

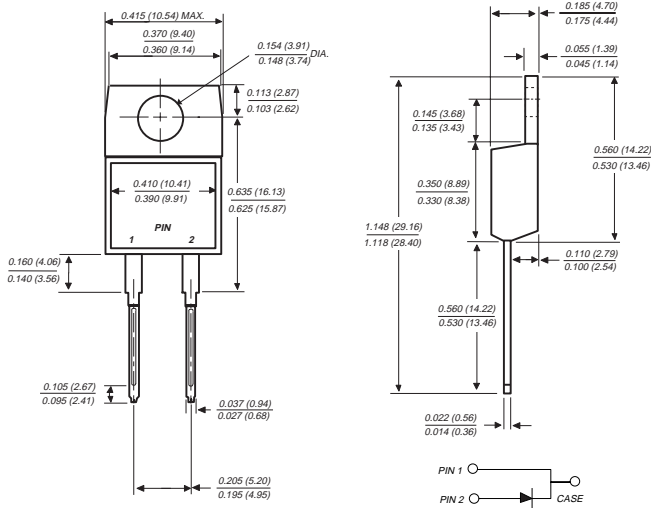
MBR1035 THRU MBR1060

SCHOTTKY RECTIFIER

Reverse Voltage - 35 to 60 Volts

Forward Current - 10.0 Amperes

TO-220AC



FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◆ 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, 0.25" (6.35mm) from case



MECHANICAL DATA

Case: JEDEC TO-220AC molded plastic body
Terminals: Leads solderable per MIL-STD-750, Method 2026

Polarity: As marked

Mounting Position: Any

Mounting Torque: 5 in. - lbs. max.

Weight: 0.08 ounces, 1.81 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBR1035	MBR1045	MBR1050	MBR1060	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	Volts
Maximum working peak reverse voltage	V_{RWM}	35	45	50	60	Volts
Maximum DC blocking voltage	V_{DC}	35	45	50	60	Volts
Maximum average forward rectified current (SEE FIG. 1)	$I_{(AV)}$	10.0				Amps
Peak repetitive forward current at $T_C=135^\circ\text{C}$ (square wave 20 KHz)	I_{FRM}	20.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150.0				Amps
Peak repetitive reverse surge current (NOTE 1)	I_{RRM}	1.0	0.5			Amps
Voltage rate of change (rated V_R)	dv/dt	10,000				$V_{\mu\text{s}}$
Maximum instantaneous forward voltage at (NOTE 2) $I_F=10\text{A}, T_C=25^\circ\text{C}$ $I_F=10\text{A}, T_C=125^\circ\text{C}$ $I_F=20\text{A}, T_C=25^\circ\text{C}$ $I_F=20\text{A}, T_C=125^\circ\text{C}$	V_F	- 0.57 0.84 0.72	0.80 0.70 0.95 0.85			Volts
Maximum instantaneous reverse current at rated DC blocking voltage $T_C=25^\circ\text{C}$ (NOTE 2) $T_C=125^\circ\text{C}$	I_R	0.10 15.0				mA
Maximum thermal resistance, junction to case	$R_{\theta JC}$	2.0				$^\circ\text{C/W}$
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

RATINGS AND CHARACTERISTIC CURVES MBR1035 THRU MBR1060

FIG. 1 - FORWARD CURRENT DERATING CURVE

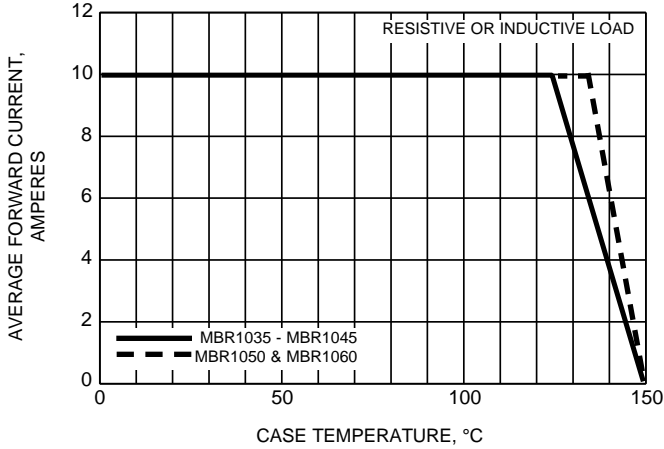


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

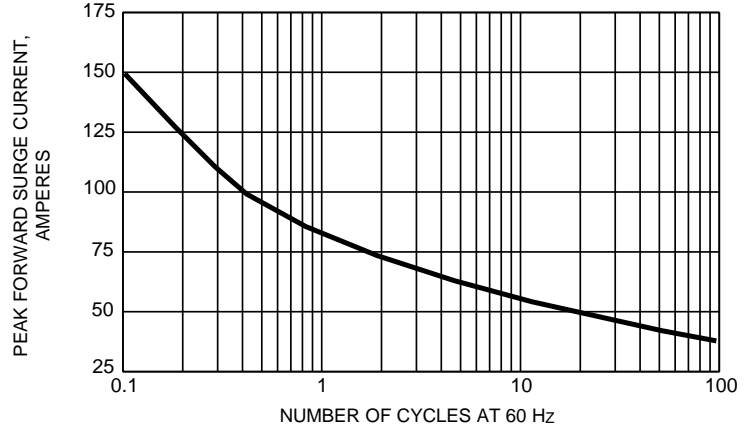


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

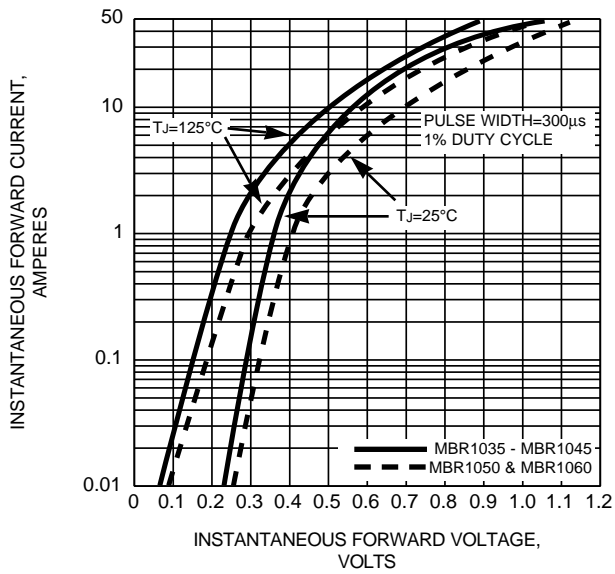


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

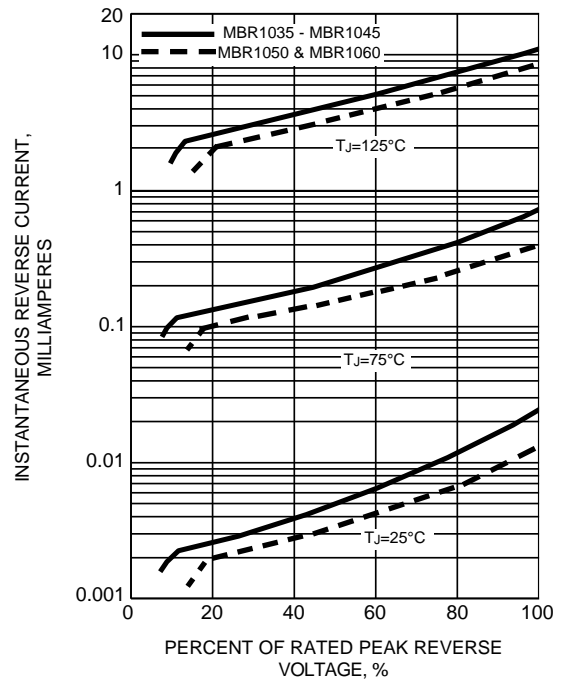


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

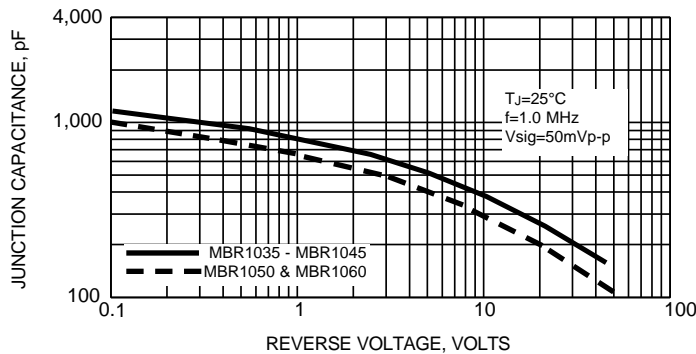


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

