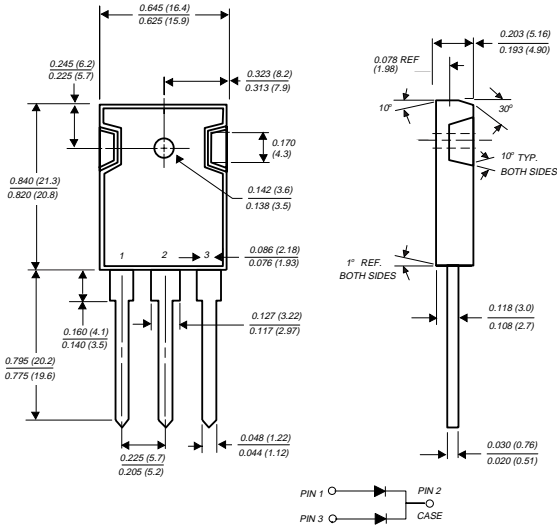


# MBR3035PT THRU MBR3060PT

## SCHOTTKY RECTIFIER

Reverse Voltage - 35 to 60 Volts      Forward Current - 30.0 Amperes

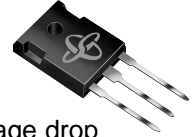
### TO-247AD



Dimensions in inches and (millimeters)

### 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 ounce, 5.6 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBR3035PT	MBR3045PT	MBR3050PT	MBR3060PT	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	35	45	50	60	Volts
Maximum working peak reverse voltage	V <sub>RWM</sub>	35	45	50	60	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	Volts
Maximum average forward rectified current (SEE FIG. 1)	I <sub>(AV)</sub>	30.0				Amps
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>	30.0				Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200.0				Amps
Peak repetitive reverse surge current (NOTE 2)	I <sub>RRM</sub>	2.0		1.0		Amps
Maximum instantaneous forward voltage per leg at: (NOTE 1) 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 — —		Volts
Maximum instantaneous reverse current at rated DC blocking voltage per leg (NOTE 2) T <sub>C</sub> =25°C T <sub>C</sub> =125°C	I <sub>R</sub>	1.0 60.0		5.0 100.0		mA
Maximum thermal resistance (NOTE 3)	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

#### NOTES:

- (1) 2.0μs pulse width, f=1.0 KHz
- (2) Pulse test: 300μs pulse width, 1% duty cycle
- (3) Thermal resistance from junction to case per leg

# RATINGS AND CHARACTERISTIC CURVES MBR3035PT THRU MBR3060PT

FIG. 1 - FORWARD CURRENT DERATING CURVE

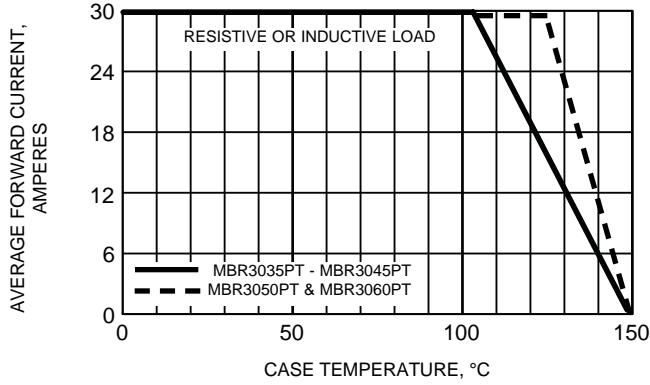


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

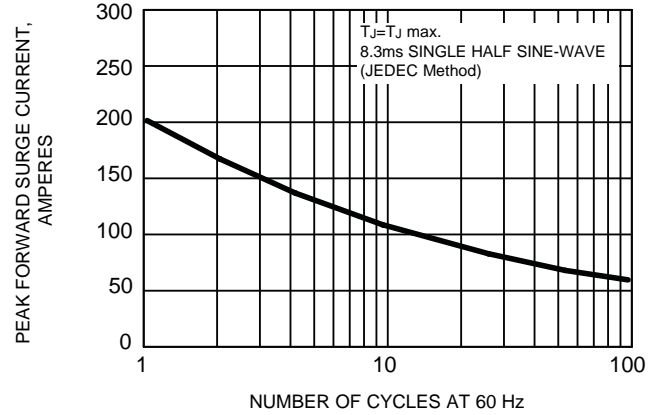


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS PER LEG

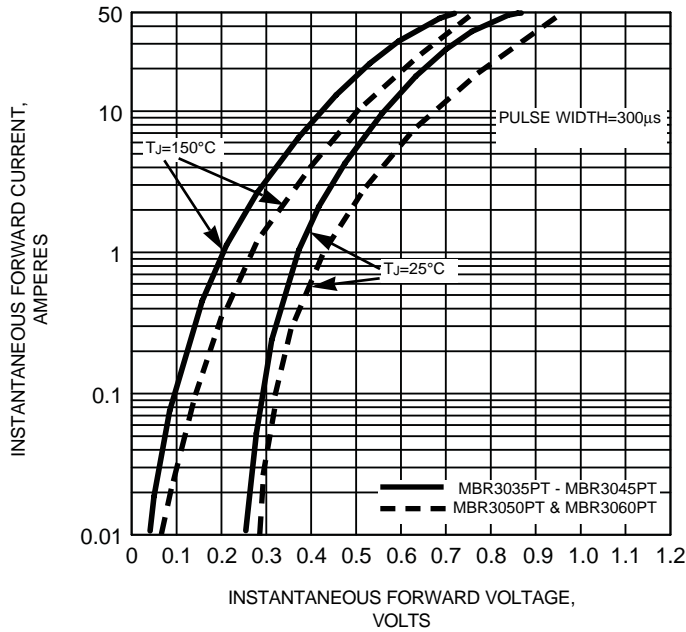


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

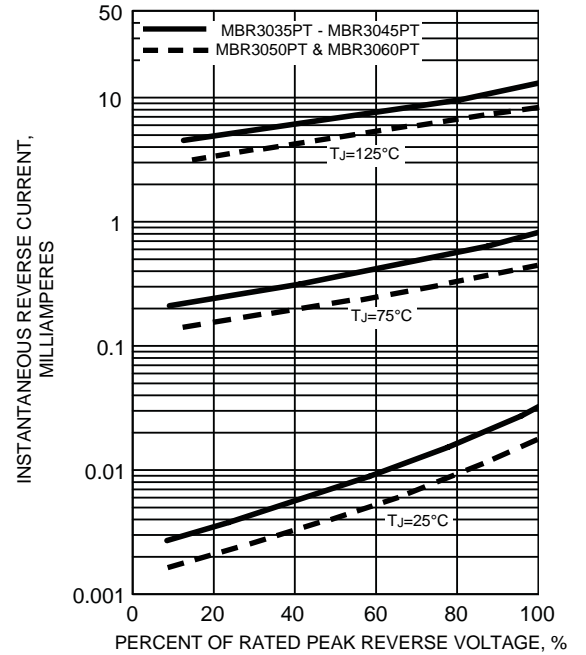


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

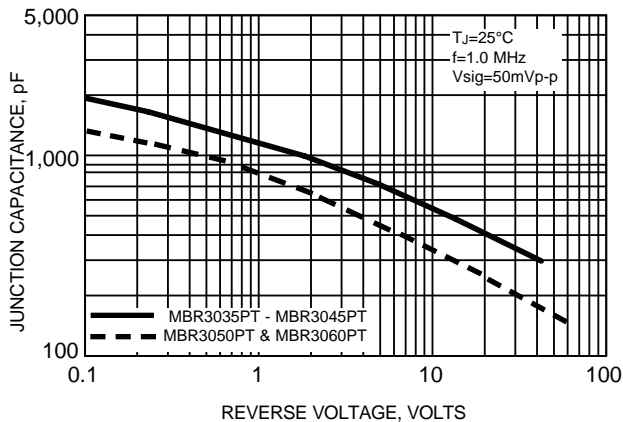


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

