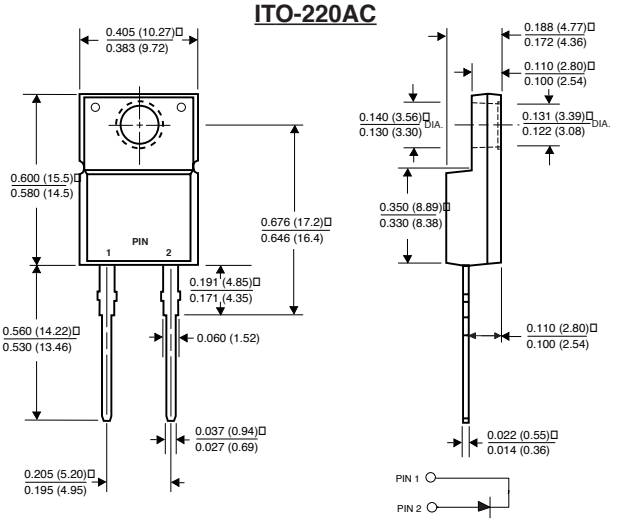
MBRF735 THRU MBRF760

SCHOTTKY ISOLATED PLASTIC RECTIFIER

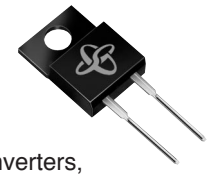
Reverse Voltage - 35 to 60 Volts **Forward Current -** 7.5 Amperes

ITO-220AC



Dimensions in inches and (millimeters)

FEATURES



- Isolated plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Metal to 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, 0.25" (6.35mm) from case

MECHANICAL DATA

Case: JEDEC ITO-220AC fully overmolded plastic body
Terminals: Lead solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Mounting Torque: 5 in. - lbs. max.
Weight: 0.08 ounces, 2.24 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBRF735	MBRF745	MBRF50	MBRF760	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)	$I_{(AV)}$	7.5				Amps
Peak repetitive forward current (square wave, 20 KHz) at T_C=105°C	I_{FRM}	15.0				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
Maximum instantaneous forward voltage at (NOTE 2) I_F=7.5A, T_C=25°C I_F=7.5A, T_C=125°C I_F=15A, T_C=25°C I_F=15A, T_C=125°C	V_F	- 0.57 0.84 0.72		0.75 0.65 - -		Volts
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 1) T_C=25°C T_C=125°C	I_R	0.1 15.0		0.5 1000		mA
Voltage rate of change (rated V_R)	dv/dt	10,000		1000		V/μs
Maximum thermal resistance, (NOTE 3)	$R_{\Theta JC}$	5.0				°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 4) 3500 (NOTE 5) 1500 (NOTE 6)				Volts

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 and/or thermal resistance from junction to ambient
(4) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset.
(5) Clip mounting (on case), where leads do overlap heatsink.
(6) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19").

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RATINGS AND CHARACTERISTIC CURVES MBRF735 THRU MBRF760

FIG. 1 - FORWARD CURRENT DERATING CURVE

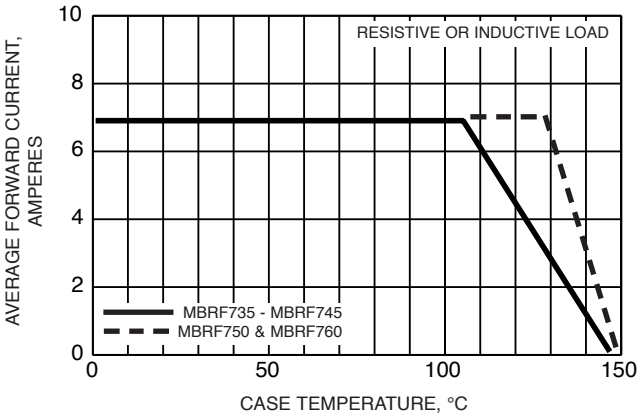


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

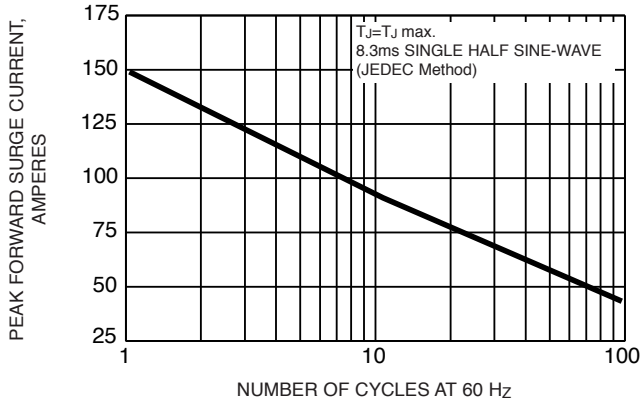


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

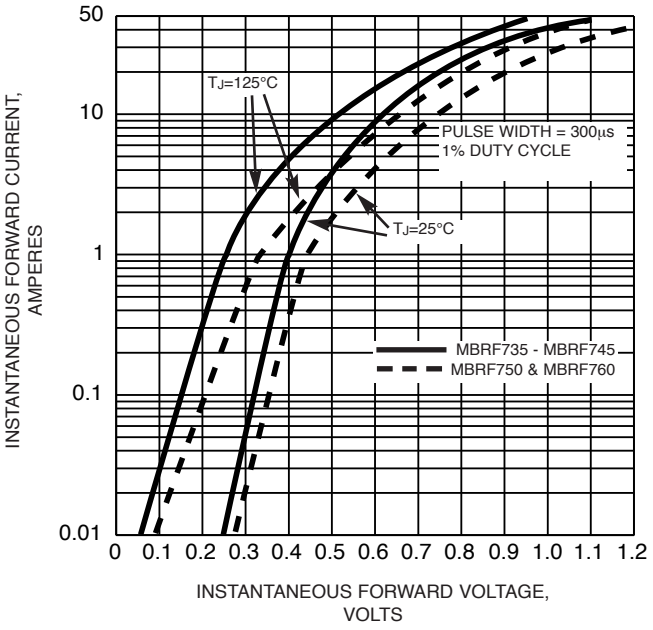


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

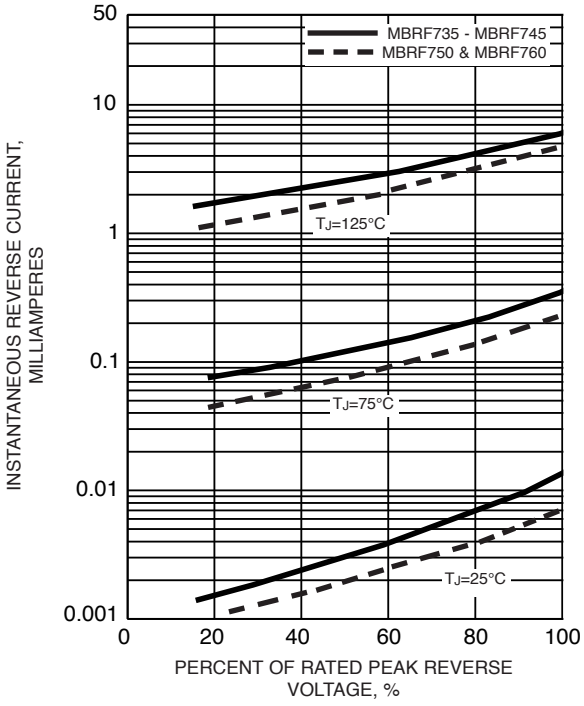


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

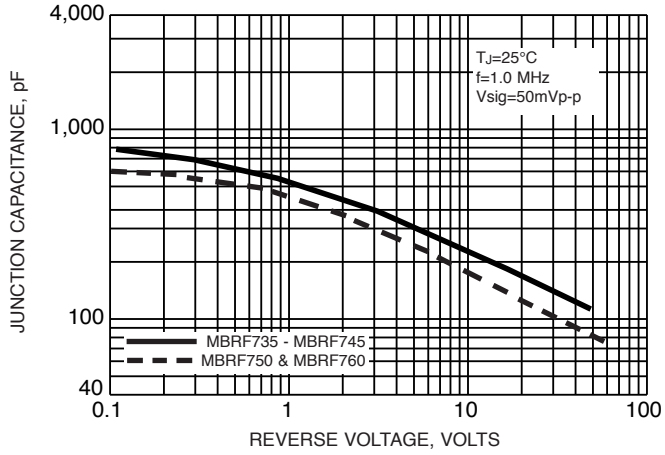
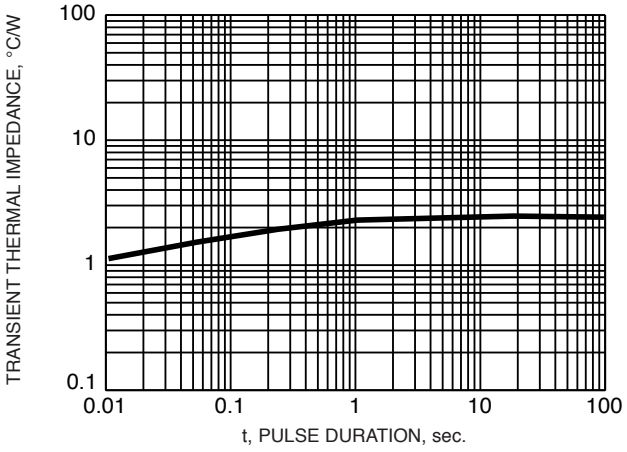


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE



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