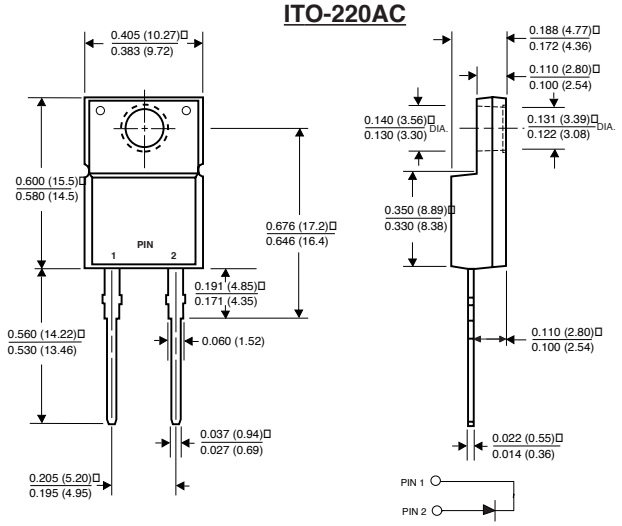
MBRF1035 THRU MBRF1060

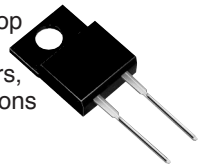
ITO-220AC



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°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/μs
Maximum instantaneous forward voltage at (NOTE 2) I_F=10A, T_C=25°C	V_F	-		0.80		Volts
I_F=10A, T_C=125°C		0.57		0.70		
I_F=20A, T_C=25°C		0.84		0.95		
I_F=20A, T_C=125°C		0.72		0.85		
Maximum instantaneous reverse current at rated DC blocking voltage T_C= 25°C	I_R	0.10				mA
(NOTE 2) T_C=125°C		15.0				mA
Maximum thermal resistance, junction to case	$R_{\Theta JC}$	4.0				°C/W
Operating junction temperature range	T_J	-65 to +150				°C
Storage temperature range	T_{STG}	-65 to +175				°C
RMS Isolation voltage from terminals to heatsink with RH ≤ 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

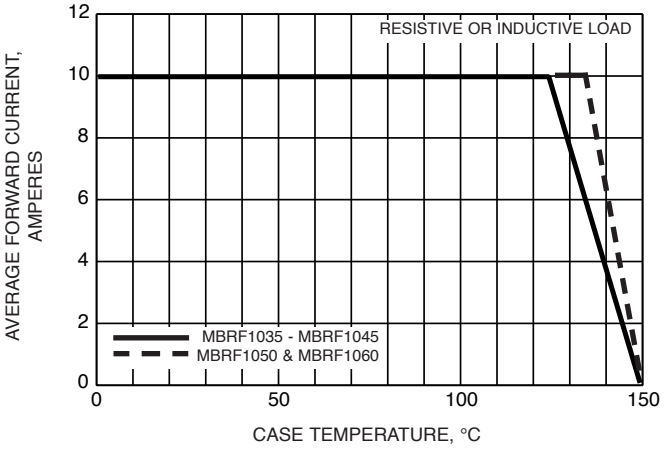


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

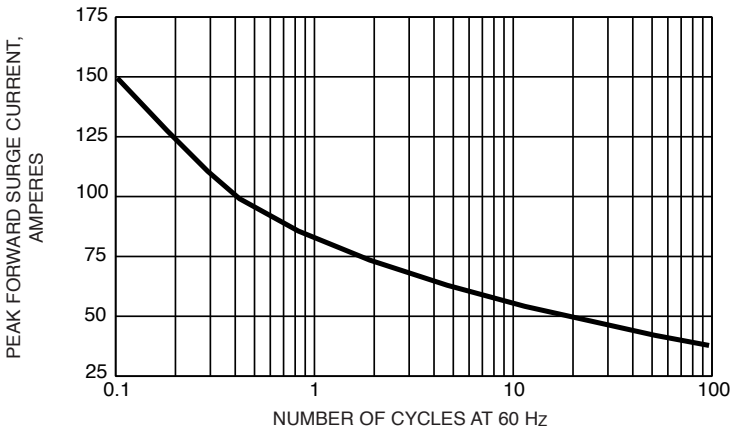


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

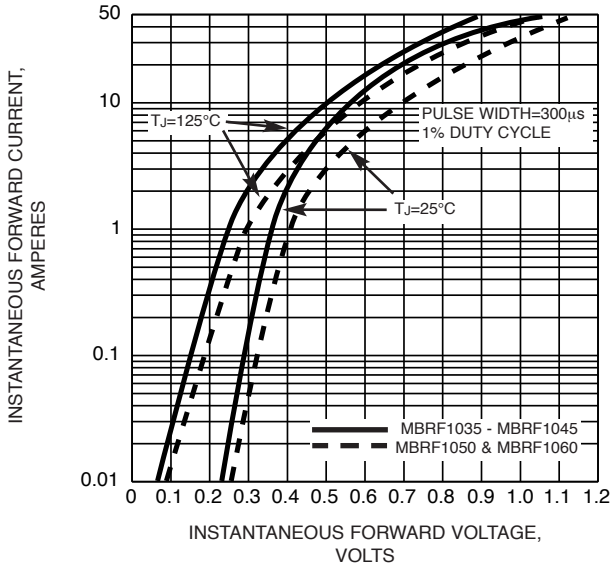


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

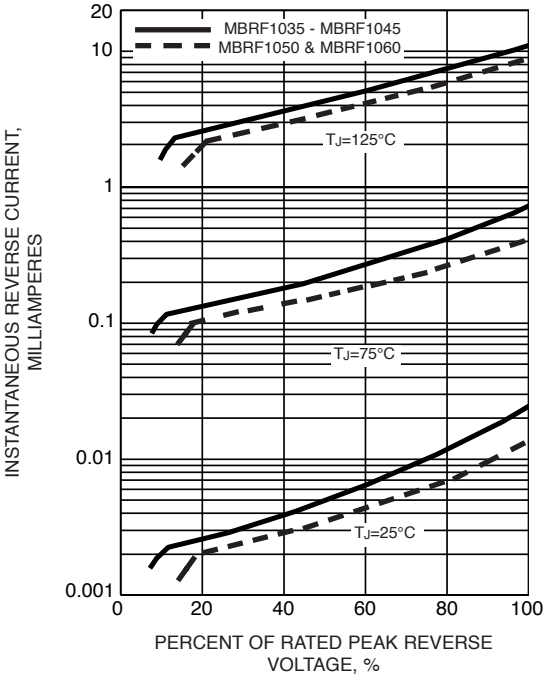


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

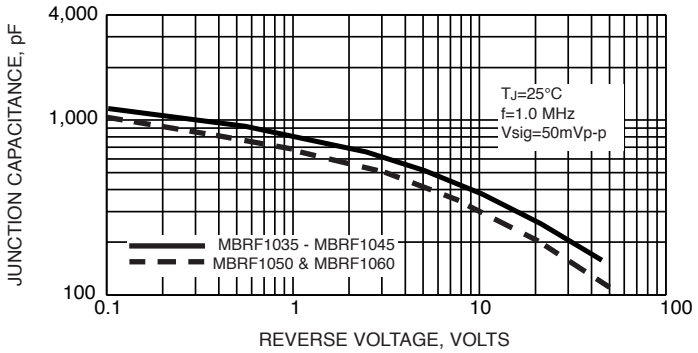


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

