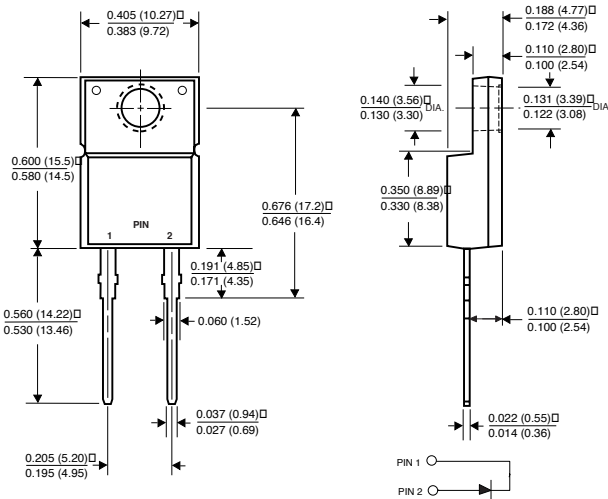


MBRF1635 THRU MBRF1660

SCHOTTKY ISOLATED PLASTIC RECTIFIER

Reverse Voltage - 35 to 60 Volts Forward Current - 16.0 Amperes

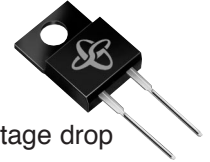
ITO-220AC



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

| | SYMBOLS | MBRF1635 | MBRF1645 | MBRF1650 | MBRF1660 | 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 at T _C =110°C | I <sub(av)< sub=""></sub(av)<> | 16.0 | | | | Amps |
| Peak repetitive forward current at T _C =110°C (rated V _R , sq. wave, 20 KHz) | I _{FRM} | 32.0 | | | | 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 =16A, T _C =25°C I _F =16A, T _C =125°C | V _F | 0.63 | | 0.75 | | Volts |
| | | 0.57 | | 0.65 | | |
| Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 2) | I _R | 0.2 | | 1.0 | | mA |
| | | 40.0 | | 50.0 | | |
| Voltage rate of change (rated V _R) | dv/dt | 10,000 | | | | V/μs |
| Maximum typical thermal resistance (NOTE 3) | R _{θJC} | 3.0 | | | | °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 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

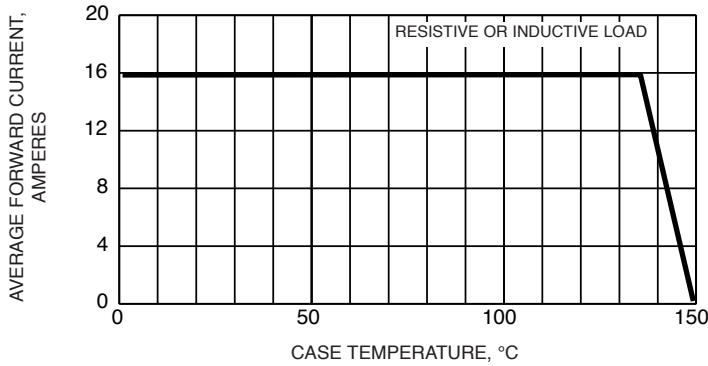


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

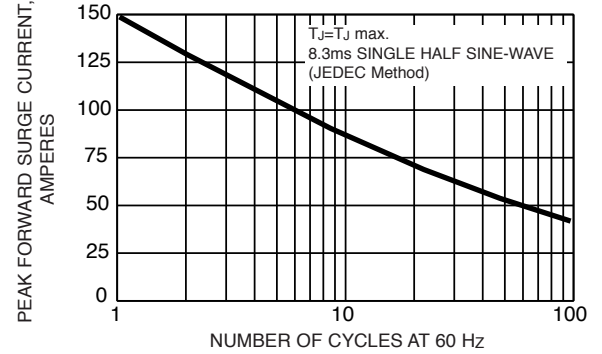


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

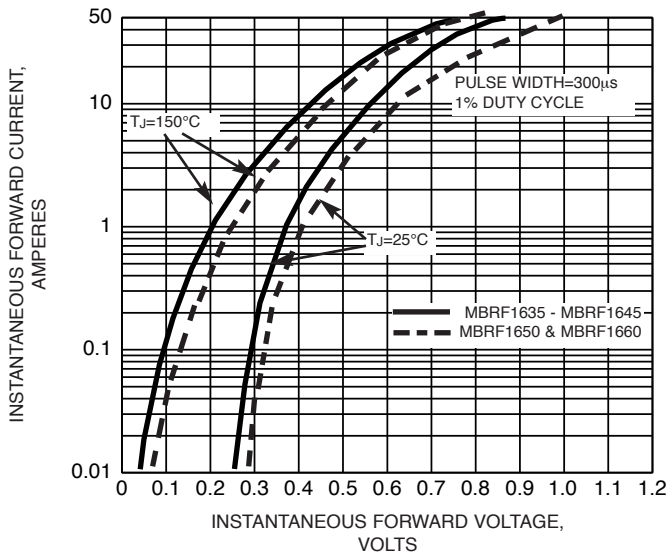


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

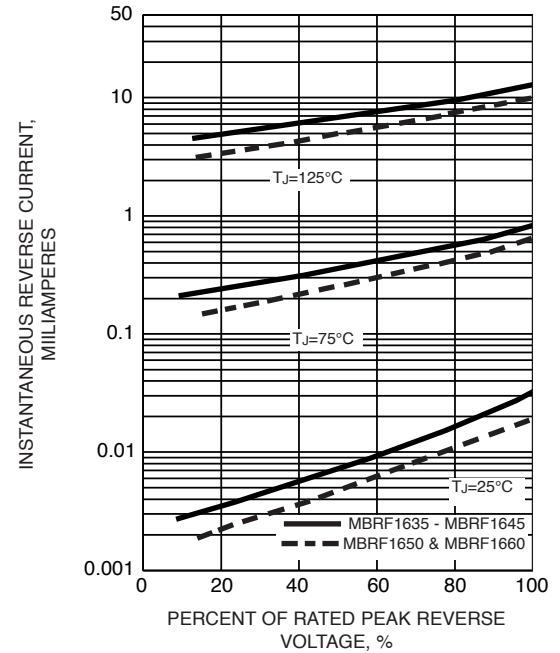


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

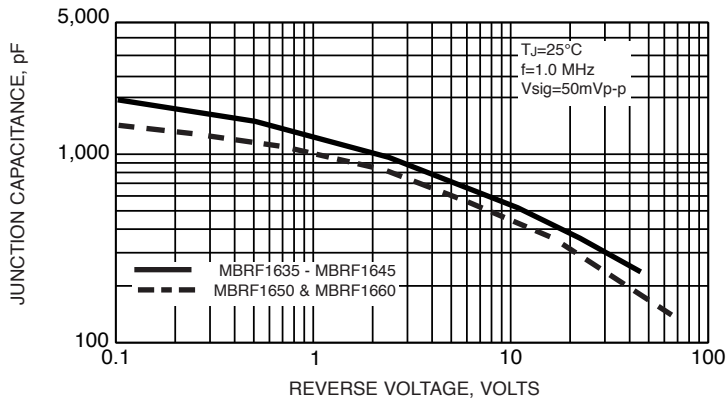


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

