

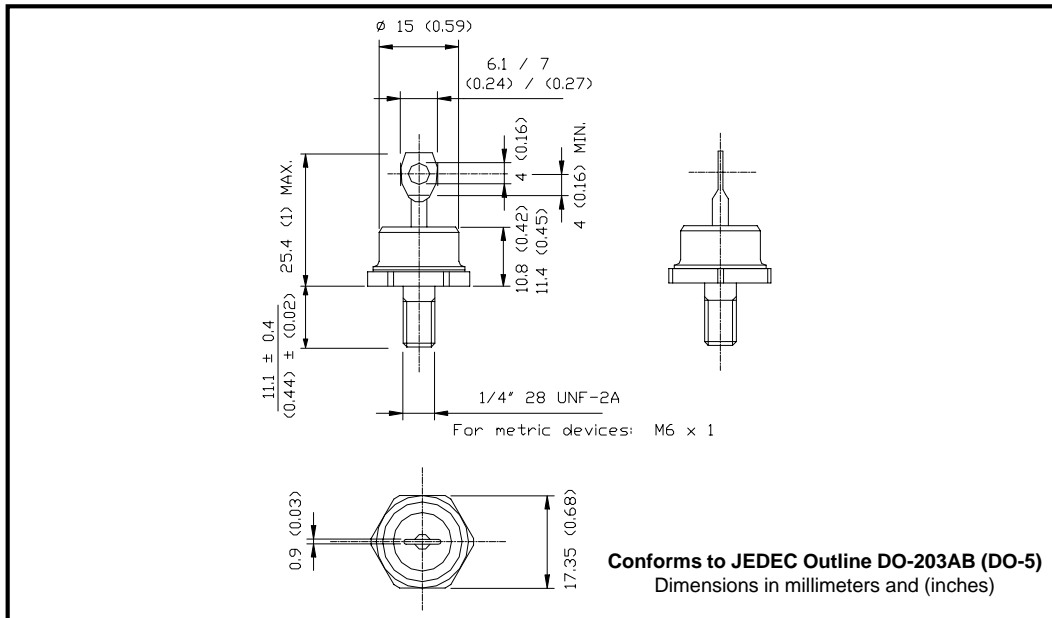
**Major Ratings and Characteristics**

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 $\mu\text{s}$ Sine or 3 $\mu\text{s}$ Rect. pulse	Following any rated load condition and with rated $V_{RRM}$ 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) $25^\circ\text{C}$	
$L_S$ 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/ $\mu\text{s}$		

(1) Pulse Width < 300 $\mu\text{s}$ , 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

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