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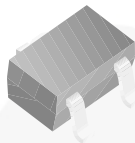
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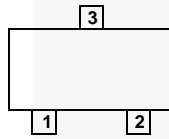


November 2015

BAT54SWT1G / BAT54CWT1G Schottky Diodes



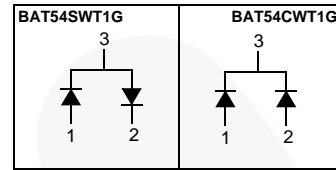
SOT-323



MARKING

BAT54SWT1G = YB
BAT54CWT1G = YC

Connection Diagram



Ordering Information

| Part Number | Top Mark | Package | Packing Method |
|-------------|----------|-------------------|----------------|
| BAT54SWT1G | YB | SC70 3L (SOT-323) | Tape and Reel |
| BAT54CWT1G | YC | SC70 3L (SOT-323) | Tape and Reel |

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

| Symbol | Parameter | Value | Unit |
|-------------|---|-------------|------------------|
| V_{RRM} | Maximum Repetitive Reverse Voltage | 30 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | 200 | mA |
| I_{FSM} | Non-Repetitive Peak Forward Surge Current Pulse Width = 1.0 second | 600 | mA |
| T_{STG} | Storage Temperature Range | -65 to +150 | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature | -65 to +125 | $^\circ\text{C}$ |

BAT54SWT1G / BAT54CWT1G — Schottky Diodes

Thermal Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

| Symbol | Parameter | Value | Unit |
|-----------------|--|-------|---------------------------|
| P_D | Power Dissipation | 232 | mW |
| $R_{\theta JA}$ | Thermal Resistance, Junction-to-Ambient ⁽¹⁾ | 430 | $^\circ\text{C}/\text{W}$ |

Note:

- FR-4 board (3.0 × 4.5 × 0.062" by 1.0 × 0.5" land pads)

Electrical Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

| Symbol | Parameter | Conditions | Min. | Max. | Unit |
|----------|-----------------------|--|------|------|---------------|
| V_R | Breakdown Voltage | $I_R = 10 \mu\text{A}$ | 30 | | V |
| V_F | Forward Voltage | $I_F = 0.1 \text{ mA}$ | | 240 | mV |
| | | $I_F = 1 \text{ mA}$ | | 320 | |
| | | $I_F = 10 \text{ mA}$ | | 400 | |
| | | $I_F = 30 \text{ mA}$ | | 500 | |
| | | $I_F = 100 \text{ mA}$ | | 800 | |
| I_R | Reverse Leakage | $V_R = 25 \text{ V}$ | | 2 | μA |
| C_T | Total Capacitance | $V_R = 1 \text{ V}, f = 1.0 \text{ MHz}$ | | 10 | pF |
| t_{rr} | Reverse Recovery Time | $I_F = I_R = 10 \text{ mA}, I_{RR} = 1.0 \text{ mA}, R_L = 100 \Omega$ | | 5.0 | ns |

Typical Performance Characteristics

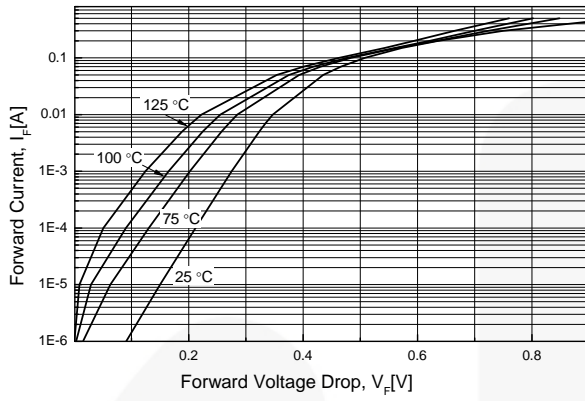


Figure 1. Forward Voltage vs. Temperature

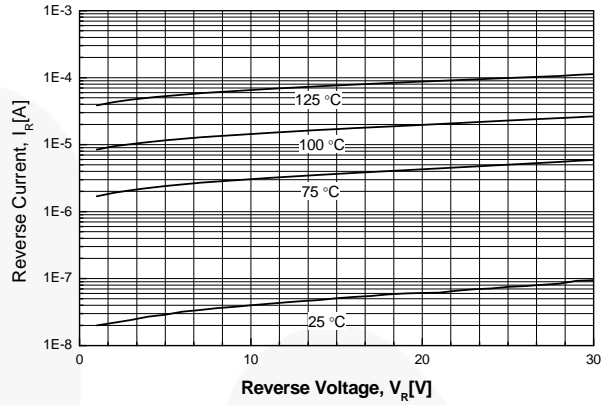


Figure 2. Reverse Leakage Current vs. Temperature

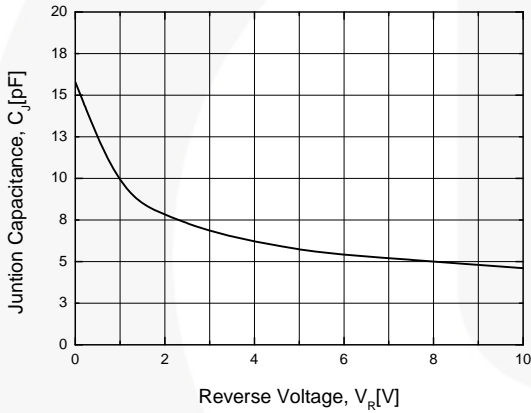
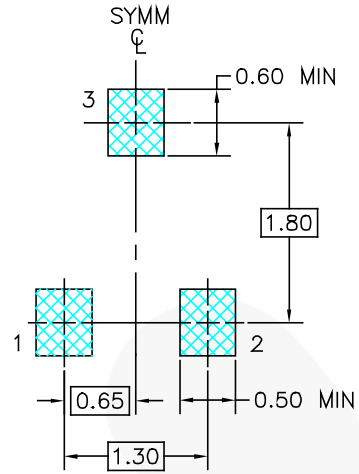
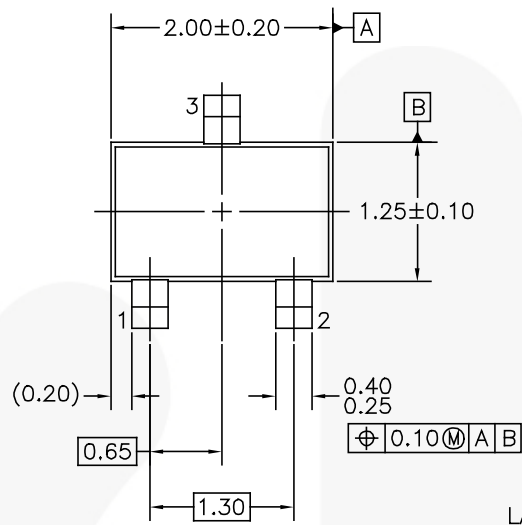
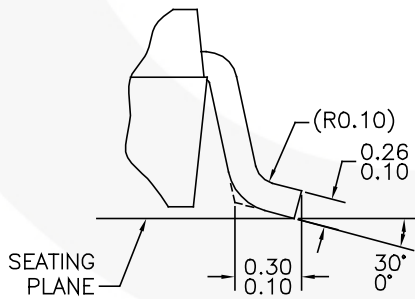
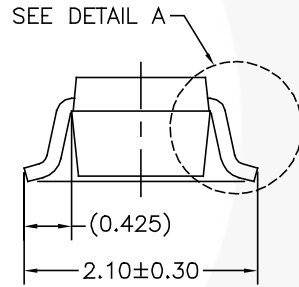
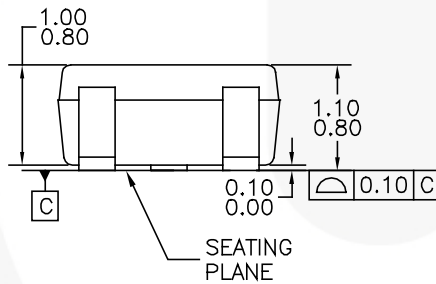


Figure 3. Capacitance vs. Reverse Bias Voltage

Physical Dimensions



LAND PATTERN RECOMMENDATION



DETAIL A
SCALE: 2X

NOTES: UNLESS OTHERWISE SPECIFIED






- A) THIS PACKAGE CONFORMS TO EIAJ SC-70.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DIMENSIONS DO NOT INCLUDE BURRS OR MOLD FLASH.

Figure 4. 3-LEAD, SC70, EIAJ SC-70, 1.25MM WIDE



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