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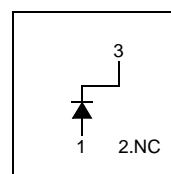
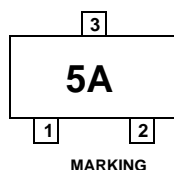
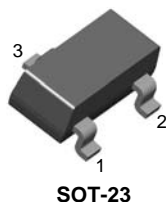
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MMBD6050

Small Signal Diode



Connection Diagram



Absolute Maximum Ratings * $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-------------|--|-------------|------------------|
| V_{RRM} | Maximum Repetitive Reverse Voltage | 70 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | 200 | mA |
| I_{FSM} | Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second Pulse Width = 1.0 microsecond | 1.0 2.0 | A A |
| T_{STG} | Storage Temperature Range | -55 to +150 | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature | -55 to +150 | $^\circ\text{C}$ |

* These ratings are limiting values above which the serviceability of the diode may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

| Symbol | Parameter | Value | Units |
|-----------------|---|-------|--------------------|
| P_D | Power Dissipation | 350 | mW |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 357 | $^\circ\text{C/W}$ |

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

| Symbol | Parameter | Test Conditions | Min. | Max. | Units |
|----------|-----------------------|--|--------------|------------|-------|
| V_R | Breakdown Voltage | $I_R = 100\mu\text{A}$ | 70 | | V |
| V_F | Forward Voltage | $I_F = 1\text{mA}$ $I_F = 100\text{mA}$ | 0.55 0.85 | 0.7 1.1 | V |
| I_R | Reverse Leakage | $V_R = 50\text{V}$ | | 100 | nA |
| C_T | Total Capacitance | $V_R = 0\text{V}$, $f = 1.0\text{MHz}$ | | 2.5 | pF |
| t_{rr} | Reverse Recovery Time | $I_F = I_R = 10\text{mA}$, $I_{RR} = 1.0\text{mA}$, $R_L = 100\Omega$ | | 4.0 | ns |

Typical Performance Characteristics

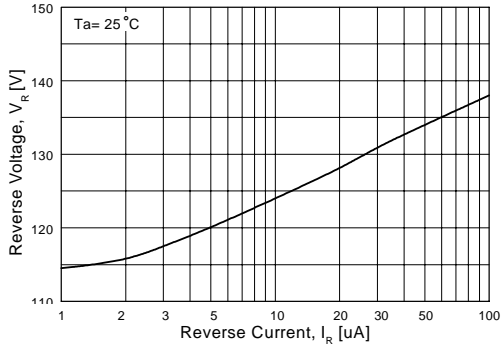


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100uA

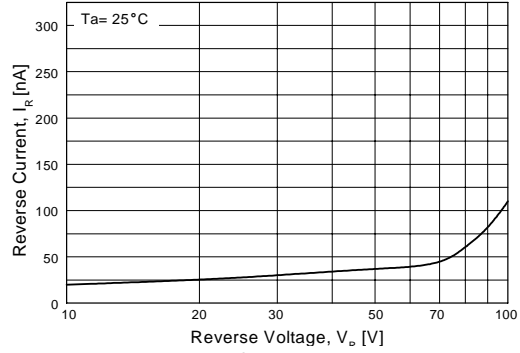


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

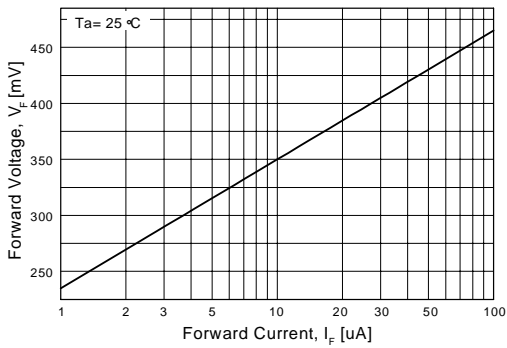


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 uA

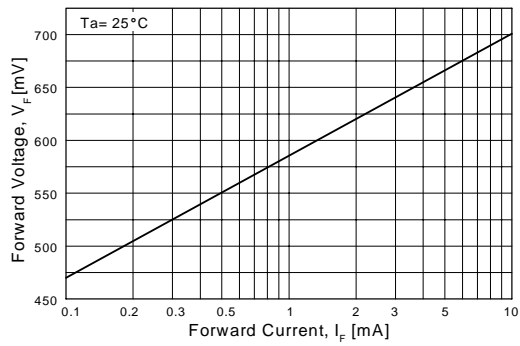


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

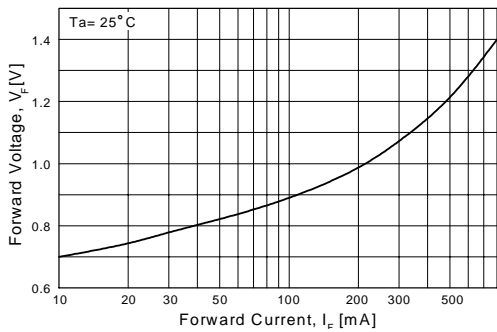


Figure 5. Forward Voltage vs Forward Current
VF - 10 - 800 mA

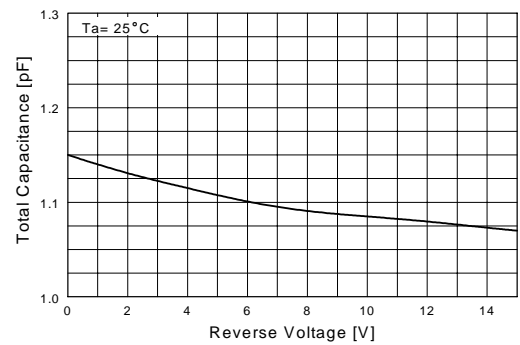


Figure 6. Total Capacitance vs Reverse Voltage

Typical Performance Characteristics (Continued)

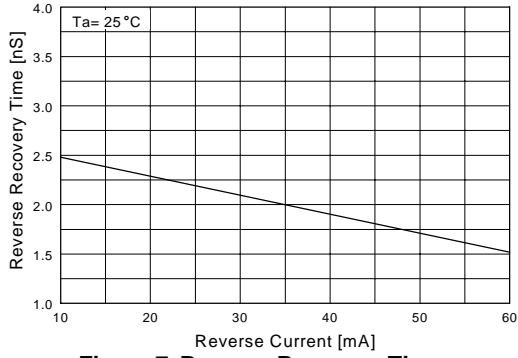


Figure 7. Reverse Recovery Time vs Reverse Current
TRR - IR 10 mA vs 60 mA

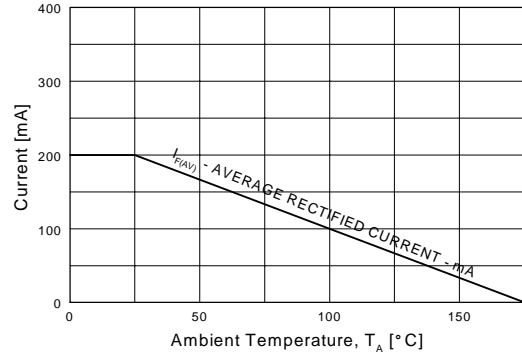
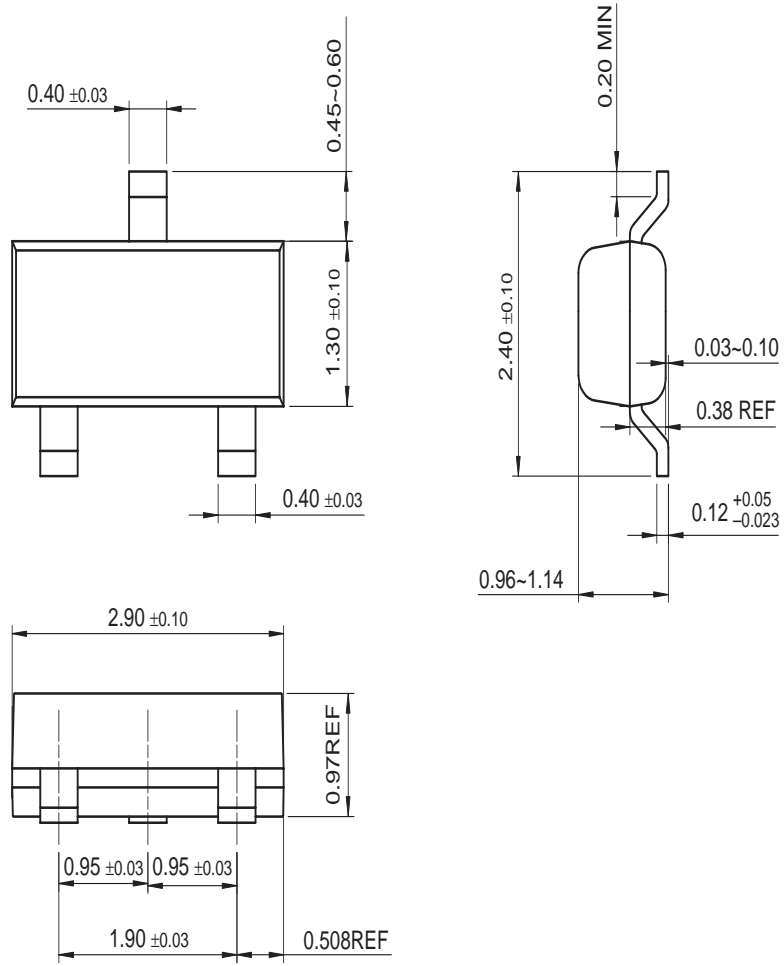


Figure 8. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

Mechanical Dimensions

SOT-23





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