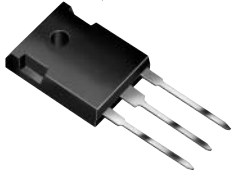




# MBR3035PT thru MBR3060PT

Vishay Semiconductors  
formerly General Semiconductor



## Dual Schottky Rectifiers

Reverse Voltage 35 to 60V  
Forward Current 30A

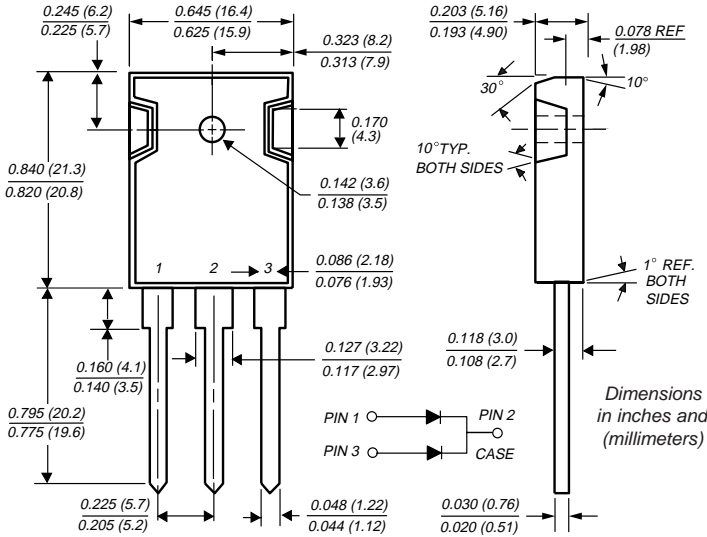
TO-247AD (TO-3P)

### 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	MBR3035PT	MBR3045PT	MBR3050PT	MBR3060PT	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	35	45	50	60	V
Maximum working peak reverse voltage	V <sub>RWM</sub>	35	45	50	60	V
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	V
Maximum average forward rectified current (See Fig. 1)	I <sub>F(AV)</sub>	30				A
Peak repetitive forward current per leg at T <sub>C</sub> = 105°C (rated V <sub>R</sub> , square wave, 20 KHz)	I <sub>FRM</sub>	30				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200				A
Peak repetitive reverse surge current <sup>(1)</sup>	I <sub>RRM</sub>	2.0		1.0		A
Thermal resistance from junction to case per leg	R <sub>θJC</sub>	1.4				°C/W
Voltage rate of change at (rated V <sub>R</sub> )	dv/dt	10,000				V/μs
Operating junction temperature range	T <sub>J</sub>	-65 to +150				°C
Storage temperature range	T <sub>STG</sub>	-65 to +175				°C

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

Parameter	Symbol	MBR3035PT	MBR3045PT	MBR3050PT	MBR3060PT	Unit
Maximum instantaneous forward voltage per leg at: <sup>(2)</sup> I <sub>F</sub> = 20A, T <sub>C</sub> = 25°C I <sub>F</sub> = 20A, T <sub>C</sub> = 125°C I <sub>F</sub> = 30A, T <sub>C</sub> = 25°C I <sub>F</sub> = 30A, T <sub>C</sub> = 125°C	V <sub>F</sub>	— 0.60 0.76 0.72	—	0.75 0.65 — —	—	V
Maximum instantaneous reverse current at rated DC blocking voltage per leg <sup>(2)</sup> T <sub>C</sub> = 25°C T <sub>C</sub> = 125°C	I <sub>R</sub>	1.0 60	—	5.0 100	—	mA

**Notes:** (1) 2.0μs pulse width, f = 1.0 KHz  
 (2) Pulse test: 300μs pulse width, 1% duty cycle

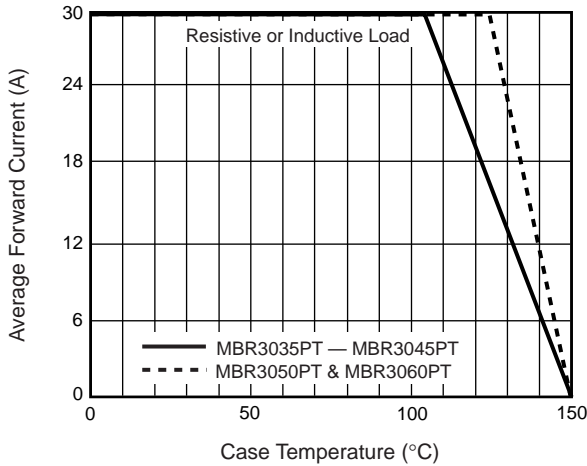
# MBR3035PT thru MBR3060PT



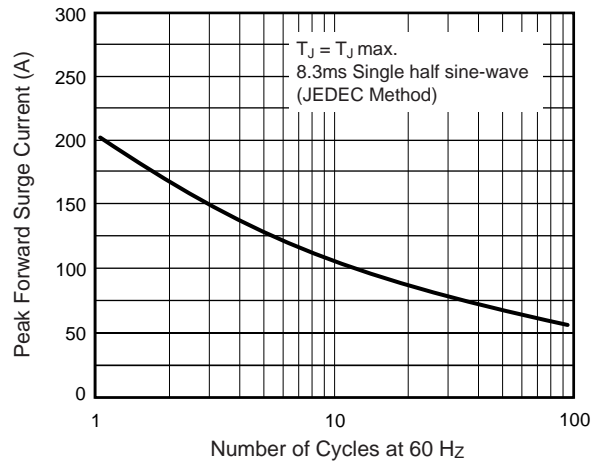
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## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

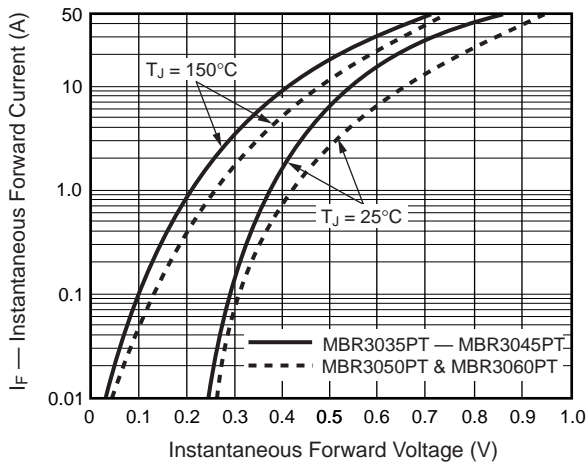
**Fig. 1 – Forward Current Derating Curve**



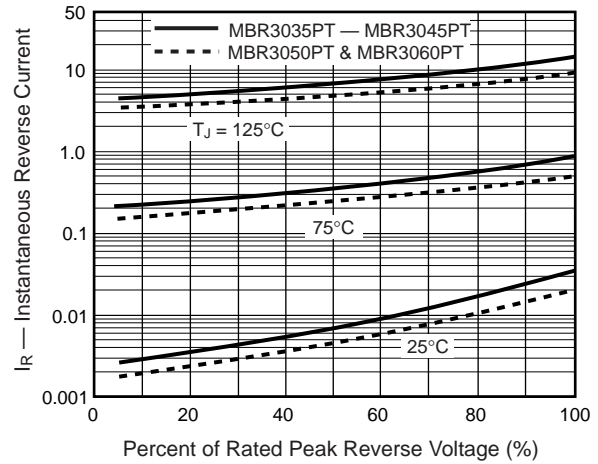
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



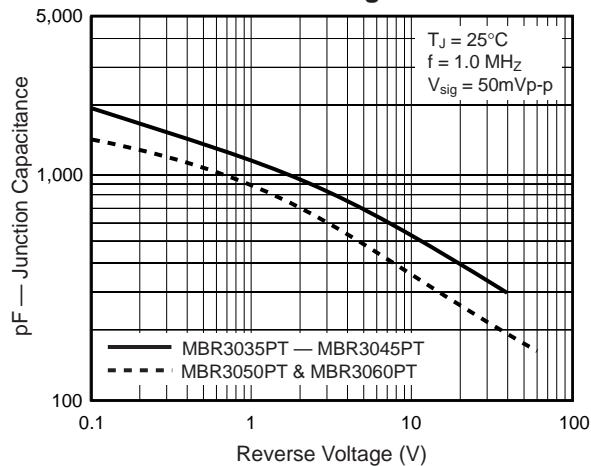
**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



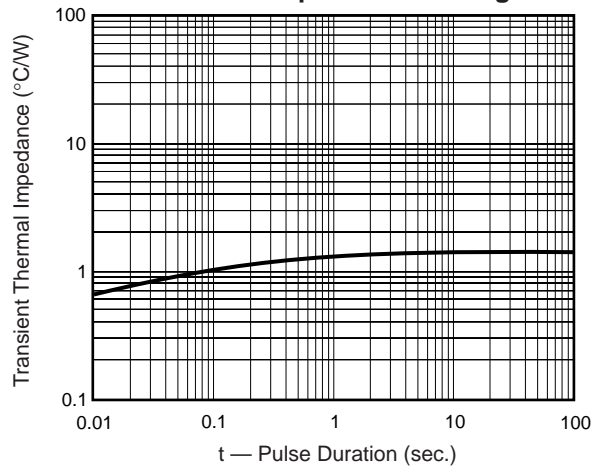
**Fig. 4 – Typical Reverse Characteristics Per Leg**



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



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





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