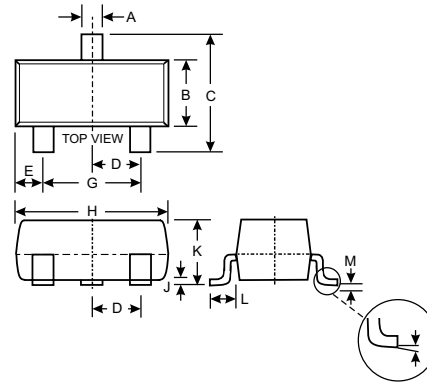


Features

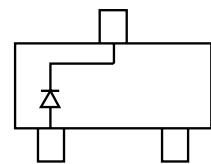
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection

Mechanical Data

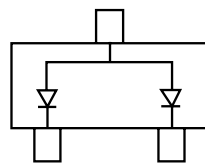
- Case: SOT-23, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Marking Code: See Diagrams Below
- Ordering Information: See Page 3



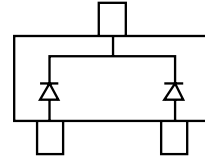
| SOT-23 | | |
|----------------------|-------|------|
| Dim | Min | Max |
| A | 0.37 | 0.51 |
| B | 1.20 | 1.40 |
| C | 2.30 | 2.50 |
| D | 0.89 | 1.03 |
| E | 0.45 | 0.60 |
| G | 1.78 | 2.05 |
| H | 2.80 | 3.00 |
| J | 0.013 | 0.10 |
| K | 0.903 | 1.10 |
| L | 0.45 | 0.61 |
| M | 0.85 | 0.80 |
| α | 0° | 8° |
| All Dimensions in mm | | |



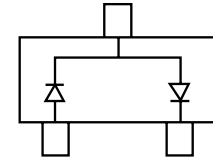
BAT54 Marking: KL1



BAT54A Marking: KL2



BAT54C Marking: KL3



BAT54S Marking: KL4

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

| Characteristic | Symbol | Value | Unit |
|--|---------------------------------|-------------|---------------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 30 | V |
| Forward Continuous Current (Note 2) | I_F | 200 | mA |
| Repetitive Peak Forward Current | I_{FRM} | 300 | mA |
| Forward Surge Current @ $t < 1.0\text{s}$ | I_{FSM} | 600 | mA |
| Power Dissipation (Note 2) | P_d | 200 | mW |
| Thermal Resistance, Junction to Ambient Air (Note 2) | $R_{\theta JA}$ | 500 | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +125 | $^\circ\text{C}$ |

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

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|------------------------------------|-------------|-----|-----|----------------------------------|---------------|--|
| Reverse Breakdown Voltage (Note 1) | $V_{(BR)R}$ | 30 | — | — | V | $I_{RS} = 100\mu\text{A}$ |
| Forward Voltage (Note 1) | V_F | — | — | 240 320 400 500 1000 | mV | $I_F = 0.1\text{mA}$ $I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 30\text{mA}$ $I_F = 100\text{mA}$ |
| Reverse Leakage Current (Note 1) | I_R | — | — | 2.0 | μA | $V_R = 25\text{V}$ |
| Total Capacitance | C_T | — | — | 10 | pF | $V_R = 1.0\text{V}, f = 1.0\text{MHz}$ |
| Reverse Recovery Time | t_{rr} | — | — | 5.0 | ns | $I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1.0\text{mA}, R_L = 100\Omega$ |

- Notes: 1. Short duration pulse test used to minimize self-heating effect.
2. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

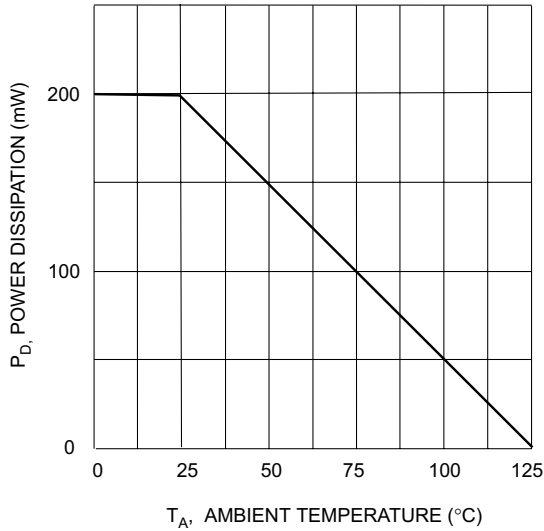


Fig. 1 Power Derating Curve

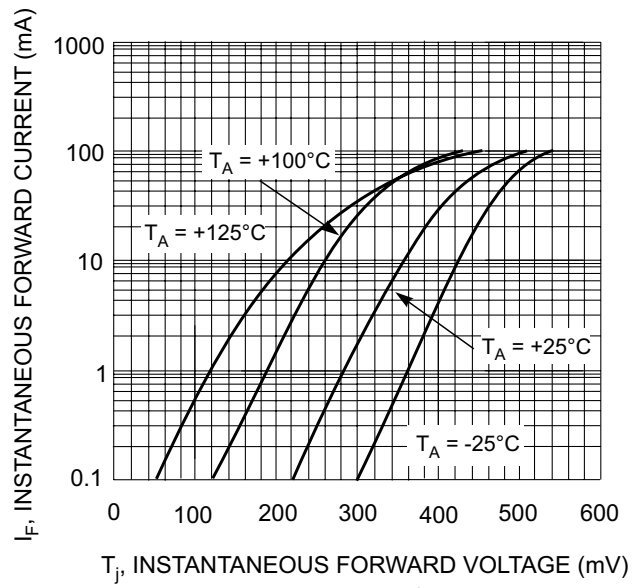


Fig. 2, Typical Forward Characteristics

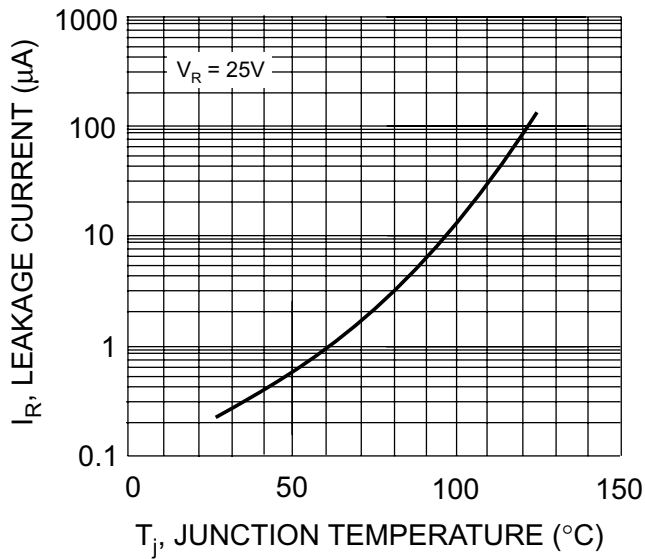


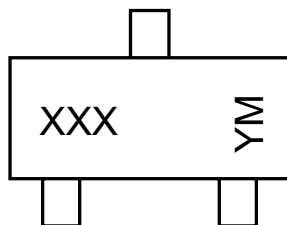
Fig. 3, Typical Reverse Characteristics

Ordering Information (Note 3)

| Device | Packaging | Shipping |
|---|-----------|------------------|
| BAT54-7 BAT54A-7 BAT54C-7 BAT54S-7 | SOT-23 | 3000/Tape & Reel |

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



XXX = Product Type Marking Code (See Page 1)
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

| Year | 2001 | 2002 | 2003 | 2004 | 2005 |
|------|------|------|------|------|------|
| Code | M | N | P | R | S |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |