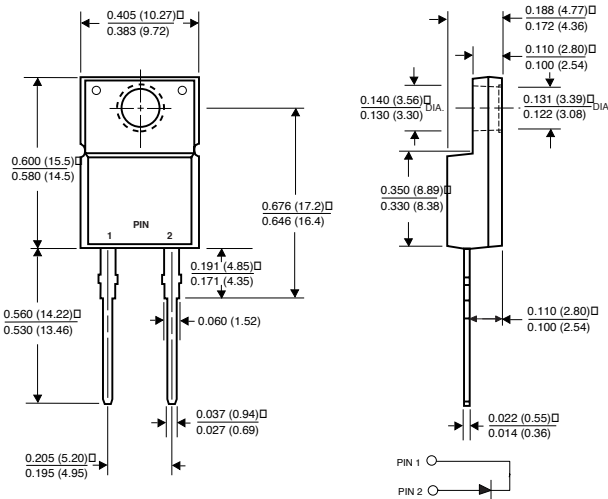


# MBRF1635 THRU MBRF1660

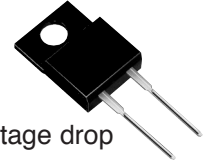
## ITO-220AC



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
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case



## MECHANICAL DATA

**Case:** ITO-220AC fully overmolded plastic body

**Terminals:** Lead solderable per MIL-STD-750, Method 2026

**Polarity:** As marked

**Mounting Position:** Any

**Weight:** 0.08 ounce, 2.24 grams

**Mounting Torque:** 5 in. - lbs. max.

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	SYMBOLS	MBRF1635	MBRF1645	MBRF1650	MBRF1660	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	35	45	50	60	Volts
Maximum working peak reverse voltage	V <sub>RWM</sub>	35	45	50	60	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	Volts
Maximum average forward rectified current at T <sub>C</sub> =110°C	I <sub(av)< sub=""></sub(av)<>	16.0				Amps
Peak repetitive forward current at T <sub>C</sub> =110°C (rated V <sub>R</sub> , sq. wave, 20 KHz)	I <sub>FRM</sub>	32.0				Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150.0				Amps
Peak repetitive reverse surge current (NOTE 1)	I <sub>RRM</sub>	1.0		0.5		Amps
Maximum instantaneous forward voltage at: (NOTE 2) I <sub>F</sub> =16A, T <sub>C</sub> =25°C I <sub>F</sub> =16A, T <sub>C</sub> =125°C	V <sub>F</sub>	0.63		0.75		Volts
		0.57		0.65		
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 2)	I <sub>R</sub>	0.2		1.0		mA
		40.0		50.0		
Voltage rate of change (rated V <sub>R</sub> )	dv/dt	10,000				V/μs
Maximum typical thermal resistance (NOTE 3)	R <sub>θJC</sub>	3.0				°C/W
Operating junction temperature range	T <sub>J</sub>	-65 to +150				°C
Storage temperature range	T <sub>STG</sub>	-65 to +175				°C
RMS Isolation voltage from terminals to heatsink with RH ≤ 30%	V <sub>ISOL</sub>	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 per leg
- (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").

# RATINGS AND CHARACTERISTIC CURVES MBRF1635 THRU MBRF1660

FIG. 1 - FORWARD CURRENT DERATING CURVE

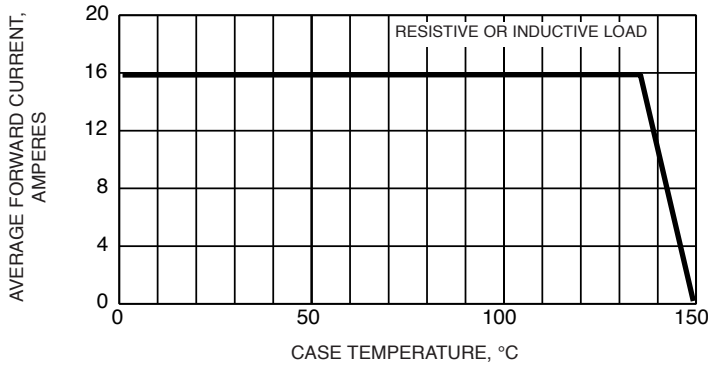


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

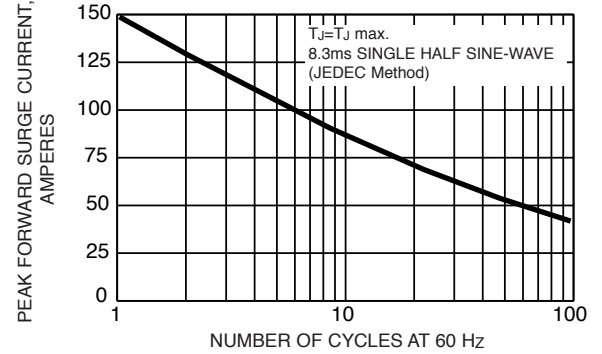


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

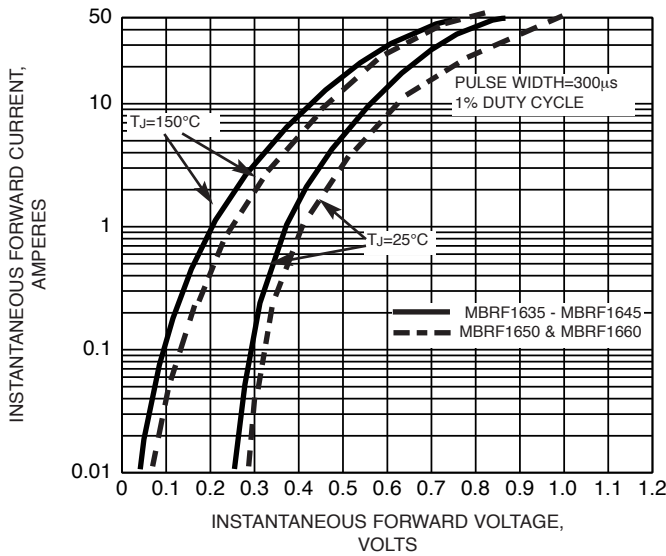


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

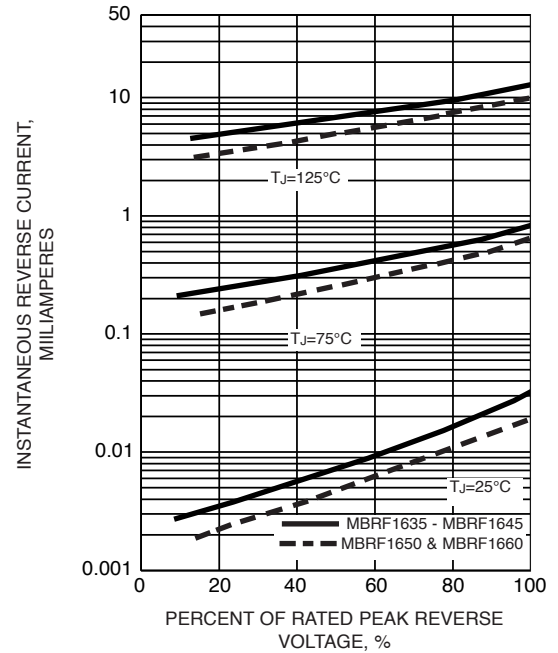


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

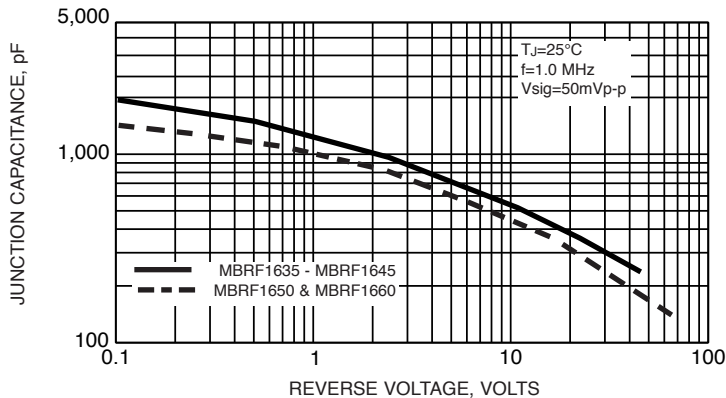


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

