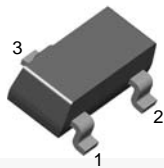


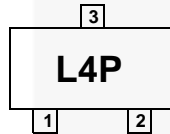


November 2014

BAT54 / BAT54A / BAT54C / BAT54S Schottky Diodes



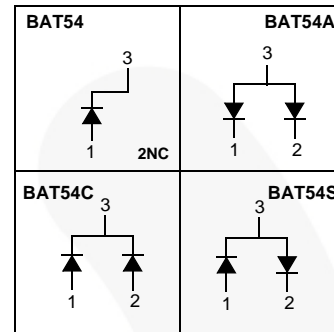
SOT-23



MARKING

BAT54 = L4P BAT54A = L42
BAT54C = L43 BAT54S = L44

Connection Diagram



Ordering Information

| Part Number | Top Mark | Package | Packing Method |
|-------------|----------|-----------|----------------|
| BAT54 | L4P | SOT-23 3L | Tape and Reel |
| BAT54_D87Z | L4P | SOT-23 3L | Tape and Reel |
| BAT54A | L42 | SOT-23 3L | Tape and Reel |
| BAT54C | L43 | SOT-23 3L | Tape and Reel |
| BAT54S | L44 | SOT-23 3L | Tape and Reel |
| BAT54S_D87Z | L44 | SOT-23 3L | 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 | -55 to +150 | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature | -55 to +150 | $^\circ\text{C}$ |

Thermal Characteristics

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

| Symbol | Parameter | Value | Unit |
|-----------------|---|-------|---------------------------|
| P_D | Power Dissipation | 290 | mW |
| $R_{\theta JA}$ | Thermal Resistance, Junction-to-Ambient | 430 | $^\circ\text{C}/\text{W}$ |

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 | mV |
| | | $I_F = 10 \text{ mA}$ | | 400 | mV |
| | | $I_F = 30 \text{ mA}$ | | 500 | mV |
| | | $I_F = 100 \text{ mA}$ | | 0.8 | V |
| 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

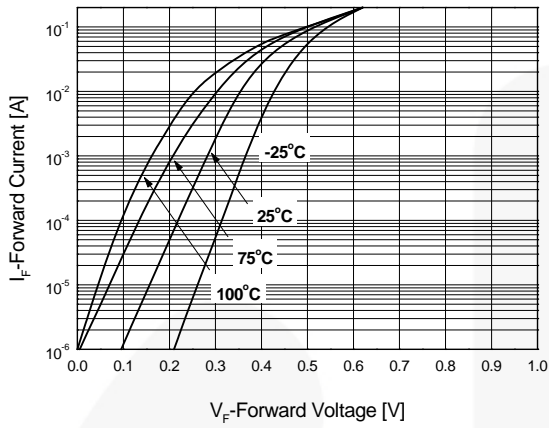


Figure 1. Forward Current vs. Forward Voltage

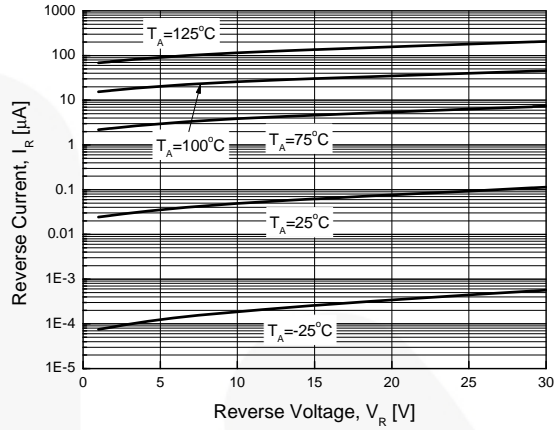


Figure 2. Reverse Current vs. Reverse Voltage

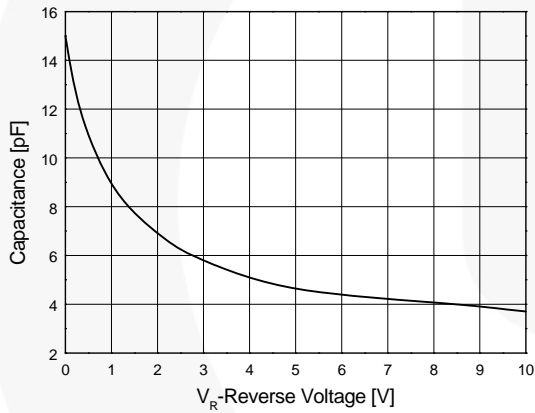
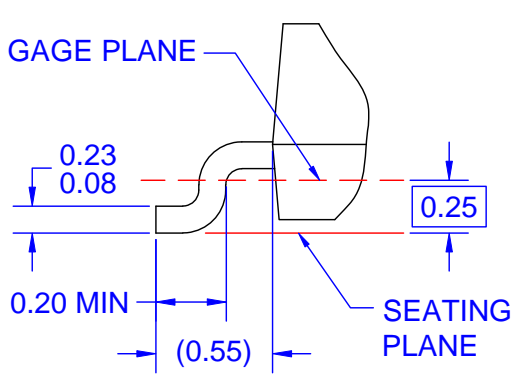
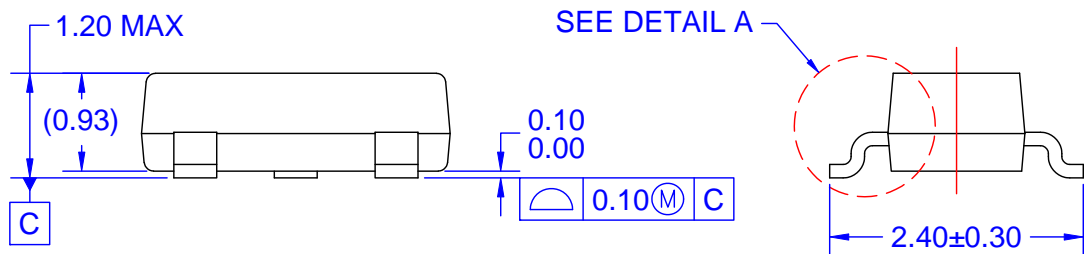
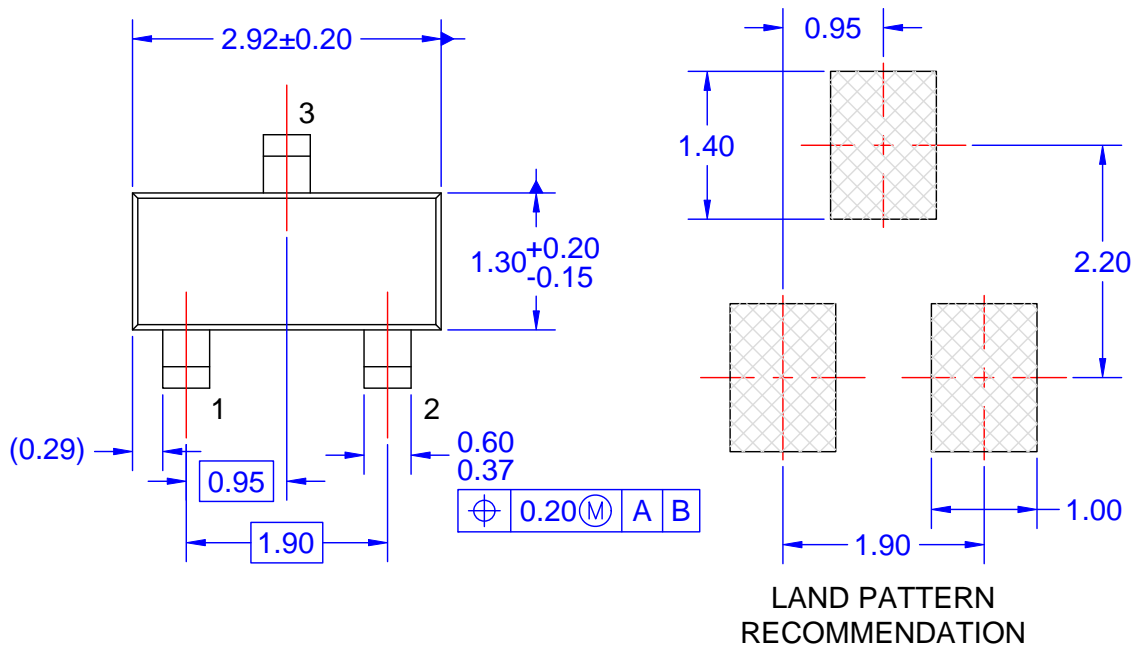


Figure 3. Total Capacitance vs. Reverse Voltage








DETAIL A
 SCALE: 2X

- NOTES: UNLESS OTHERWISE SPECIFIED
- A) REFERENCE JEDEC REGISTRATION TO-236, VARIATION AB, ISSUE H.
 - B) ALL DIMENSIONS ARE IN MILLIMETERS.
 - C) DIMENSIONS ARE INCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR EXTRUSIONS.
 - D) DIMENSIONING AND TOLERANCING PER ASME Y14.5M - 1994.
 - E) DRAWING FILE NAME: MA03DREV10



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