

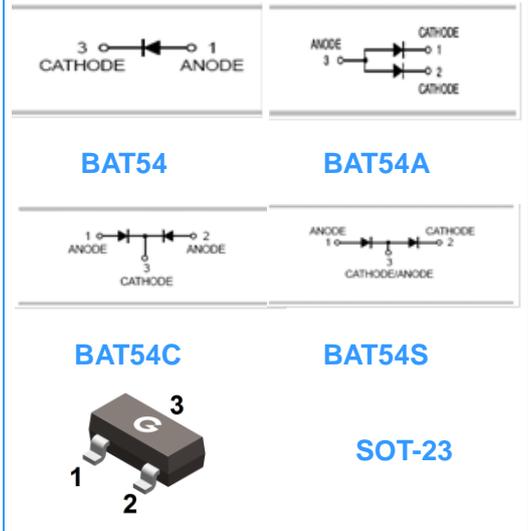
Features

- Low turn-on voltage
- Fast switching
- PN junction guard ring for transient and ESD protection

HF

Mechanical Data

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



Ordering Information

| Part Number | Package | Shipping Quantity | Marking Code |
|-------------|---------|------------------------|--------------|
| BAT54 | SOT-23 | 3000 pcs / Tape & Reel | KL1 |
| BAT54A | SOT-23 | 3000 pcs / Tape & Reel | KL2 |
| BAT54C | SOT-23 | 3000 pcs / Tape & Reel | KL3 |
| BAT54S | SOT-23 | 3000 pcs / Tape & Reel | KL4 |

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|------------------|-------|------|
| Peak Repetitive Peak Reverse Voltage | V _{RRM} | 30 | V |
| Working Peak Reverse Voltage | V _{RWM} | 30 | V |
| DC Reverse Voltage | V _R | 30 | V |
| Forward Continuous Current | I _F | 200 | mA |
| Repetitive Peak Forward Current | I _{FRM} | 300 | mA |
| Non-repetitive Forward Surge (t _p = 1s) | I _{FSM} | 600 | mA |

Thermal Characteristics

| Parameter | Symbol | Value | Unit |
|---|------------------|------------|------|
| Power Dissipation | P _D | 250 | mW |
| Thermal Resistance Junction-to-Air ^{*1} | R _{θJA} | 280 | °C/W |
| Thermal Resistance Junction-to-Case ^{*1} | R _{θJC} | 190 | °C/W |
| Thermal Resistance Junction-to-Lead ^{*1} | R _{θJL} | 200 | °C/W |
| Operating Junction Temperature | T _J | -55 ~ +150 | °C |
| Storage Temperature Range | T _{STG} | -55 ~ +150 | °C |

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

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---|-------------|---|------|------|------|---------------|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R = 100\mu\text{A}$ | 30 | - | - | V |
| Forward Voltage ² | V_F | $I_F = 0.1\text{mA}$ | - | - | 0.24 | V |
| | | $I_F = 1\text{mA}$ | - | - | 0.32 | V |
| | | $I_F = 10\text{mA}$ | - | - | 0.40 | V |
| | | $I_F = 30\text{mA}$ | - | - | 0.50 | V |
| | | $I_F = 100\text{mA}$ | - | - | 0.80 | V |
| Maximum Peak Reverse Current ³ | I_R | $V_R = 25\text{V}$ | - | - | 2 | μA |
| Junction Capacitance | C_J | $V_R = 1\text{V}, f = 1\text{MHz}$ | - | - | 10 | pF |
| Reverse Recovery Time | t_{rr} | $I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ | - | - | 5 | ns |

Notes:

1. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper
2. Pulse test, $t_p \leq 300\mu\text{s}$
3. Pulse test, $t_p \leq 5\text{ms}$

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

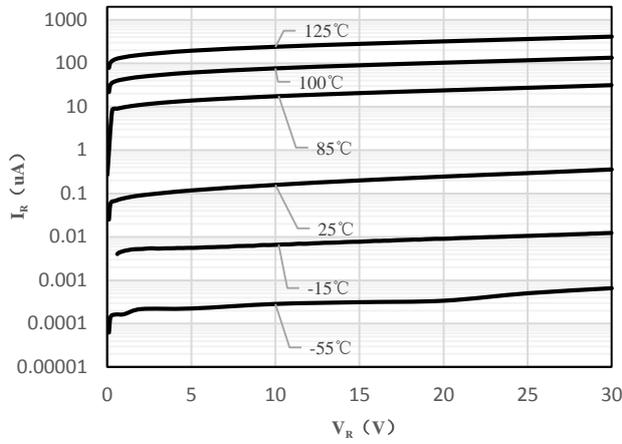


Fig 1 Typical Reverse Characteristic

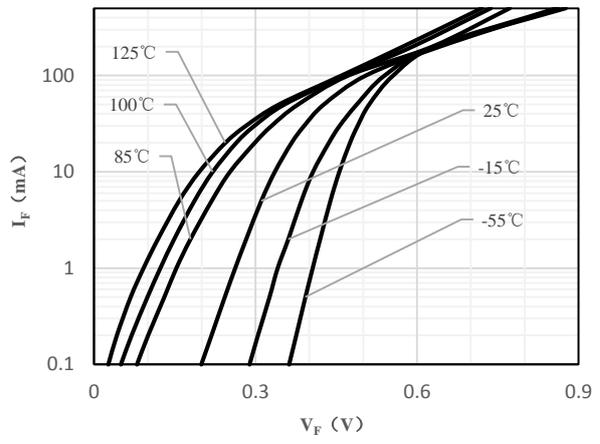


Fig 2 Typical Forward Characteristics

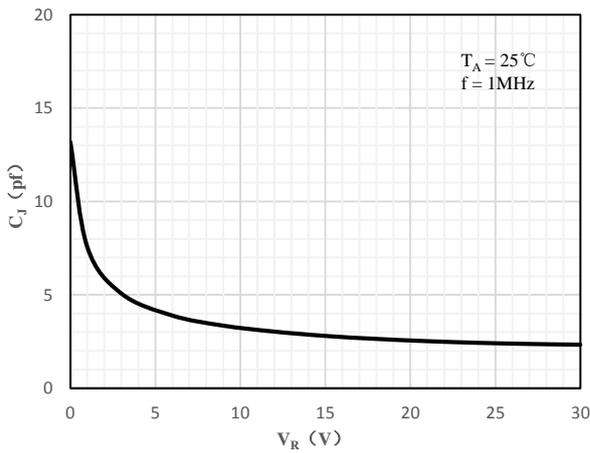


Fig 3 Capacitance Characteristics

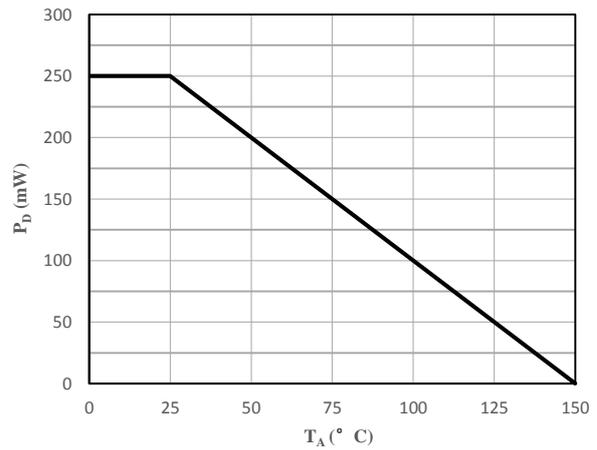
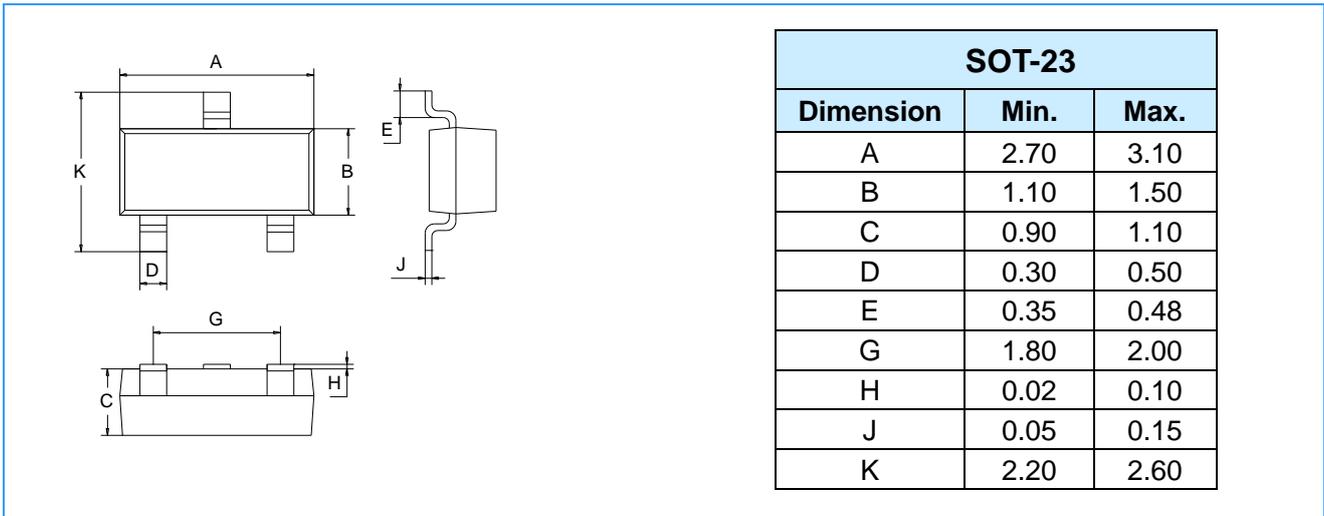
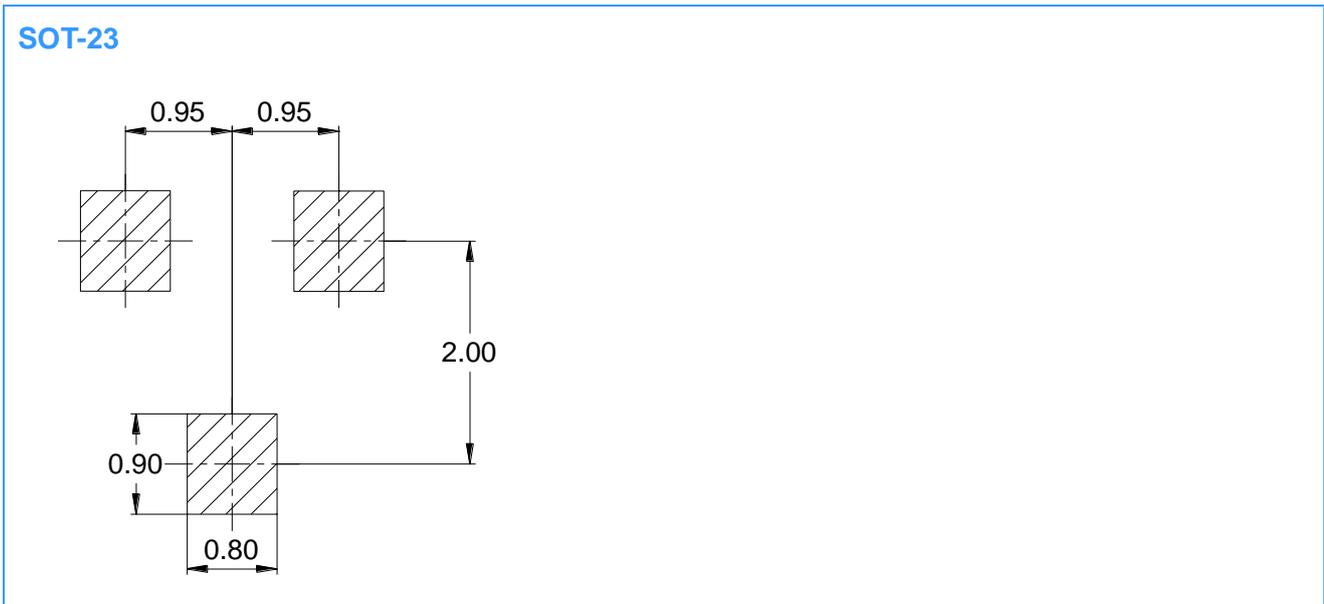


Fig 4 Power Derating Curve

Package Outline Dimensions (Unit: mm)



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