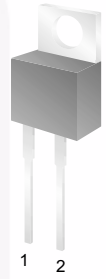
FAIRCHILD SEMICONDUCTOR®

June 2012

# MBR1035 - MBR1060
# Schottky Rectifiers

## 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**


## Absolute Maximum Ratings* $T_a$ = 25℃ unless otherwise noted

| Symbol | Parameter | Value | | | | Units |
|---|---|---|---|---|---|---|
| | | 1035 | 1045 | 1050 | 1060 | |
| $V_{RRM}$ | Maximum Repetitive Reverse Voltage | 35 | 45 | 50 | 60 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | 10 | | | | A |
| $I_{FSM}$ | Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave | 150 | | | | A |
| $T_{stg}$ | Storage Temperature Range | -65 to +175 | | | | °C |
| $T_J$ | Operating Junction Temperature | -65 to +150 | | | | °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 | °C/W |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead | 2.0 | °C/W |

## Electrical Characteritics $T_a$ = 25℃ unless otherwise noted

| Symbol | Parameter | Value | | | | Units |
|---|---|---|---|---|---|---|
| | | 1035 | 1045 | 1050 | 1060 | |
| $V_F$ | Forward Voltage $I_F$ = 10A, $T_C$ = 25°C | - | | 0.80 | | V |
| | $I_F$ = 10A, $T_C$ = 125°C | 0.57 | | 0.70 | | V |
| | $I_F$ = 20A, $T_C$ = 25°C | 0.84 | | 0.95 | | V |
| | $I_F$ = 20A, $T_C$ = 125°C | 0.72 | | 0.85 | | V |
| $I_R$ | Reverse Current @ rated $V_R$ $T_C$ = 25°C | 0.1 | | | | mA |
| | $T_C$ = 125°C | 15 | | | | mA |
| $I_{RRM}$ | Peak Repetitive Reverse Surge Current 2.0μs Pulse Width, f = 1.0 KHz | 1.0 | | 0.5 | | A |

## Typical Performance Characteristics

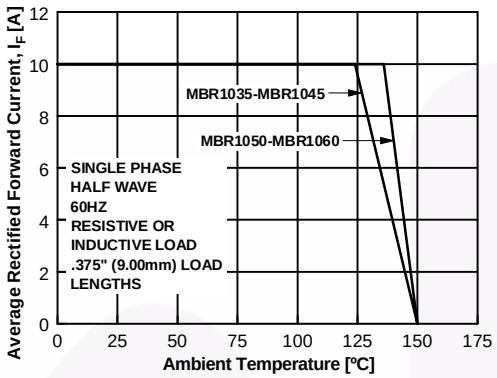



**Figure 1. Forward Current Derating Curve**

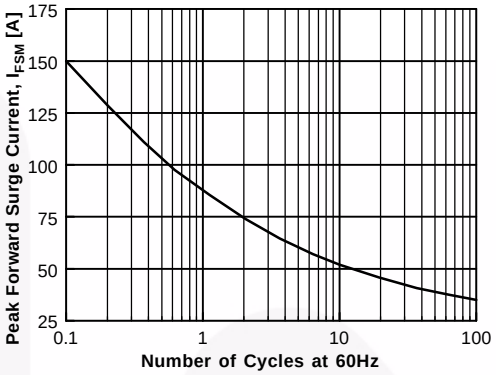



**Figure 2. Non-Repetitive Surge Current**

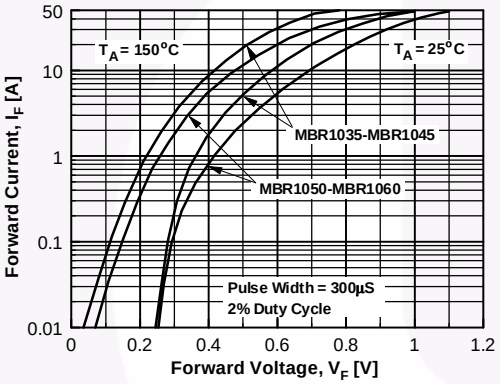



**Figure 3. Forward Voltage Characteristics**

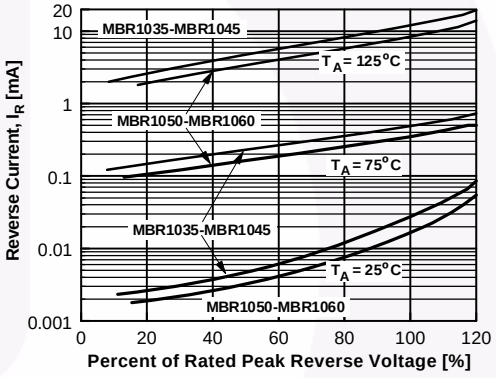



**Figure 4. Reverse Current vs Reverse Voltage**

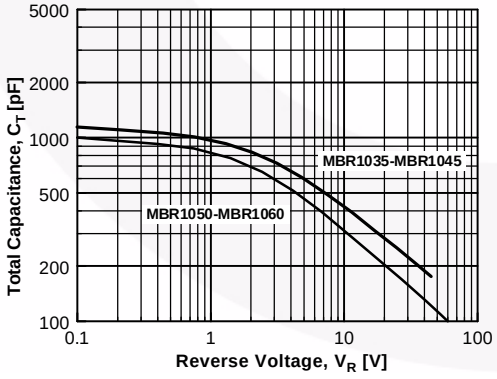



**Figure 5. Total Capacitance**

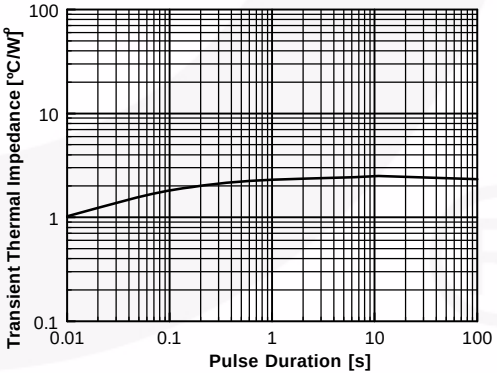



**Figure 6. Thermal Impedance Characteristics**

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|---|---|---|
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