

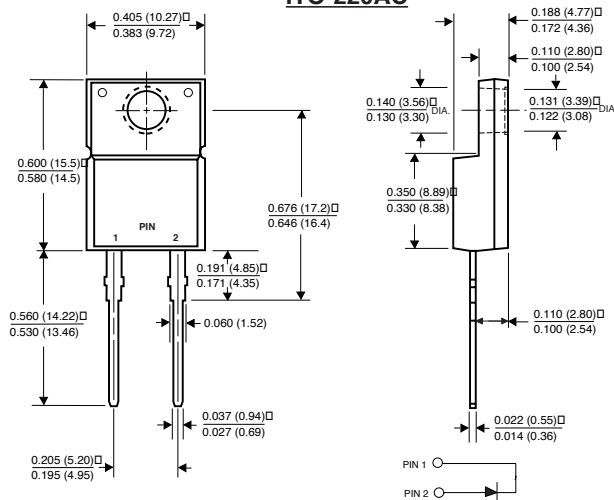
MBRF1035 THRU MBRF1060

SCHOTTKY ISOLATED PLASTIC RECTIFIER

Reverse Voltage - 35 to 60 Volts

Forward Current - 10.0 Amperes

ITO-220AC



Dimensions in inches and (millimeters)

FEATURES

- ♦ Isolated 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 ITO-220AC fully overmolded 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	MBRF1035	MBRF1045	MBRF1050	MBRF1060	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				$V_{\mu s}$
Maximum instantaneous forward voltage at (NOTE 2) $I_F=10A, T_C=25^\circ\text{C}$ $I_F=10A, T_C=125^\circ\text{C}$ $I_F=20A, T_C=25^\circ\text{C}$ $I_F=20A, T_C=125^\circ\text{C}$	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 mA
Maximum thermal resistance, junction to case	$R_{\theta JC}$	4.0				$^\circ\text{C/W}$
Operating junction temperature range	T_J	-65 to +150				$^\circ\text{C}$
Storage temperature range	T_{STG}	-65 to +175				$^\circ\text{C}$
RMS Isolation voltage from terminals to heatsink with $RH \leq 30\%$	V_{ISOL}	4500 (NOTE 3) 3500 (NOTE 4) 1500 (NOTE 5)				Volts

NOTES:

(1) 2.0μs pulse width, $f=1.0$ KHz

(2) Pulse test: 300μs pulse width, 1% duty cycle

(3) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset.

(4) Clip mounting (on case), where leads do overlap heatsink.

(5) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19").

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RATINGS AND CHARACTERISTIC CURVES MBRF1035 THRU MBRF1060

FIG. 1 - FORWARD CURRENT DERATING CURVE

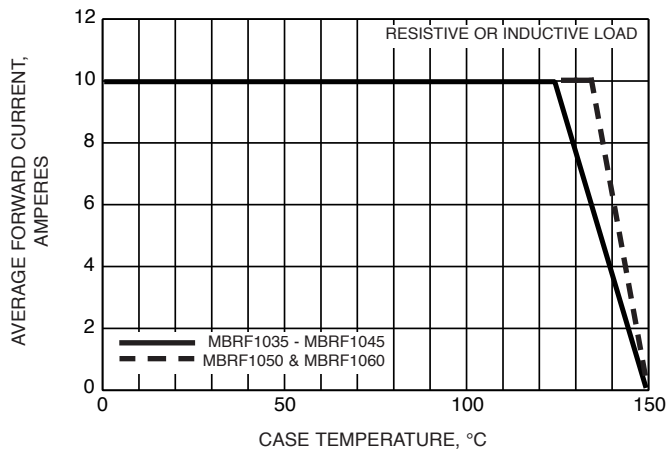


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

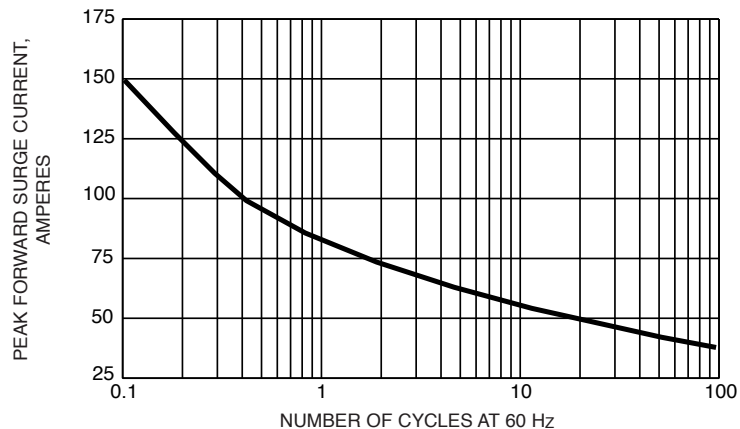


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

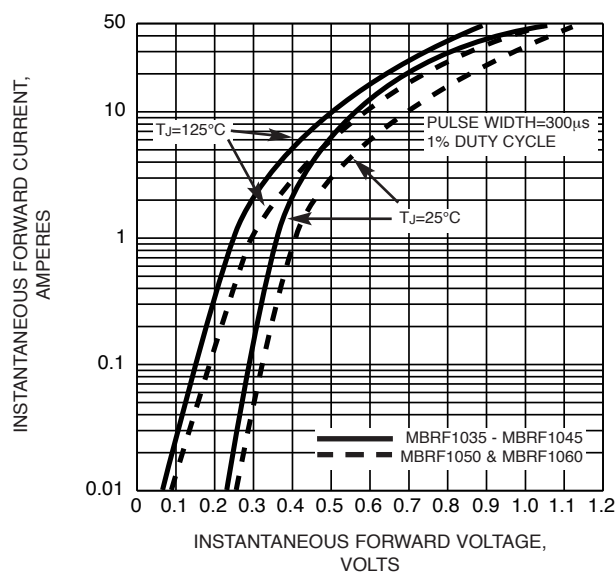


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

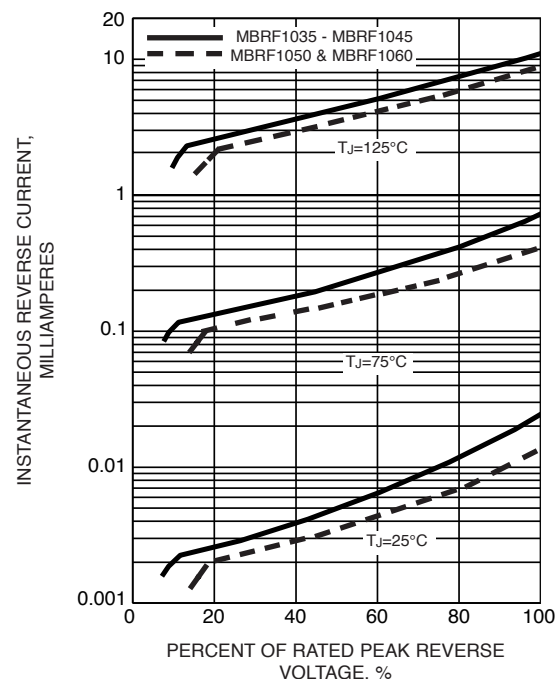


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

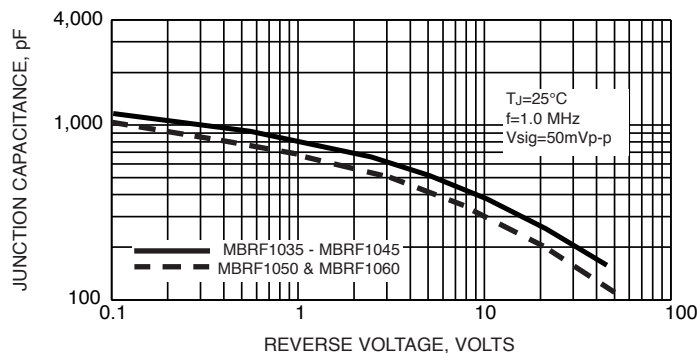


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

