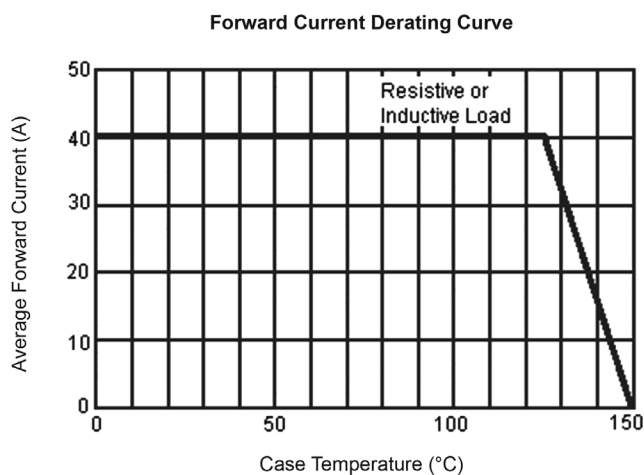
Parameter	Symbol	MBR4035PT	MBR4045PT	MBR4060PT	Units
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	2	1		A
Maximum Instantaneous Forward Voltage at: (Note 2) $I_F = 20A, T_C = 25^\circ C$ $I_F = 20A, T_C = 125^\circ C$ $I_F = 40A, T_C = 25^\circ C$ $I_F = 40A, T_C = 125^\circ C$	$V_F$	0.75 0.65 0.8 0.75	0.77 0.67 - -		V
Maximum Instantaneous Reverse Current at $T_C = 25^\circ C$ at Rated DC Blocking Voltage at $T_C = 125^\circ C$ (Note 2)	$I_R$	1			$\mu A$ $\mu A$
Voltage Rate of Change (Rated $V_R$ )	dV/dt	10,000	1,000		V/ $\mu S$
Maximum Typical Thermal Resistance, (Note 3)	$R_{\theta JC}$	1.2			$^\circ C/W$
Operating Junction Temperature Range	$T_J$	-65 to +150			$^\circ C$
Storage Temperature Range	$T_{STG}$	-65 to +175			

**Note: 1.** 2 $\mu s$  Pulse Width, f = 1kHz.

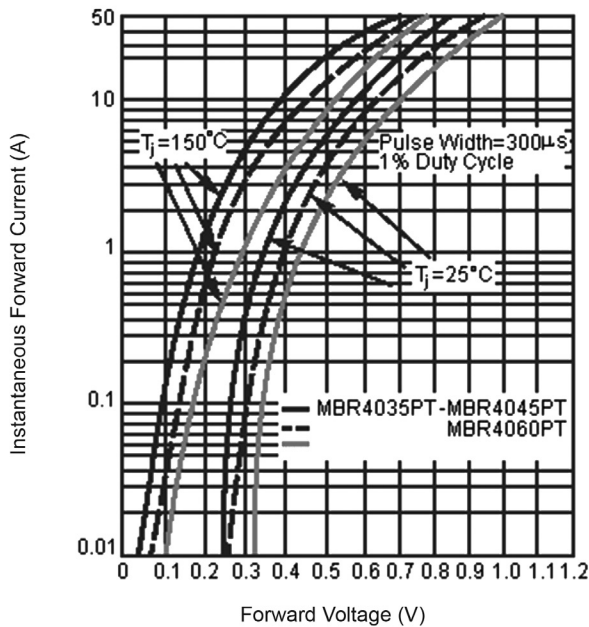
**Note: 2.** Pulse Test: 300 $\mu s$  Pulse Width, 1% Duty Cycle.

**Note: 3.** Thermal Resistance from Junction to Case Per Leg.

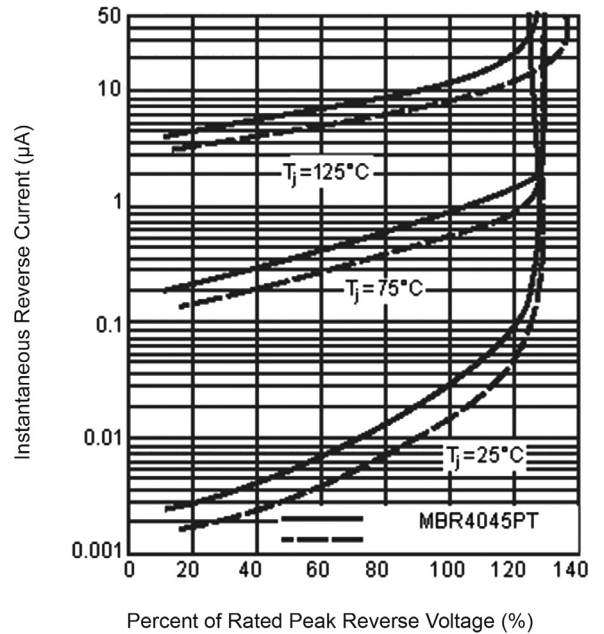
## Ratings and Characteristic Curves (MBR4035PT, MBR4045PT and MBR4060PT)



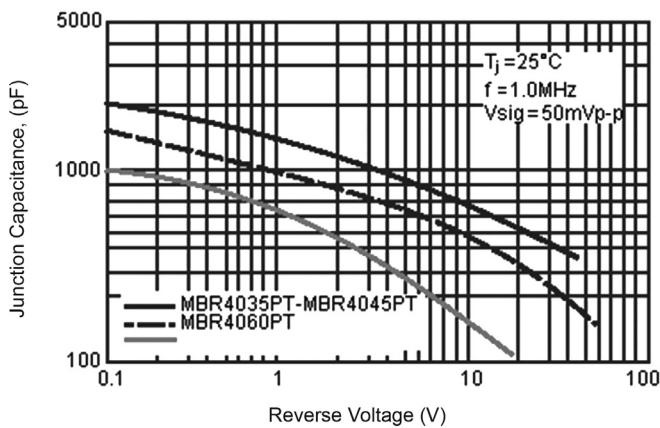
Typical Instantaneous Forward Characteristics Per Leg



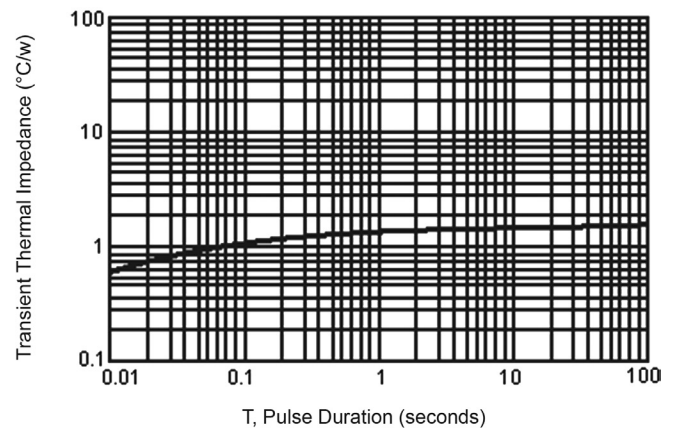
Typical Reverse Characteristics Per Leg



Typical Junction Capacitance Per Leg



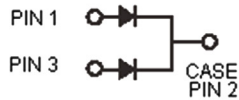
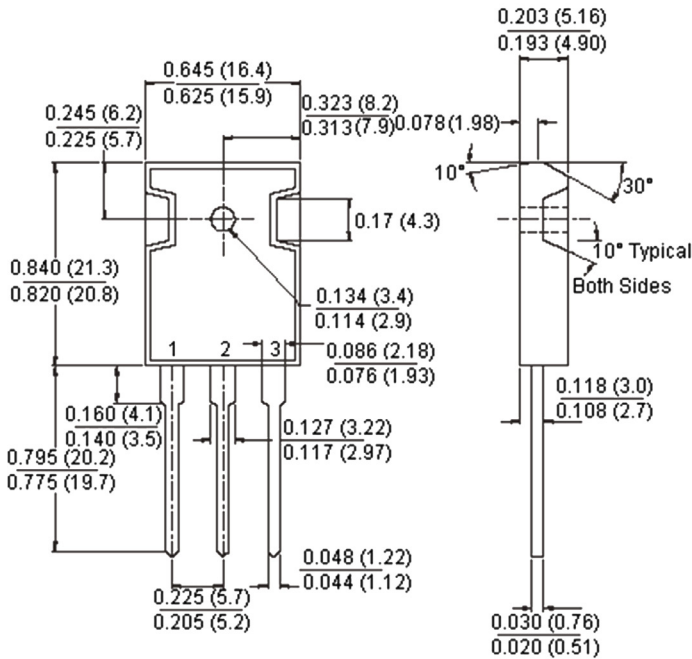
Typical Transient Thermal Impedance Per Leg



# Diode Schottky



## TO-3P/TO-247AD



Dimensions : Inches (Millimetres)

### Part Number Table

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

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