

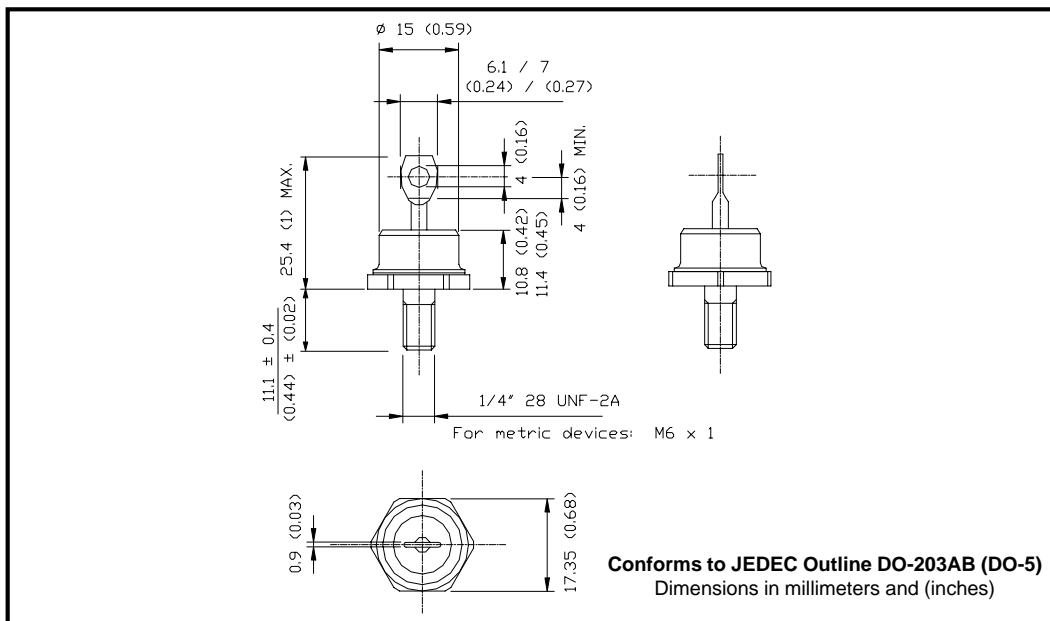
Major Ratings and Characteristics

Characteristics	MBR75..	Units
$I_{F(AV)}$ Rectangular waveform	70	A
V_{RRM}	35/45	V
I_{FSM} @ 60Hz	1000	A
V_F @ 60 Apk, $T_J = 125^\circ\text{C}$	0.60	V
T_J	-65 to 150	$^\circ\text{C}$

Description/ Features

The MBR75.. 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
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Hermetic packaging



Voltage Ratings

Part number	MBR7535	MBR7545
V_R Max. DC Reverse Voltage (V)	35	45
V_{RWM} Max. Working Peak Reverse Voltage (V)		

Absolute Maximum Ratings

Parameters	MBR75..	Units	Conditions	
$I_{F(AV)}$ Max. Average Forward Current	70	A	@ $T_C = 90^\circ\text{C}$, rectangular wave form	
I_{FSM} Max. Peak One Cycle Non-Repetitive Surge Current	9000	A	5 μs Sine or 3 μs Rect. pulse	Following any rated load condition and with rated V_{RWM} applied
	1000		Surge applied at rated load condition halfwave single phase 60Hz	

Electrical Specifications

Parameters	MBR75..	Units	Conditions	
V_{FM} Max. Forward Voltage Drop(1)	0.60	V	@ 60A	$T_J = 125^\circ\text{C}$
	0.90	V	@ 220A	
I_{RM} Max. Instantaneous Reverse Current (1)	150	mA	$T_J = 125^\circ\text{C}$	Rated DC voltage
C_T Max. Junction Capacitance	4000	pF	$V_R = 5V_{DC}$, (test signal range 100Khz to 1Mhz) 25°C	
L_S Typical Series Inductance	7.5	nH	Measured from top of terminal to mounting plane	
dv/dt Max. Voltage Rate of Change (Rated V_R)	10000	V/ μs		

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

Thermal-Mechanical Specifications

Parameters	MBR75..	Units	Conditions	
T_J Max. Junction Temperature Range	-65 to 150	$^\circ\text{C}$		
T_{stg} Max. Storage Temperature Range	-65 to 150	$^\circ\text{C}$		
R_{thJC} Max. Thermal Resistance Junction to Case	0.83	$^\circ\text{C/W}$	DC operation	
R_{thCS} Typical Thermal Resistance, Case to Heatsink	0.25	$^\circ\text{C/W}$	Mounting surface, smooth and greased	
wt Approximate Weight	15 (0.53)	g(oz.)		
T Mounting Torque	Min.	23 (20)	Kg-cm (lbf-in)	
	Max.	46 (40)		
Case Style	DO-203AB(DO-5)	JEDEC		

* For Additional Informations and Graphs, Please See the 75HQ Series

Data and specifications subject to change without notice.
This product has been designed for Industrial Level.
Qualification Standards can be found on IR's Web site.

International
IOR Rectifier

IR WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, USA Tel: (310) 252-7105
TAC Fax: (310) 252-7309
Visit us at www.irf.com for sales contact information. 11/02