

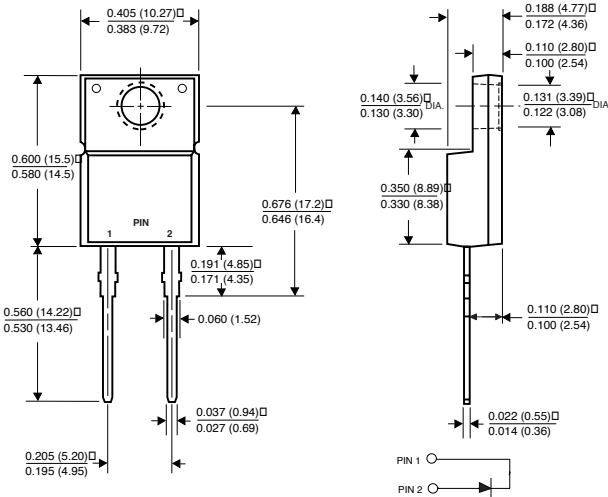
MBRF1635 THRU MBRF1660

SCHOTTKY ISOLATED PLASTIC RECTIFIER

Reverse Voltage - 35 to 60 Volts

Forward Current - 16.0 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
- ♦ 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

Ratings at 25°C ambient temperature unless otherwise specified	SYMBOLS	MBRF1635	MBRF1645	MBRF1650	MBRF1660	UNITS
Maximum repetitive peak reverse voltage	VRRM	35	45	50	60	Volts
Maximum working peak reverse voltage	VRWM	35	45	50	60	Volts
Maximum DC blocking voltage	VDC	35	45	50	60	Volts
Maximum average forward rectified current at TC=110°C	I(AV)	16.0				Amps
Peak repetitive forward current at TC=110°C (rated VR, sq. wave,20 KHz)	IFRM	32.0				Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	150.0				Amps
Peak repetitive reverse surge current (NOTE 1)	IRRM	1.0		0.5		Amps
Maximum instantaneous forward voltage at: (NOTE 2) IF=16A, TC=25°C IF=16A, TC=125°C	VF	0.63 0.57		0.75 0.65		Volts
Maximum instantaneous reverse current at rated DC blocking voltage TC= 25°C (NOTE 2) TC=125°C	IR	0.2 40.0		1.0 50.0		mA
Voltage rate of change (rated VR)	dv/dt	10,000				V/μs
Maximum typical thermal resistance (NOTE 3)	RθJC	3.0				°C/W
Operating junction temperature range	TJ	-65 to +150				°C
Storage temperature range	TSTG	-65 to +175				°C
RMS Isolation voltage from terminals to heatsink with RH ≤ 30%	VISOL	4500 (NOTE 4) 3500 (NOTE 5) 1500 (NOTE 6)				Volts

NOTES:

(1) 2.0 μs pulse width, $f=1.0\text{ KHz}$ (2) Pulse test: 300 μs 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 $\leq 4.9\text{ mm}$ (0.19").

RATINGS AND CHARACTERISTIC CURVES MBRF1635 THRU MBRF1660

FIG. 1 - FORWARD CURRENT DERATING CURVE

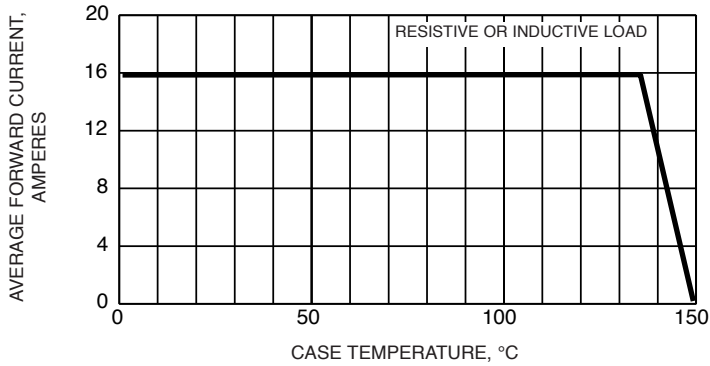


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

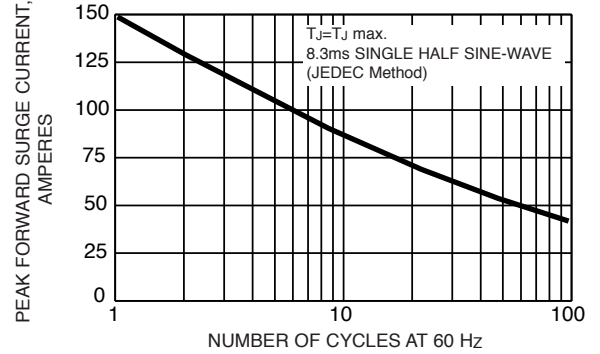


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

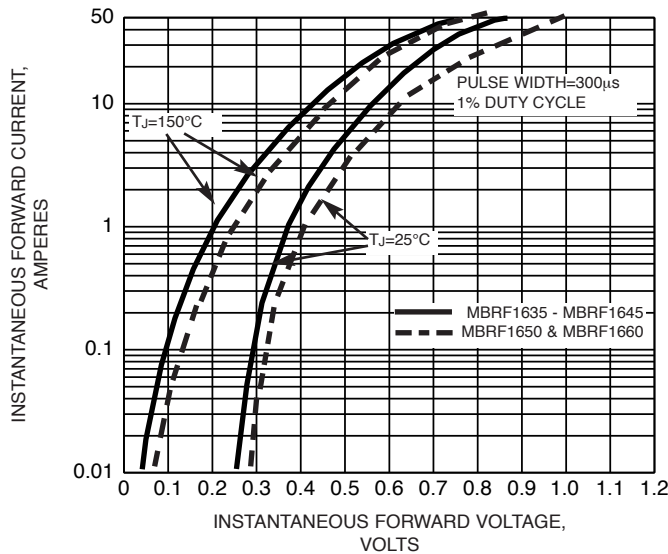


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

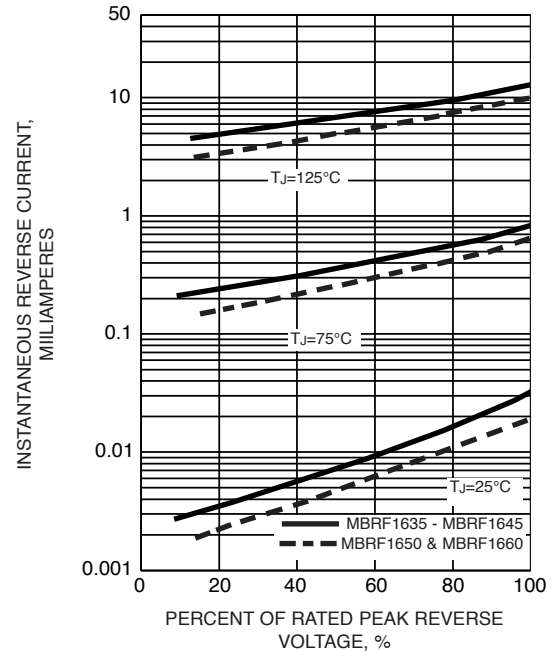


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

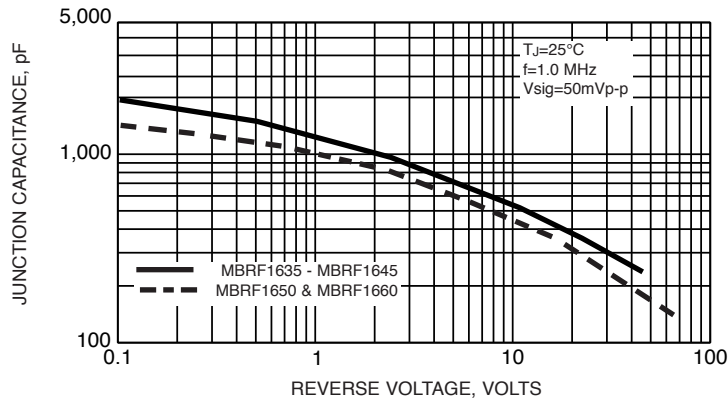


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

