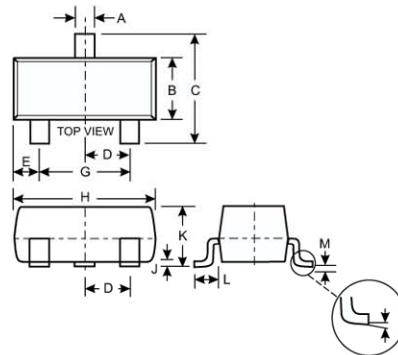


## ● Features

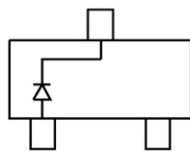
Low Turn-on Voltage  
Fast Switching  
PN Junction Guard Ring for Transient and ESD Protection

## ● Mechanical Data

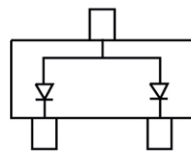
Case: SOT-23, Molded Plastic  
Case material - UL Flammability Rating Classification 94V-0  
Moisture sensitivity: Level 1 per J-STD-020A  
Terminals: Solderable per MIL-STD-202, Method 208  
Polarity: See Diagrams Below  
Weight: 0.008 grams (approx.)  
Marking Code: See Diagrams Below  
Ordering Information: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



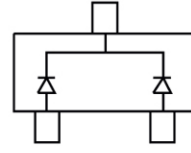
| SOT-23               |       |      |
|----------------------|-------|------|
| Dim                  | Min   | Max  |
| A                    | 0.37  | 0.51 |
| B                    | 1.20  | 1.40 |
| C                    | 2.30  | 2.50 |
| D                    | 0.89  | 1.03 |
| E                    | 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 |
| $\alpha$             | 0°    | 8°   |
| All Dimensions in mm |       |      |



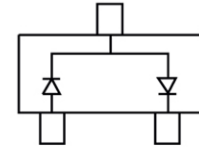
BAT54 Marking: L4



BAT54A Marking: L42



BAT54C Marking: L43



BAT54S Marking: L44

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

| Characteristic   | Symbol                          | Value       | Unit               |
|--|---------------------------------|-------------|--------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWV}$<br>$V_R$ | 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         | $^\circ\text{C/W}$ |
| 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<br>320<br>400<br>500<br>1000 | mV            | $I_F = 0.1\text{mA}$<br>$I_F = 1\text{mA}$<br>$I_F = 10\text{mA}$<br>$I_F = 30\text{mA}$<br>$I_F = 100\text{mA}$ |
| Reverse Leakage Current (Note 1)   | $I_R$       | —   | —   | 2.0                              | $\mu\text{A}$ | $V_R = 25\text{V}$   |
| 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



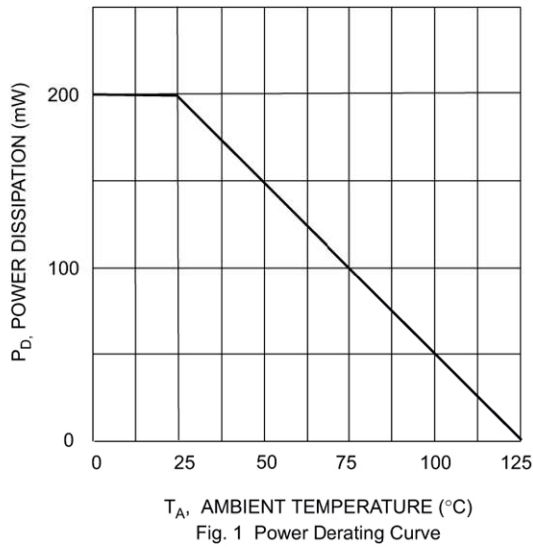


Fig. 1 Power Derating Curve

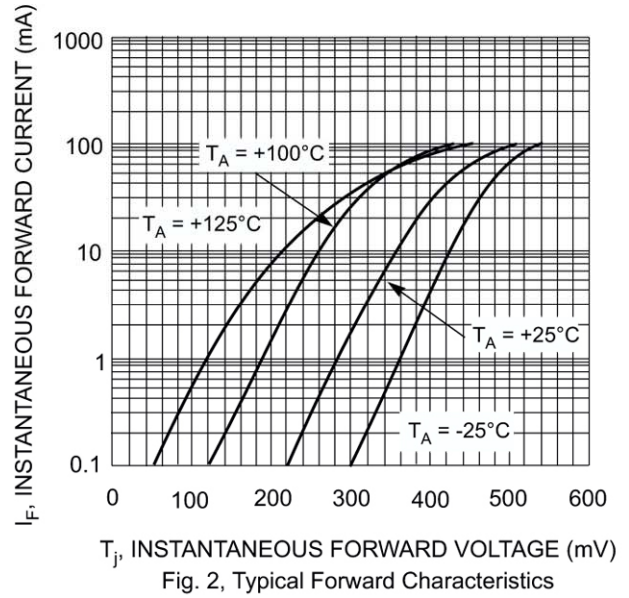


Fig. 2, Typical Forward Characteristics

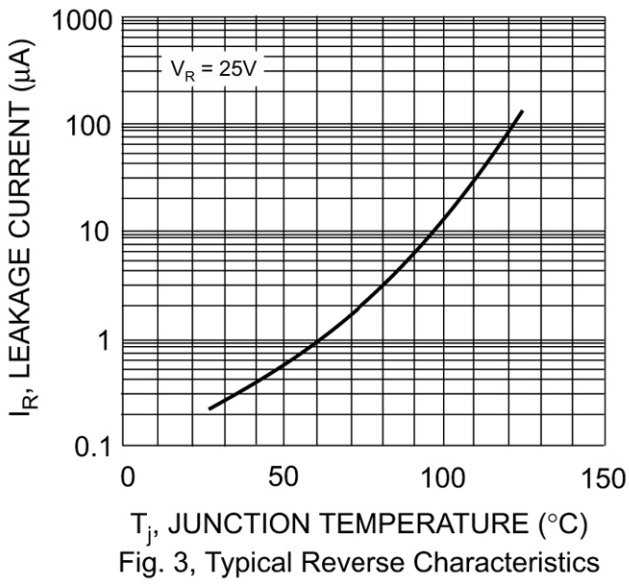


Fig. 3, Typical Reverse Characteristics



## Ordering Information (Note 3)

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



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[BAT 54-02LRH E6327](#) [NSR05F40QNXT5G](#) [NSVR05F40NXT5G](#) [NTE555](#) [JANS1N6640](#) [SB07-03C-TB-H](#) [SB1003M3-TL-W](#)  
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