

60V, 1A Schottky Barrier Diode

Product Summary

| Parameter | Rating |
|---|-------------------|
| V_{RRM} | 60 V |
| $V_F \text{ Max @ 1A}$ | 700 mV |
| $I_{F(AV)}$ | 1A |
| $I_R \text{ Max @ } V_F = 60 \text{ V}$ | 100 μA |



Features

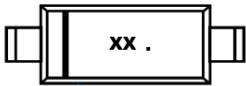

- Guard Ring Protection
- Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters
- High Surge Current Capability

SOD-323

Mechanical Data

- Package: SOD-323
- Moisture Sensitivity: Level 1, per J-STD-020
- Halogen Free. "Green" Device (Note¹)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish & RoHS Compliant
- Weight: 0.004 g (approximate)

Body Marking and Pin Layout

| Body Marking | Internal structure |
|--|--|
|  <p>XX: Device Marking Code¹ Bar: Cathode Pin indicator Dot(optional): Manufacturing Site Marking</p> <p>¹ Refer to the ordering information for the specific device code.</p> |  |

Ordering Information

| Ordering Product Name | Device Marking Code | Reel Size | Packing Type | Qty/Reel |
|-----------------------|---------------------|-----------|--------------|----------|
| Product Name-TP | X6 | 7" | Tape & Reel | 3,000 |
| Product Name-13P | X6 | 13" | Tape & Reel | 10,000 |

For packaging details, visit our website at <https://www.mccsemi.com/Package/List>

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 Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Rating | Unit |
|--|--------------|-------------|------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 60 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 42 | V |
| Reverse Voltage | V_R | 60 | V |
| Average Forward Current | $I_{F(AV)}$ | 1 | A |
| Non-Repetitive Peak Surge Current | I_{FSM} | 10 | A |
| $t_p= 8.3\text{ms}$ Half Sine Wave, $T_J = 25^\circ\text{C}$ | | | |
| Power Dissipation ^(Note 2) | P_D | 200 | mW |
| Operating Junction Temperature Range | T_J | -65 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to +150 | $^\circ\text{C}$ |

- Notes:
- Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 - Device mounted on an FR4 Printed-Circuit Board (PCB) with the recommended pad layout.

 Thermal characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Rating | Unit |
|---|-----------------|--------|---------------------------|
| Thermal Resistance from Junction to Ambient ^(Note 2) | $R_{\theta JA}$ | 500 | $^\circ\text{C}/\text{W}$ |

 Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Test Conditions | Symbol | Min | Typ | Max | Unit |
|---------------------------|--|----------|-----|-----|-----|---------------|
| Reverse Breakdown Voltage | $I_R=100\ \mu\text{A}$ (pulse test) | V_{BR} | 60 | | | V |
| Forward Voltage | $I_F = 1\text{A}$ | V_F | | | 0.7 | V |
| Reverse Current | $V_R=60\text{V}$ | I_R | | | 100 | μA |
| Junction Capacitance | $V_R=1\text{V}$, $f=1.0\text{MHz}$ | C_J | | | 120 | pF |
| Reverse Recovery Time | $I_F=10\text{mA}$, $I_R=10\text{mA}$, $I_{rr}=0.1 \times I_R$, $R_L=100\Omega$ | t_{rr} | | | 50 | ns |

Curve Characteristics

Fig.1 - Typical Instantaneous Forward Characteristics (per diode)

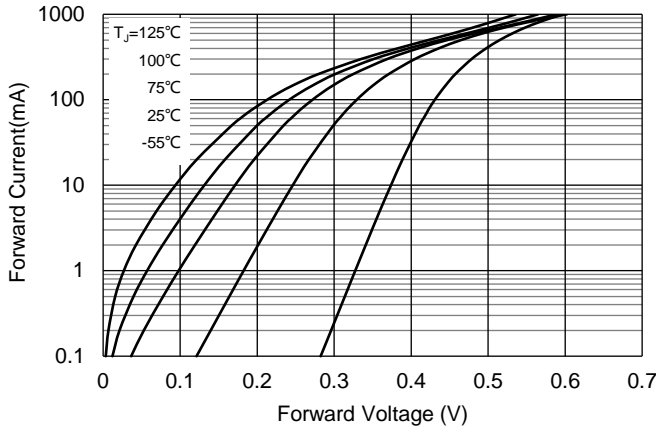


Fig.2 - Typical Reverse Leakage Characteristics (per diode)

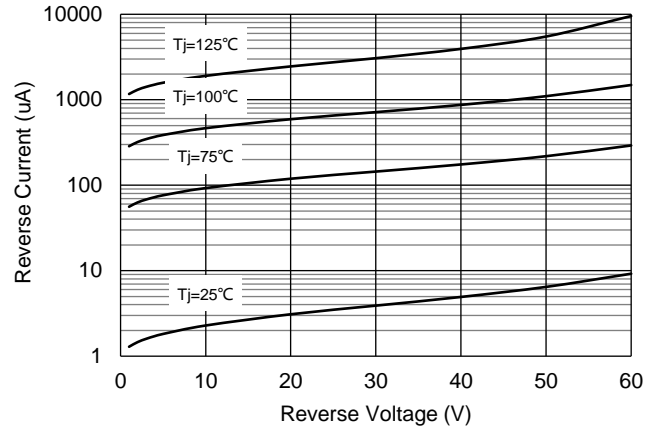


Fig.3 - Typical Capacitance Characteristics (per diode)

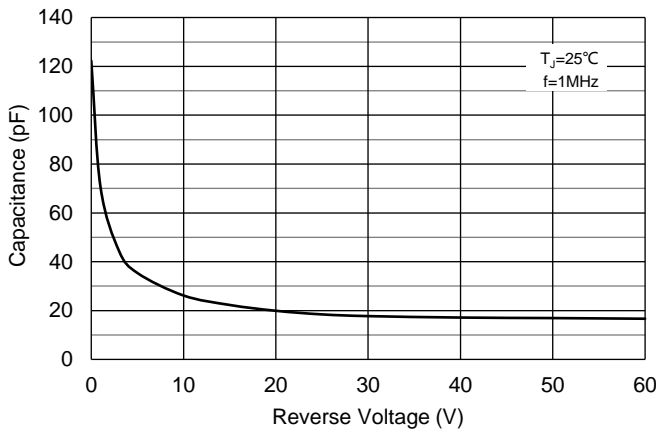
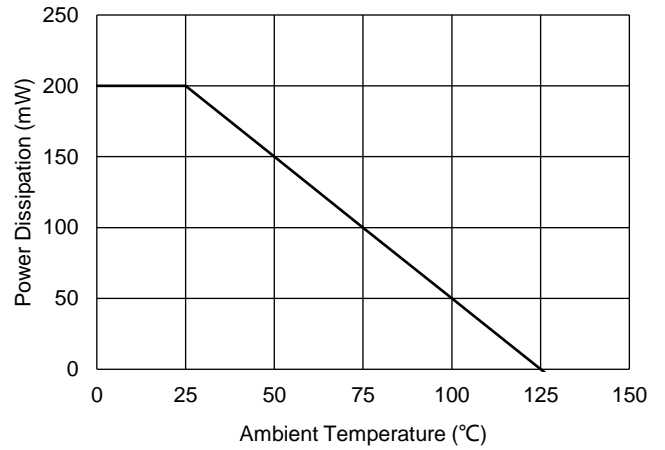
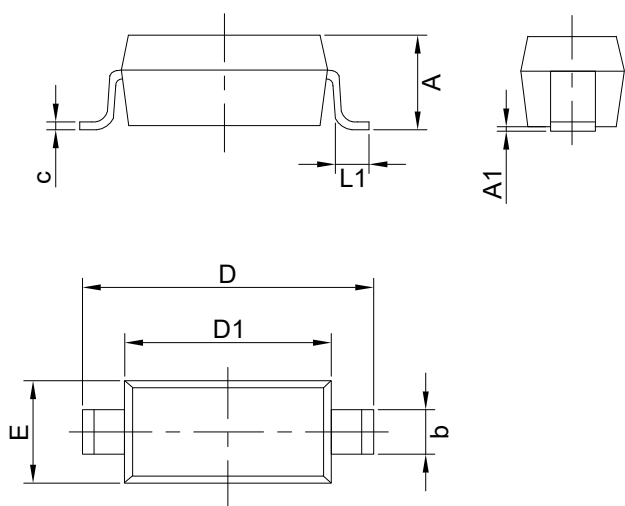


Fig.4 - Power Derating Curve



Package Outline

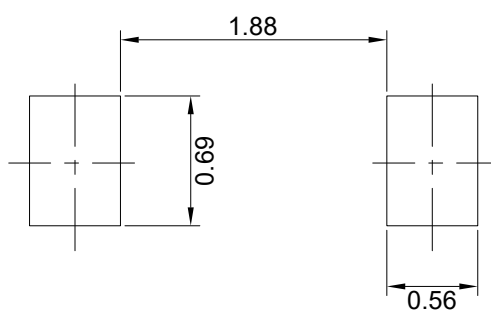


| DIM | INCH | | MM | | NOTE |
|-----|-------|-------|------|-------|--------|
| | MIN | MAX | MIN | MAX | |
| A | 0.031 | 0.045 | 0.80 | 1.15* | Note 1 |
| A1 | 0.000 | 0.006 | 0.00 | 0.15 | |
| b | 0.010 | 0.016 | 0.25 | 0.40 | |
| c | 0.003 | 0.010 | 0.08 | 0.25 | |
| D | 0.090 | 0.107 | 2.30 | 2.70 | |
| D1 | 0.063 | 0.071 | 1.60 | 1.80 | |
| E | 0.045 | 0.055 | 1.15 | 1.40 | |
| L1 | 0.004 | 0.018 | 0.10 | 0.45 | |

Notes:

1. Dimension A for products from manufacturing site VN is controlled at max 1.10 mm.

Suggested Pad Layout (Unit:mm)



Notes:

1. The suggested land pattern dimensions have been provided for reference only.
2. For further information, please refer to document IPC-7351A.

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