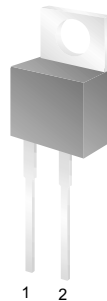


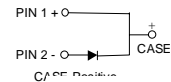
# MBR735 - MBR760

## 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



## Schottky Rectifiers

### Absolute Maximum Ratings\*

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

| Symbol      | Parameter   | Value       |     |     |     | Units            |
|-------------|---|-------------|-----|-----|-----|------------------|
|             |   | 735         | 745 | 750 | 760 |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage  | 35          | 45  | 50  | 60  | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current   | 7.5         |     |     |     | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave | 150         |     |     |     | A                |
| $T_{stg}$   | 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.

## Thermal Characteristics

| Symbol          | Parameter                               | Value | Units              |
|-----------------|---|-------|--------------------|
| $P_D$           | Power Dissipation                       | 2.0   | W                  |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 60    | $^\circ\text{C/W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead    | 3.0   | $^\circ\text{C/W}$ |

## Electrical Characteristics

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

| Symbol    | Parameter   | Device |     |      |     | Units |
|-----------|---|--------|-----|------|-----|-------|
|           |   | 735    | 745 | 750  | 760 |       |
| $V_F$     | Forward Voltage $I_F = 7.5\text{ A}, T_C = 25^\circ\text{C}$                      | -      |     | 0.75 |     | V     |
|           | $I_F = 7.5\text{ A}, T_C = 125^\circ\text{C}$                                     | 0.57   |     | 0.65 |     | V     |
|           | $I_F = 15\text{ A}, T_C = 25^\circ\text{C}$                                       | 0.84   |     | -    |     | V     |
|           | $I_F = 15\text{ A}, T_C = 125^\circ\text{C}$                                      | 0.72   |     | -    |     | V     |
| $I_R$     | Reverse Current @ rated $V_R$ $T_A = 25^\circ\text{C}$                            | 0.1    |     | 0.5  |     | mA    |
|           | $T_A = 125^\circ\text{C}$   | 15     |     | 50   |     | mA    |
| $I_{RRM}$ | Peak Repetitive Reverse Surge Current<br>2.0 us Pulse Width, $f = 1.0\text{ KHz}$ | 1.0    |     | 0.5  |     | A     |

Typical Characteristics

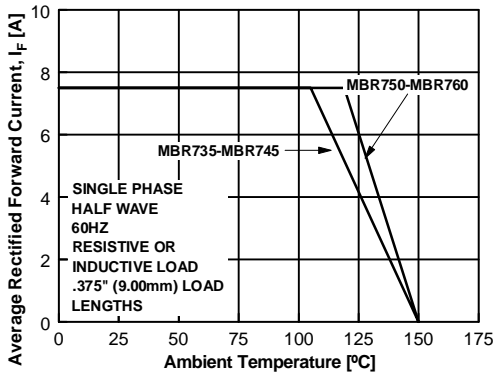


Figure 1. Forward Current Derating Curve

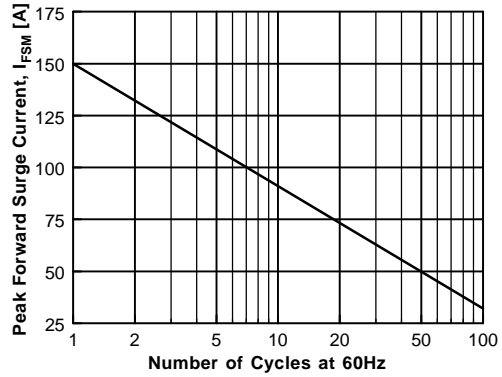


Figure 2. Non-Repetitive Surge Current

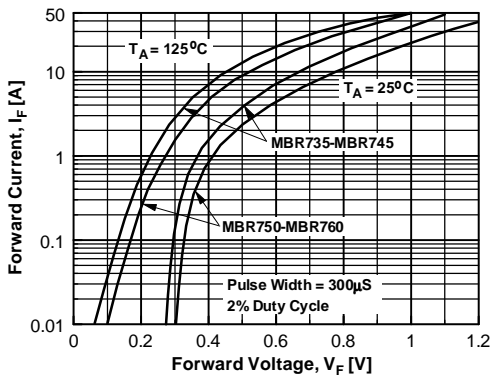


Figure 3. Forward Voltage Characteristics

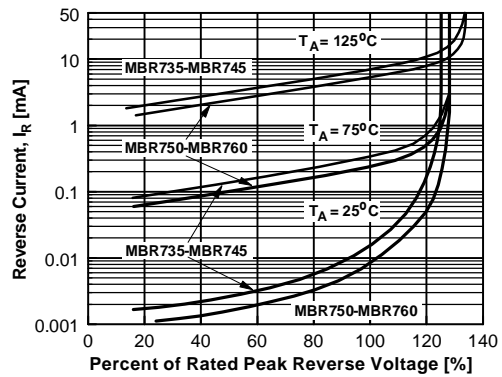


Figure 4. Reverse Current vs Reverse Voltage

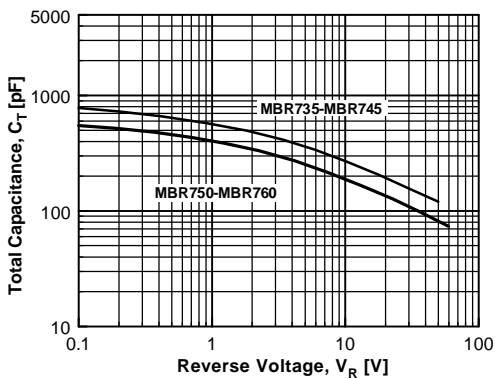


Figure 5. Total Capacitance

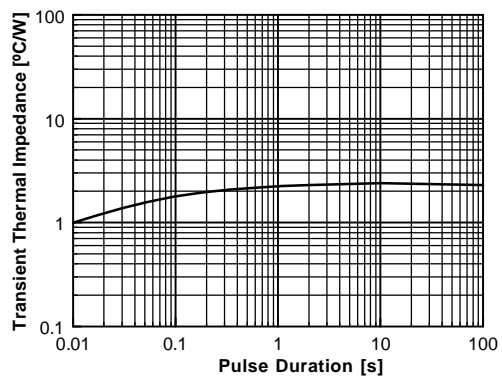


Figure 6. Thermal Impedance Characteristics

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