

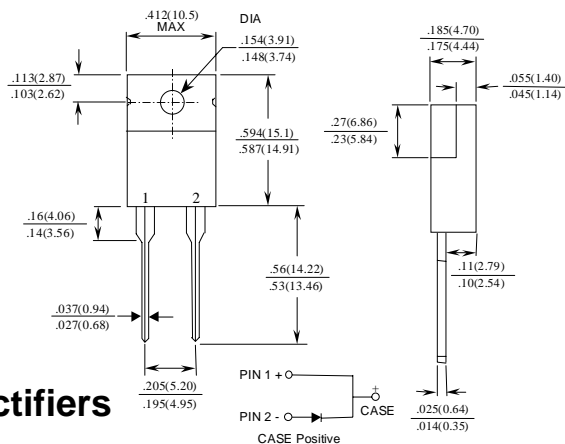
## MBR735 - MBR760

### 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 $25^\circ\text{C}$	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.

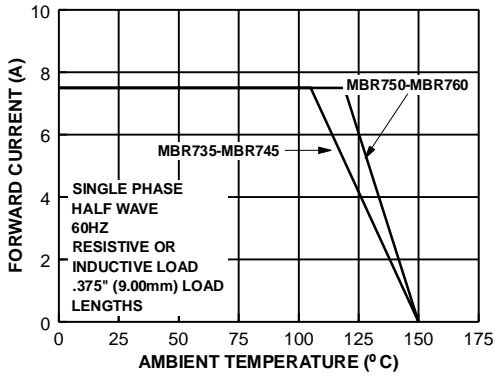
#### Electrical Characteristics

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

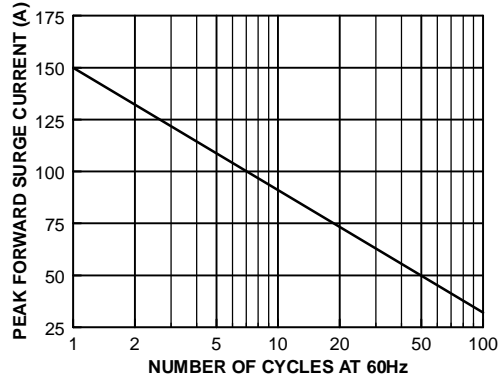
Parameter	Device				Units
	735	745	750	760	
Peak Repetitive Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
DC Reverse Voltage (Rated $V_R$ )	35	45	50	60	V
Voltage Rate of Change (Rated $V_R$ )	10,000				V/ $\mu\text{s}$
Maximum Reverse Current @ rated $V_R$ $T_A = 25^\circ\text{C}$ $T_A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

Typical Characteristics

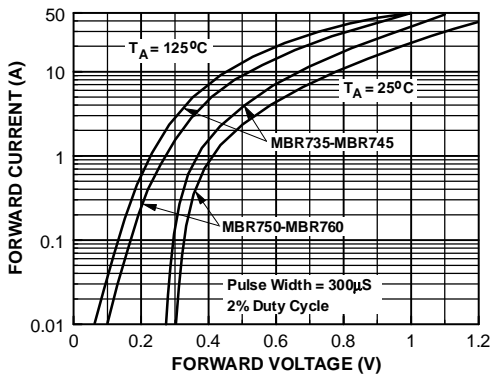
Forward Current Derating Curve



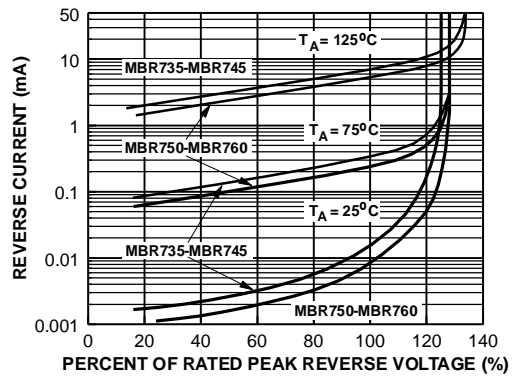
Non-Repetitive Surge Current



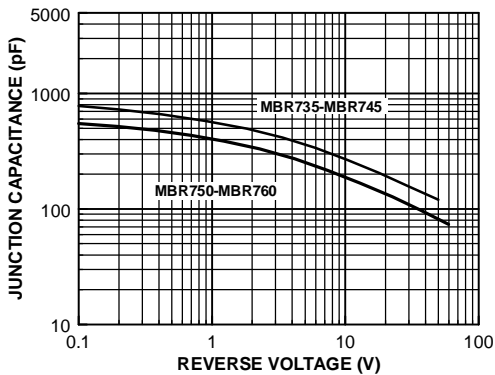
Forward Characteristics



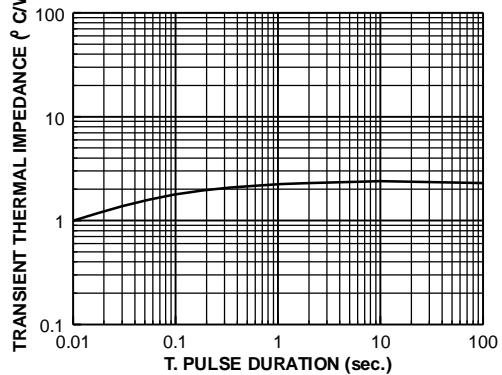
Reverse Characteristics



Typical Junction Capacitance



Transient Thermal Impedance



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