

SCHOTTKY RECTIFIER

16 Amp

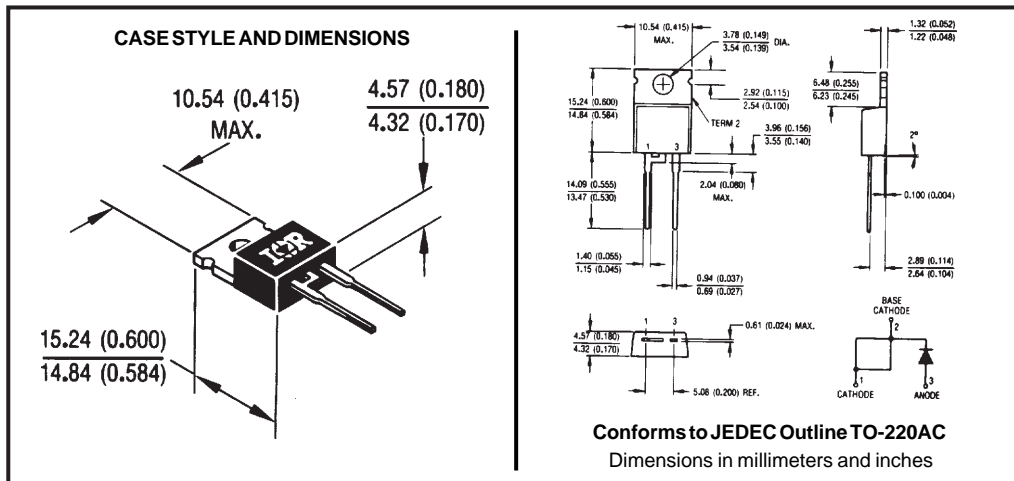
Major Ratings and Characteristics

| Characteristics | MBR16.. | Units |
|----------------------------------|------------|------------|
| $I_{F(AV)}$ Rectangular waveform | 16 | A |
| V_{RRM} | 35/45 | V |
| I_{FSM} @ $t_p=5\mu s$ sine | 1800 | A |
| V_F @ 16Apk, $T_J=125^\circ C$ | 0.57 | V |
| T_J | -65 to 150 | $^\circ C$ |

Description/Features

The MBR16.. Schottky rectifier has been optimized for low reverse leakage at high temperature. The proprietary barrier technology allows for reliable operation up to 150° C junction temperature. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

- 150° C T_J operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability



Voltage Ratings

| Part number | MBR1635 | MBR1645 |
|---|---------|---------|
| V_R Max. DC Reverse Voltage (V) | 35 | 45 |
| V_{RWM} Max. Working Peak Reverse Voltage (V) | | |

Absolute Maximum Ratings

| Parameters | MBR16.. | Units | Conditions |
|---|---------|-------|--|
| $I_{F(AV)}$ Max. Average Forward Current | 16 | A | @ $T_C = 125^\circ\text{C}$, (Rated V_R) |
| I_{FSM} Non-Repetitive Peak Surge Current | 1800 | A | 5 μs Sine or 3 μs Rect. pulse Following any rated load condition and with rated V_{RWM} applied |
| | 150 | | Surge applied at rated load condition half wave single phase 60Hz |
| I_{RRM} Peak Repetitive Reverse Surge Current | 1.0 | A | 2.0 μsec 1.0 KHz |

Electrical Specifications

| Parameters | MBR16.. | Units | Conditions |
|--|---------|------------------|---|
| V_{FM} Max. Forward Voltage Drop (1) | 0.63 | V | @ 16A $T_J = 25^\circ\text{C}$ |
| | 0.57 | V | @ 16A $T_J = 125^\circ\text{C}$ |
| I_{RM} Max. Instantaneous Reverse Current (1) | 0.2 | mA | $T_J = 25^\circ\text{C}$ |
| | 40 | mA | $T_J = 125^\circ\text{C}$ Rated DC voltage |
| C_T Max. Junction Capacitance | 1400 | pF | $V_R = 5V_{DC}$, (test signal range 100Khz to 1Mhz) 25°C |
| L_S Typical Series Inductance | 8.0 | nH | Measured from top of terminal to mounting plane |
| dv/dt Max. Voltage Rate of Change (Rated V_R) | 1000 | V/ μs | |

(1) Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications

| Parameters | MBR16.. | Units | Conditions |
|---|-------------|---------------------------|--------------------------------------|
| T_J Max. Junction Temperature Range | -65 to 150 | $^\circ\text{C}$ | |
| T_{stg} Max. Storage Temperature Range | -65 to 175 | $^\circ\text{C}$ | |
| R_{thJC} Max. Thermal Resistance Junction to Case | 1.50 | $^\circ\text{C}/\text{W}$ | DC operation |
| R_{thCS} Typical Thermal Resistance, Case to Heatsink | 0.50 | $^\circ\text{C}/\text{W}$ | Mounting surface, smooth and greased |
| wt Approximate Weight | 2(0.07) | g(oz.) | |
| T Mounting Torque | Min. 6(5) | Kg-cm (lbf-in) | |
| | Max. 12(10) | | |
| Case Style | TO-220AC | | JEDEC |

* For Additional Informations and Graphs, Please See the 18TQ Series