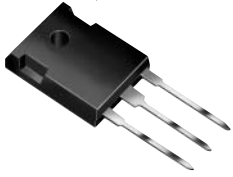




# MBR4035PT thru MBR4060PT

Vishay Semiconductors  
formerly General Semiconductor



## Dual Schottky Barrier Rectifier

Reverse Voltage 35 to 60V  
Forward Current 40A

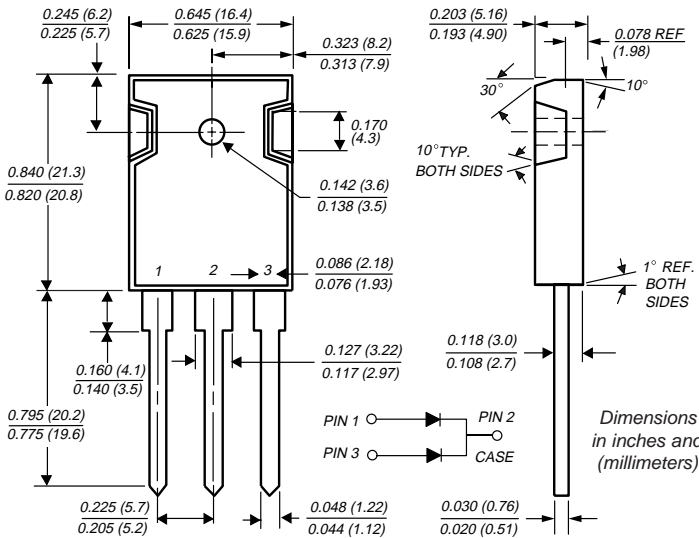
TO-247AD (TO-3P)

### Features

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Dual rectifier construction, positive center-tap
- 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

- Case:** JEDEC TO-247AD molded plastic body  
**Terminals:** Lead solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked  
**Mounting Position:** Any  
**Mounting Torque:** 10 in-lbs max.  
**Weight:** 0.2 oz., 5.6 g



## Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MBR4035PT	MBR4045PT	MBR4050PT	MBR4060PT	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	35	45	50	60	V
Maximum working peak reverse voltage	$V_{RWM}$	35	45	50	60	V
Maximum DC blocking voltage	$V_{DC}$	35	45	50	60	V
Maximum average forward rectified current at $T_C = 125^\circ\text{C}$	$I_{F(AV)}$	40				A
Peak repetitive forward current per leg at $T_C=120^\circ\text{C}$ (rated $V_R$ , square wave, 20 KHz)	$I_{FRM}$	40				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	400				A
Peak repetitive reverse surge current (NOTE 1)	$I_{RRM}$	2.0		1.0		A
Maximum thermal resistance from junction to case per leg	$R_{\theta JC}$	1.2				$^\circ\text{C}/\text{W}$
Voltage rate of change at (rated $V_R$ )	$dv/dt$	10,000				$\text{V}/\mu\text{s}$
Operating junction temperature range	$T_J$	-65 to +150				$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +175				$^\circ\text{C}$

## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MBR4035PT	MBR4045PT	MBR4050PT	MBR4060PT	Unit
Maximum instantaneous forward voltage per leg at: (NOTE 2) $I_F = 20\text{A}, T_C = 25^\circ\text{C}$ $I_F = 20\text{A}, T_C = 125^\circ\text{C}$ $I_F = 40\text{A}, T_C = 25^\circ\text{C}$ $I_F = 40\text{A}, T_C = 125^\circ\text{C}$	$V_F$	0.70	0.60	0.72	0.62	V
Maximum instantaneous reverse current at rated DC blocking voltage per leg (NOTE 2)	$I_R$	1.0		100		mA

**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

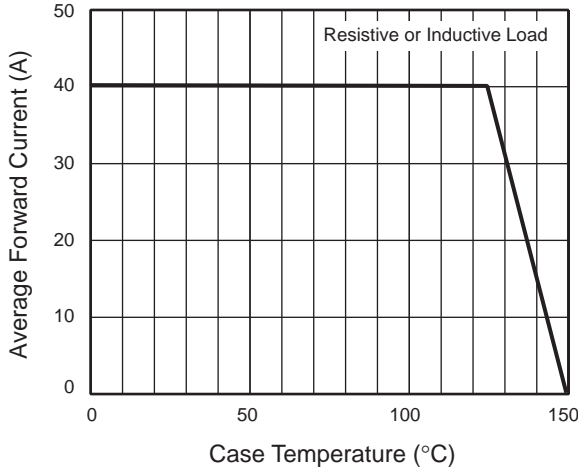
# MBR4035PT thru MBR4060PT



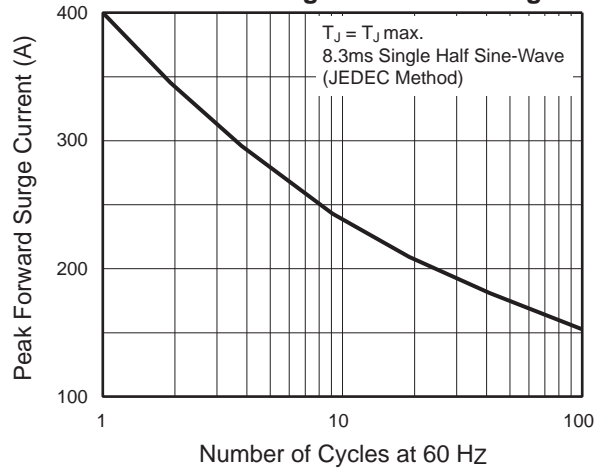
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## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

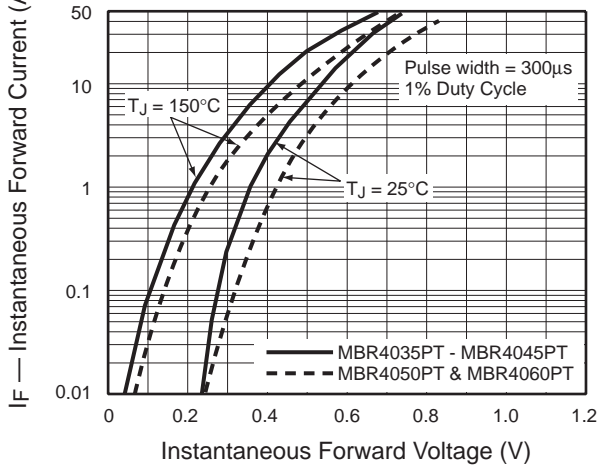
**Fig. 1 - Forward Current Derating Curve**



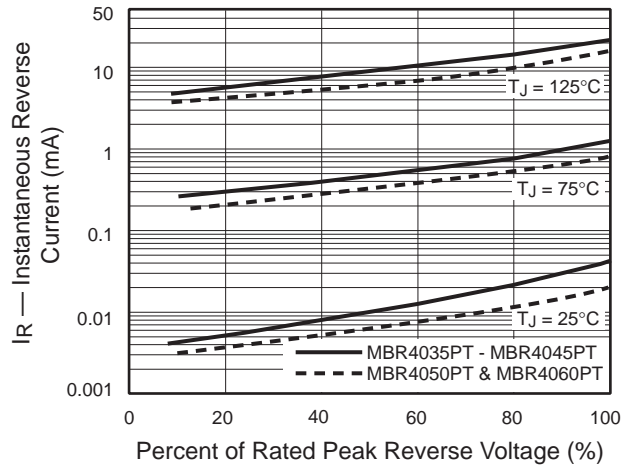
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



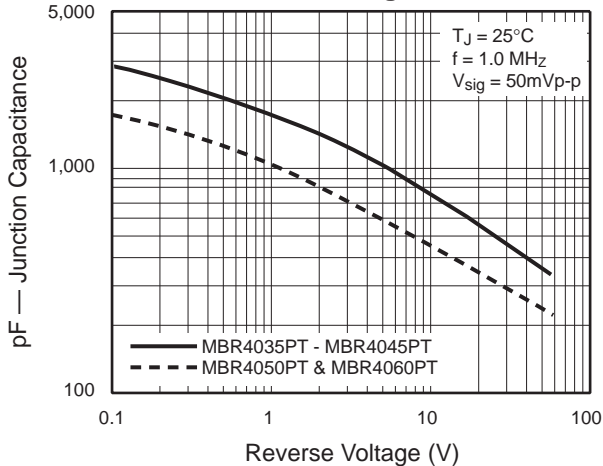
**Fig. 3 - Typical Instantaneous Forward Characteristics Per Leg**



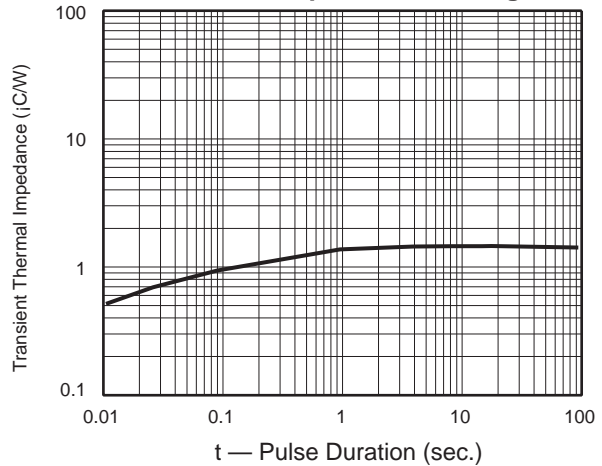
**Fig. 4 - Typical Reverse Characteristics Per Leg**



**Fig. 5 - Typical Junction Capacitance Per Leg**



**Fig. 6 - Typical Transient Thermal Impedance Per Leg**





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