

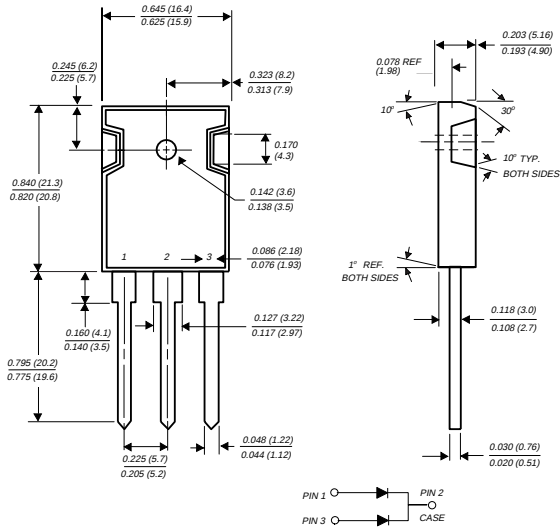
MBR4035PT THRU MBR4060PT

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°C	I _(AV)	40.0				Amps
Peak repetitive forward current per leg at T _C =120°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 (NOTE1)	I _{RRM}	2.0		1.0		Amps
Maximum instantaneous forward voltage per leg at I _F =20A, T _C =25°C (NOTE 2) I _F =20A, T _C =125°C I _F =40A, T _C =25°C I _F =40A, T _C =125°C	V _F	0.70 0.60 0.80 0.75		0.72 0.62 — —		Volts
Maximum instantaneous reverse current at T _C =25°C rated DC blocking voltage per leg (NOTE 2) T _C =125°C	I _R	1.0 100.0				mA
Typical thermal resistance per leg (NOTE 3)	R _{θJC}	1.2				°C/W
Voltage rate of change (rated V _R)	dv/dt	10,000				V/μs
Operating junction temperature range	T _J	-65 to +150				°C
Storage temperature range	T _{STG}	-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 MBR4035PT THRU MBR4060PT

FIG. 1 - FORWARD CURRENT DERATING CURVE

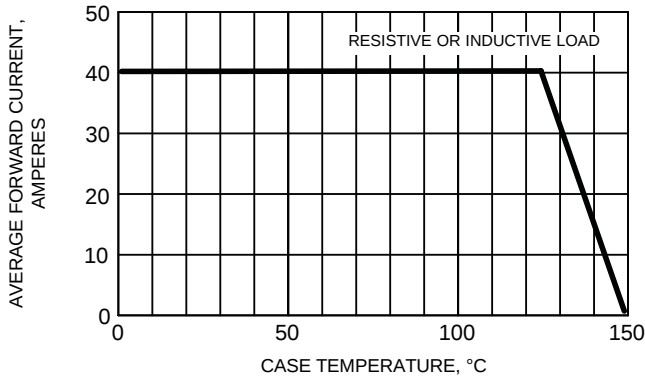


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

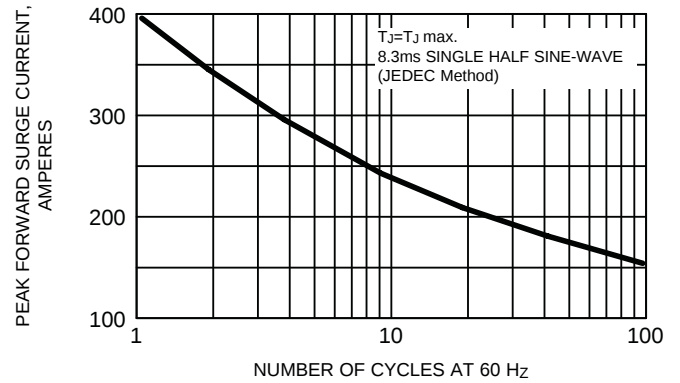


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS PER LEG

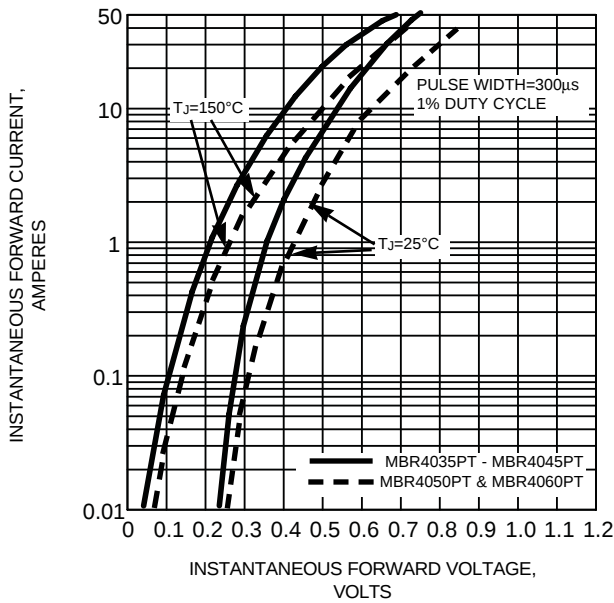


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

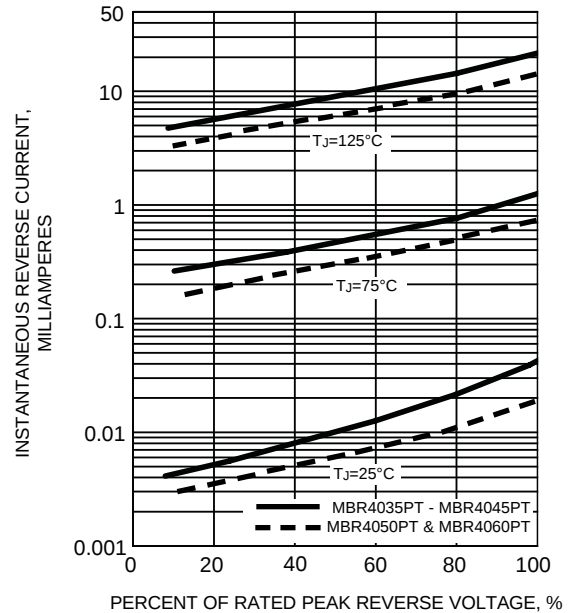


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

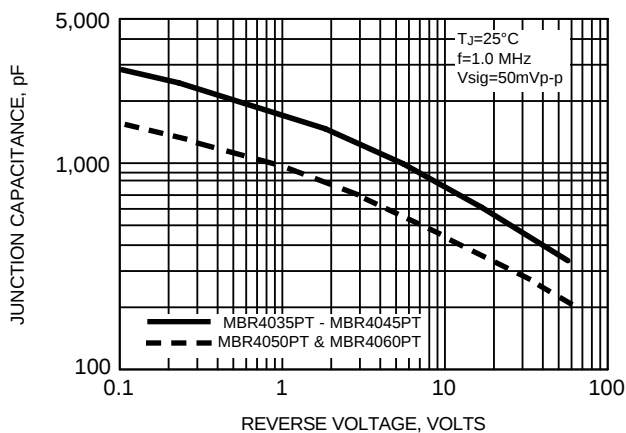


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

