

**SCHOTTKY RECTIFIER**

**7.5 Amp**

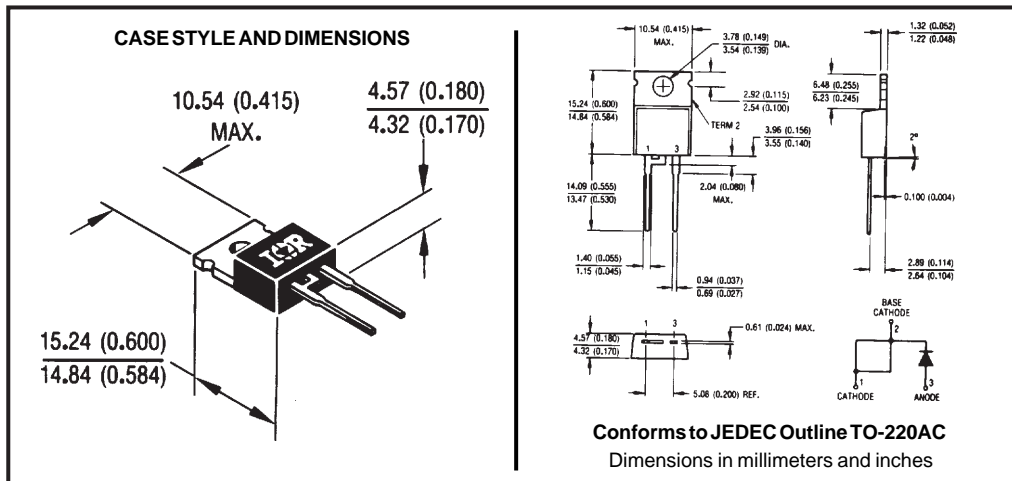
**Major Ratings and Characteristics**

Characteristics	MBR7..	Units
$I_{F(AV)}$ Rectangular waveform	7.5	A
$V_{RRM}$	35/45	V
$I_{FSM}$ @ $t_p=5\mu s$ sine	690	A
$V_F$ @ 7.5 Apk, $T_J=125^\circ C$	0.57	V
$T_J$	-65 to 150	$^\circ C$

**Description/Features**

The MBR7.. 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	MBR735	MBR745
V <sub>R</sub> Max. DC Reverse Voltage (V)	35	45
V <sub>RWM</sub> Max. Working Peak Reverse Voltage (V)		

Absolute Maximum Ratings

Parameters	MBR7..	Units	Conditions
I <sub>F(AV)</sub> Max. Average Forward Current	7.5	A	@ T <sub>C</sub> = 120 °C, (Rated V <sub>R</sub> )
I <sub>FSM</sub> Non-Repetitive Peak Surge Current	690	A	5µs Sine or 3µs Rect. pulse Following any rated load condition and with rated V <sub>RWM</sub> applied
	150		Surge applied at rated load condition half wave single phase 60Hz
I <sub>RRM</sub> Peak Repetitive Reverse Surge Current	1.0	A	2.0 µsec 1.0 KHz

Electrical Specifications

Parameters	MBR7..	Units	Conditions
V <sub>FM</sub> Max. Forward Voltage Drop (1)	0.84	V	@ 15A T <sub>J</sub> = 25 °C
	0.57	V	@ 7.5A T <sub>J</sub> = 125 °C
	0.72	V	@ 15A T <sub>J</sub> = 125 °C
I <sub>RM</sub> Max. Instantaneous Reverse Current (1)	0.1	mA	T <sub>J</sub> = 25 °C
	15	mA	T <sub>J</sub> = 125 °C
C <sub>T</sub> Max. Junction Capacitance	400	pF	V <sub>R</sub> = 5V <sub>DC</sub> , (test signal range 100Khz to 1Mhz) 25°C
L <sub>S</sub> Typical Series Inductance	8.0	nH	Measured from top of terminal to mounting plane
dv/dt Max. Voltage Rate of Change (Rated V <sub>R</sub> )	1000	V/ µs	

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

Thermal-Mechanical Specifications

Parameters	MBR7..	Units	Conditions
T <sub>J</sub> Max. Junction Temperature Range	-65 to 150	°C	
T <sub>stg</sub> Max. Storage Temperature Range	-65 to 175	°C	
R <sub>thJC</sub> Max. Thermal Resistance Junction to Case	3.0	°C/W	DC operation
R <sub>thCS</sub> Typical Thermal Resistance, Case to Heatsink	0.50	°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 6TQ Series