

MBR735 - MBR760

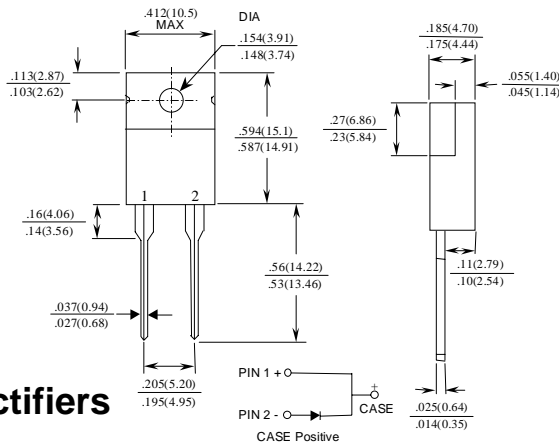
MBR735 - MBR760

Features

- Low power loss, high efficiency.
- High surge capacity.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- Metal silicon junction, majority carrier conduction.
- High current capacity, low forward voltage drop.
- Guard ring for over voltage protection.



TO-220AC



7.5 Ampere Schottky Barrier Rectifiers

Absolute Maximum Ratings*

$T_A = 25^\circ\text{C}$ unless otherwise noted

Dimensions are in: inches (mm)

Symbol	Parameter	Value	Units
I_O	Average Rectified Current	7.5	A
$i_{f(\text{repetitive})}$	Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 KHz) @ $T_A = 105^\circ\text{C}$	15	A
$i_{f(\text{surge})}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	150	A
P_D	Total Device Dissipation Derate above 25°C	2.0 16.6	W mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	60	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	3.0	$^\circ\text{C}/\text{W}$
T_{stg}	Storage Temperature Range	-65 to +175	$^\circ\text{C}$
T_J	Operating Junction Temperature	-65 to +150	$^\circ\text{C}$

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

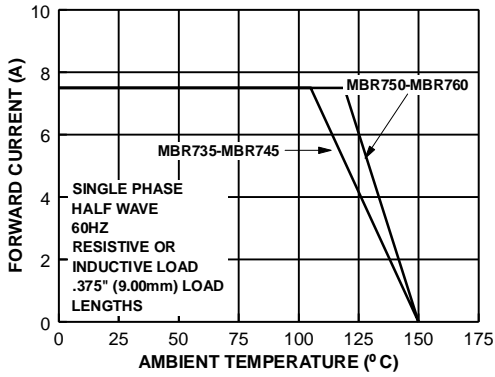
Electrical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

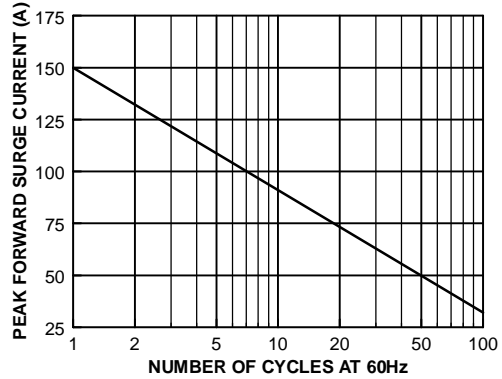
Parameter	Device				Units
	735	745	750	760	
Peak Repetitive Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
DC Reverse Voltage (Rated V_R)	35	45	50	60	V
Voltage Rate of Change (Rated V_R)	10,000				V/ μs
Maximum Reverse Current @ rated V_R $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	0.1 15		0.5 50		mA mA
Maximum Forward Voltage $I_F = 7.5 \text{ A}, T_C = 25^\circ\text{C}$ $I_F = 7.5 \text{ A}, T_C = 125^\circ\text{C}$ $I_F = 15 \text{ A}, T_C = 25^\circ\text{C}$ $I_F = 15 \text{ A}, T_C = 125^\circ\text{C}$	- 0.57 0.84 0.72		0.75 0.65 - -		V V V V
Peak Repetitive Reverse Surge Current 2.0 μs Pulse Width, $f = 1.0 \text{ KHz}$	1.0		0.5		A

Typical Characteristics

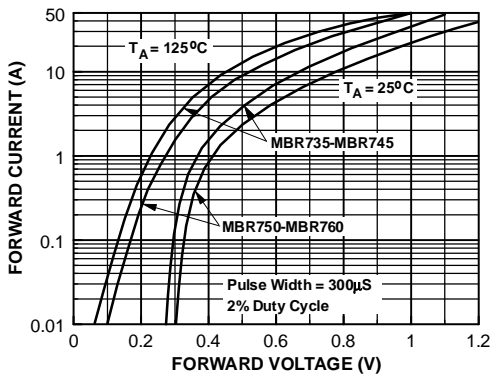
Forward Current Derating Curve



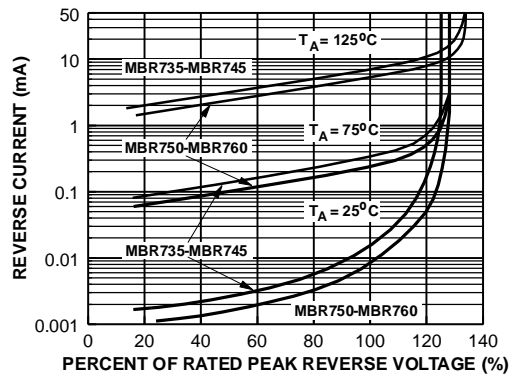
Non-Repetitive Surge Current



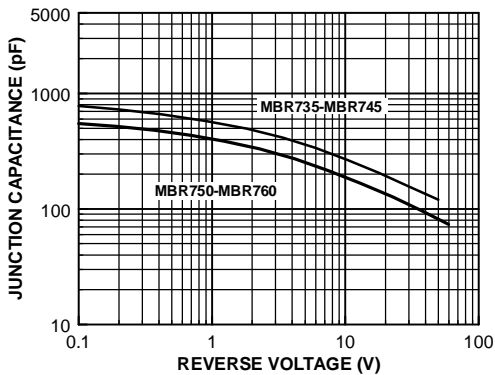
Forward Characteristics



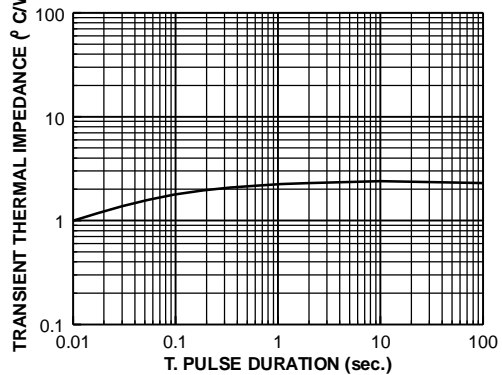
Reverse Characteristics



Typical Junction Capacitance



Transient Thermal Impedance



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FAST®	SuperSOT™-3
FASTr™	SuperSOT™-6
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