

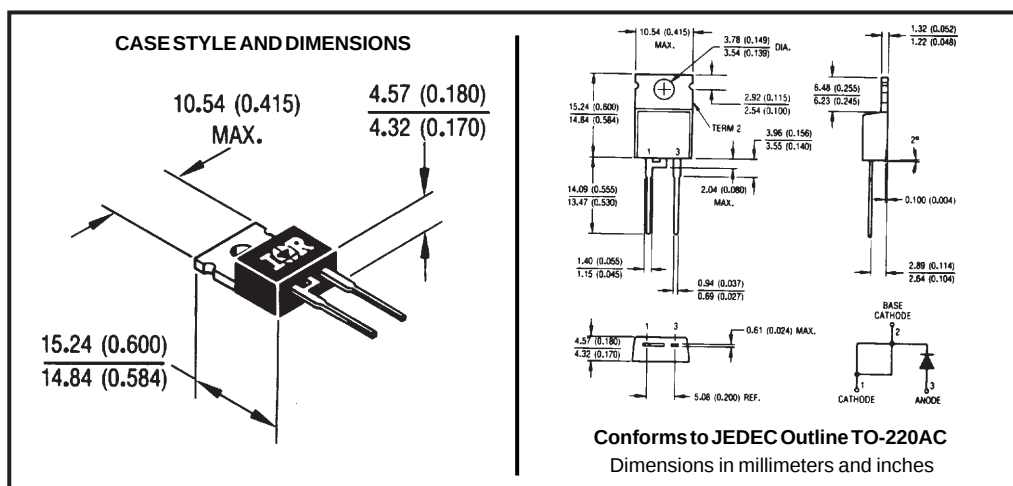
Major Ratings and Characteristics

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 @ 16 Apk, $T_J = 125^\circ C$	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 $150^\circ C$ junction temperature. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

- $150^\circ C$ 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_{RRM} 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_{RRM} 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	$^\circ\text{C/W}$	DC operation
R_{thCS} Typical Thermal Resistance, Case to Heatsink	0.50	$^\circ\text{C/W}$	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