

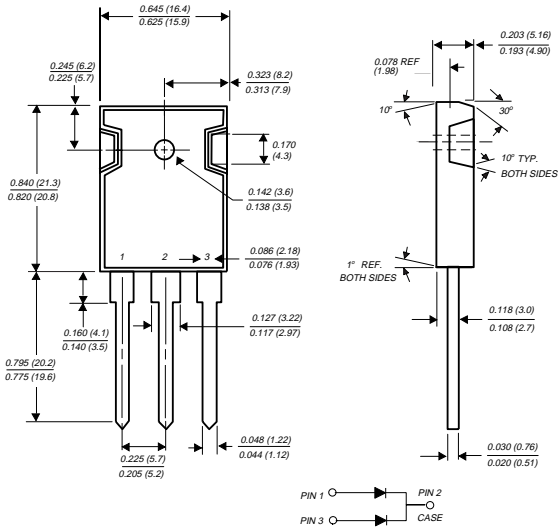
MBR4035PT THRU MBR4060PT

SCHOTTKY RECTIFIER

Reverse Voltage - 35 to 60 Volts

Forward Current - 40.0 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 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 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	MBR4035PT	MBR4045PT	MBR4050PT	MBR4060PT	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	Volts
Maximum working peak reverse voltage	V_{RMS}	35	45	50	60	Volts
Maximum DC blocking voltage	V_{DC}	35	45	50	60	Volts
Maximum average forward rectified current at $T_C=125^\circ\text{C}$	$I_{(AV)}$	40.0				Amps
Peak repetitive forward current per leg at $T_C=120^\circ\text{C}$ (rated V_R square wave, 20 KHZ)	I_{FRM}	40.0				Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	400.0				Amps
Peak repetitive reverse surge current (NOTE 1)	I_{RRM}	2.0		1.0		Amps
Maximum instantaneous forward voltage per leg at (NOTE 2)	V_F					Volts
		$I_F=20\text{A}, T_C=25^\circ\text{C}$	0.70	0.72		
		$I_F=20\text{A}, T_C=125^\circ\text{C}$	0.60	0.62		
		$I_F=40\text{A}, T_C=25^\circ\text{C}$	0.80	—		
		$I_F=40\text{A}, T_C=125^\circ\text{C}$	0.75	—		
Maximum instantaneous reverse current at $T_C=25^\circ\text{C}$ rated DC blocking voltage per leg (NOTE 2) $T_C=125^\circ\text{C}$	I_R	1.0				mA
		100.0				
Typical thermal resistance per leg (NOTE 3)	$R_{\theta JC}$	1.2				$^\circ\text{C/W}$
Voltage rate of change (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				$^\circ\text{C}$

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 MBR4035PT THRU MBR4060PT

FIG. 1 - FORWARD CURRENT DERATING CURVE

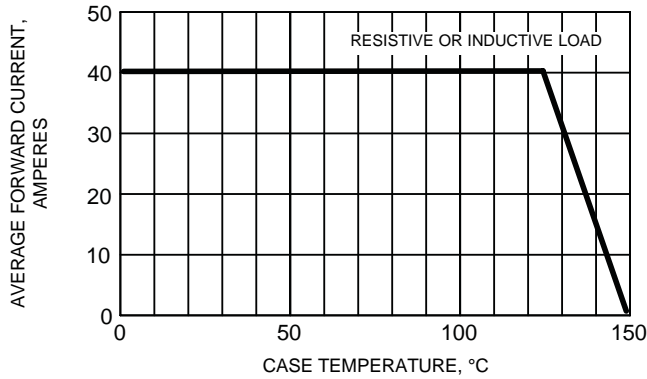


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

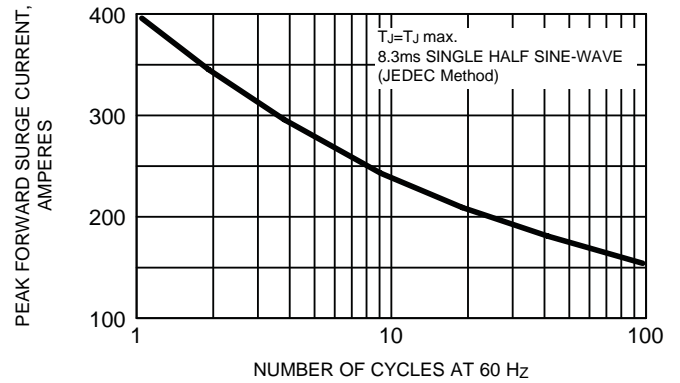


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS PER LEG

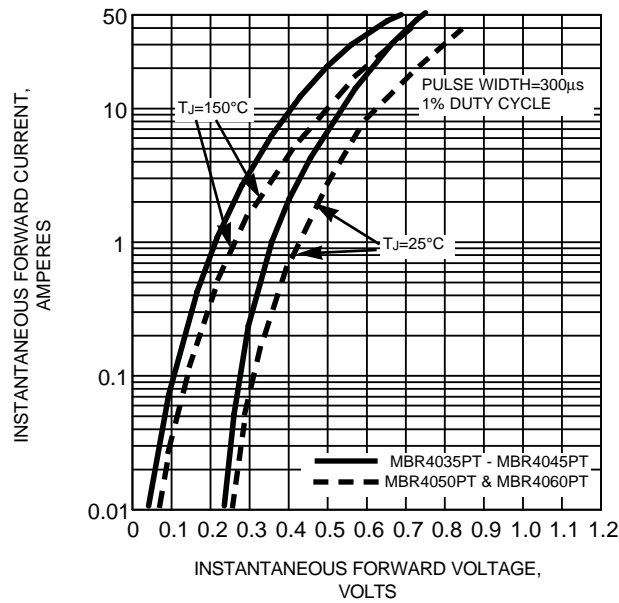


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

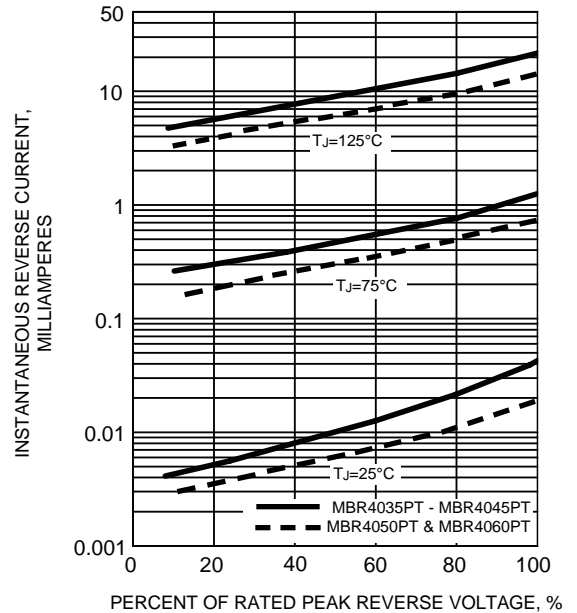


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

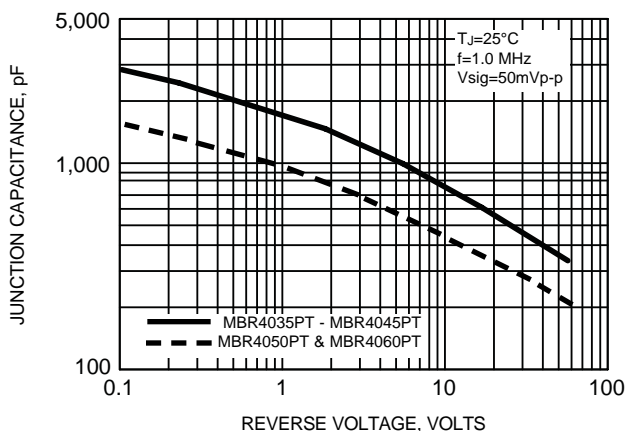


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

