

Surface Mount Schottky Diode

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BAT54 Series Voltage: 30 Volts Current: 200mA

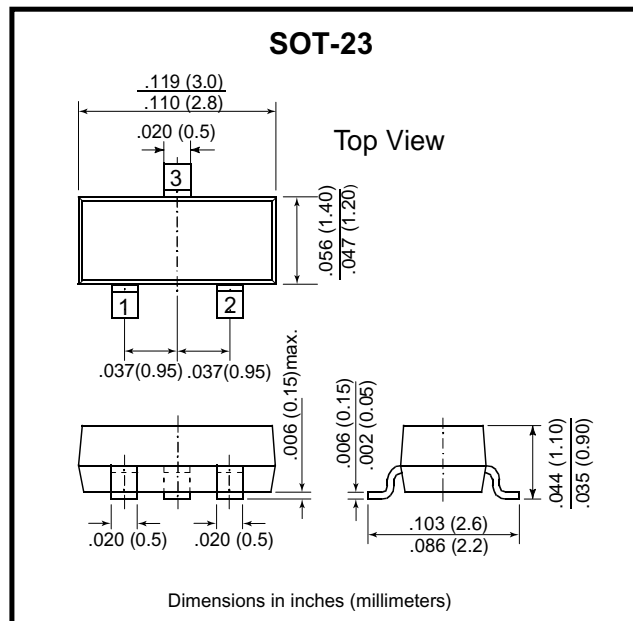
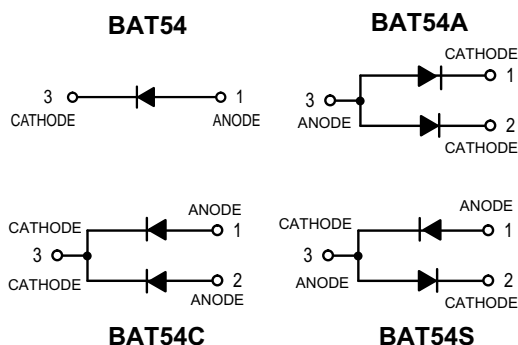


Features

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

Mechanical data

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Mounting Position: Any



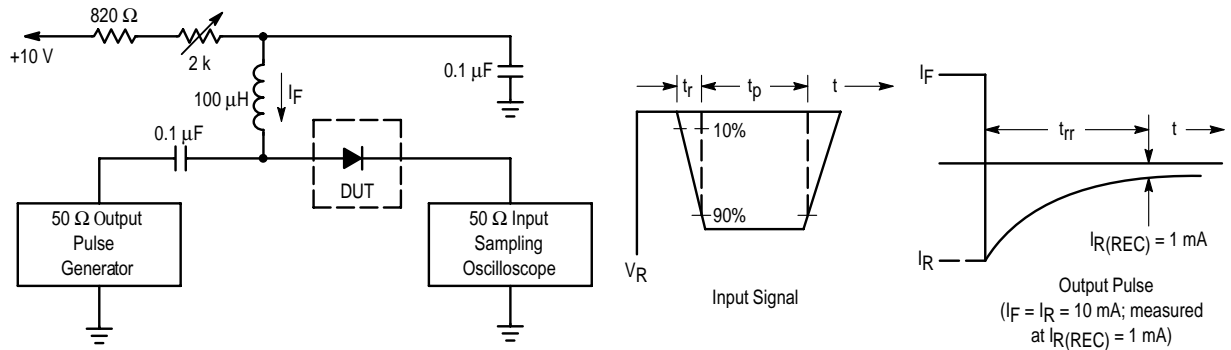
Maximum Ratings ($T_A = 125^\circ\text{C}$ unless otherwise noted)

| Rating | Symbol | Value | Units |
|---|-----------|-------------|----------------------------|
| Reverse Voltage | V_R | 30 | Volts |
| Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_F | 225 1.8 | mW mW/ $^\circ\text{C}$ |
| Forward Current (DC) | I_F | 200 Max | mA |
| Junction Temperature | T_J | 125 Max | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted) (EACH DIODE)

| Parameter | Symbol | Min | Typ | Max | Unit |
|---|-------------|-----|----------------------|--------------------|-------|
| Reverse Breakdown Voltage ($I_R = 10 \text{ mA}$) | $V_{(BR)R}$ | 30 | — | — | Volts |
| Total Capacitance ($V_R = 1.0 \text{ V}$, $f = 1.0 \text{ MHz}$) | C_T | — | 7.60 | 10.0 | pF |
| Reverse Leakage ($V_R = 25 \text{ V}$) | I_R | — | 0.50 | 2.0 | mAdc |
| Forward Voltage ($I_F = 0.1 \text{ mAdc}$) ($I_F = 30 \text{ mAdc}$) ($I_F = 100 \text{ mAdc}$) | V_F | — | 0.22 0.41 0.52 | 0.24 0.5 1.0 | Vdc |
| Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}$, $I_R(\text{REC}) = 1.0 \text{ mAdc}$) Figure 1 | t_{rr} | — | — | 5.0 | ns |
| Forward Voltage ($I_F = 1.0 \text{ mAdc}$) ($I_F = 10 \text{ mAdc}$) | V_F | — | 0.29 0.35 | 0.32 0.40 | Vdc |
| Forward Current (DC) | I_F | — | — | 200 | mAdc |
| Repetitive Peak Forward Current | I_{FRM} | — | — | 300 | mAdc |
| Non-Repetitive Peak Forward Current ($t < 1.0 \text{ s}$) | I_{FSM} | — | — | 600 | mAdc |

RATING AND CHARACTERISTIC CURVES (BAT54 Series)



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

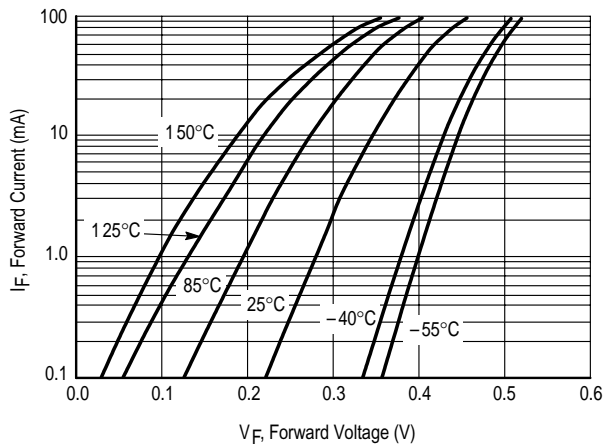


Figure 2. Forward Voltage

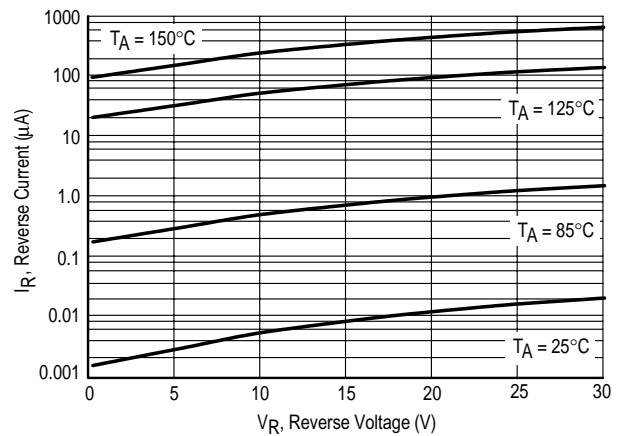


Figure 3. Leakage Current

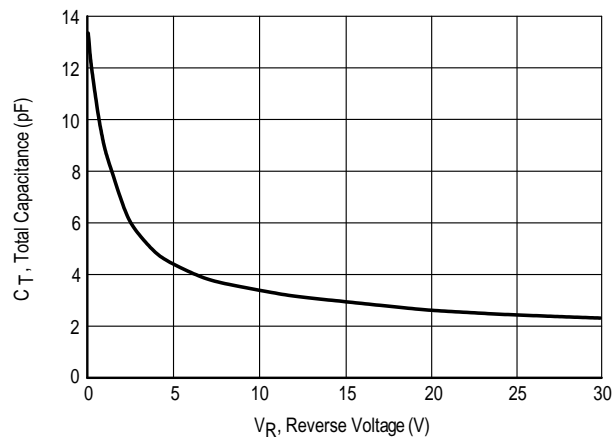


Figure 4. Total Capacitance