

RoHS Compliant Product

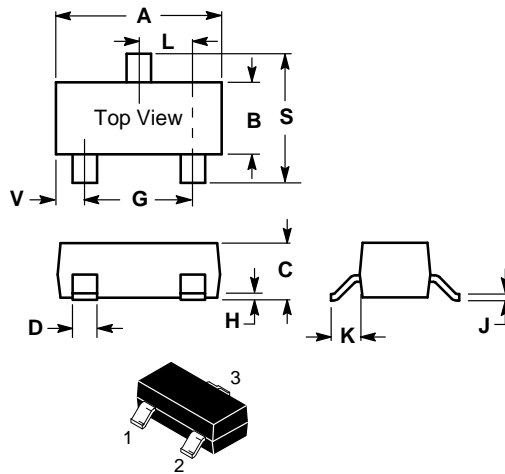
A suffix of "-C" specifies halogen & lead-free

FEATURES

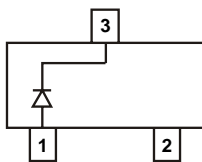
- Ultra-Small Surface Mount Package
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection

MECHANICAL DATA

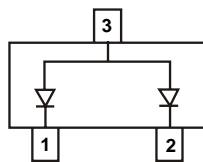
- Case: SOT-523, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.004 grams (approx.)
- Mounting Position: Any



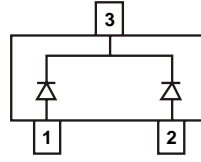
| SOT-523 | | |
|---------------------|-------|-------|
| Dim | Min | Max |
| A | 1.500 | 1.700 |
| B | 0.780 | 0.820 |
| C | 0.800 | 0.820 |
| D | 0.280 | 0.320 |
| G | 0.900 | 1.100 |
| H | 0.000 | 0.100 |
| J | 0.100 | 0.200 |
| K | 0.350 | 0.410 |
| L | 0.490 | 0.510 |
| S | 1.500 | 1.700 |
| V | 0.280 | 0.320 |
| All Dimension in mm | | |



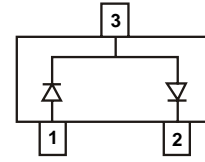
BAT54T Marking: L1



BAT54AT Marking: L2



BAT54CT Marking: L3



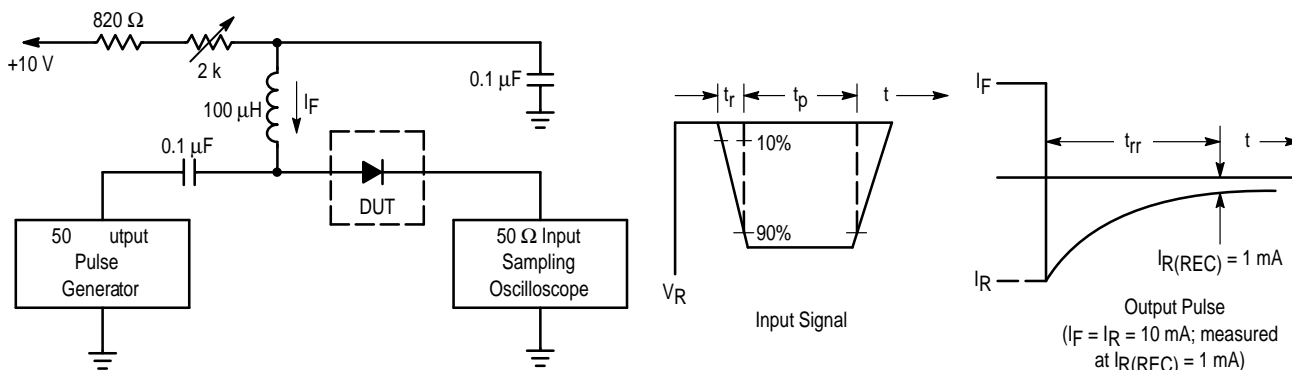
BAT54ST Marking: L4

MAXIMUM RATINGS ($T_J = 125^\circ\text{C}$ unless otherwise noted)

| Rating | Symbol | Value | Unit |
|--|-----------|-------------|----------------------------|
| Reverse Voltage | V_R | 30 | Volts |
| Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_F | 150 4.2 | 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)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|-------------|-----|------|------|-----------------|
| Reverse Breakdown Voltage ($I_R = 10 \mu\text{A}$) | $V_{(BR)R}$ | 30 | — | — | Volts |
| Total Capacitance ($V_R = 1.0 \text{ V}$, $f = 1.0 \text{ MHz}$) | C_T | — | 7.6 | 10 | pF |
| Reverse Leakage ($V_R = 25 \text{ V}$) | I_R | — | 0.5 | 2.0 | μAdc |
| Forward Voltage ($I_F = 0.1 \text{ mAdc}$) | V_F | — | 0.22 | 0.24 | Vdc |
| Forward Voltage ($I_F = 1.0 \text{ mAdc}$) | V_F | — | 0.29 | 0.32 | Vdc |
| Forward Voltage ($I_F = 10 \text{ mAdc}$) | V_F | — | 0.35 | 0.40 | Vdc |
| Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}$, $I_{R(REC)} = 1.0 \text{ mAdc}$) Figure 1 | t_{rr} | — | — | 5.0 | ns |
| Forward Voltage ($I_F = 30 \text{ mAdc}$) | V_F | — | 0.41 | 0.50 | Vdc |
| Forward Voltage ($I_F = 100 \text{ mAdc}$) | V_F | — | 0.52 | 1.00 | Vdc |
| Forward Current (DC) | I_F | — | — | 200 | mAdc |
| Repetitive Peak Forward Current | I_{FRM} | — | — | 200 | mAdc |
| Non-Repetitive Peak Forward Current ($t < 1.0 \text{ s}$) | I_{FSM} | — | — | 400 | mAdc |



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

Figure 1. Recovery Time Equivalent Test Circuit

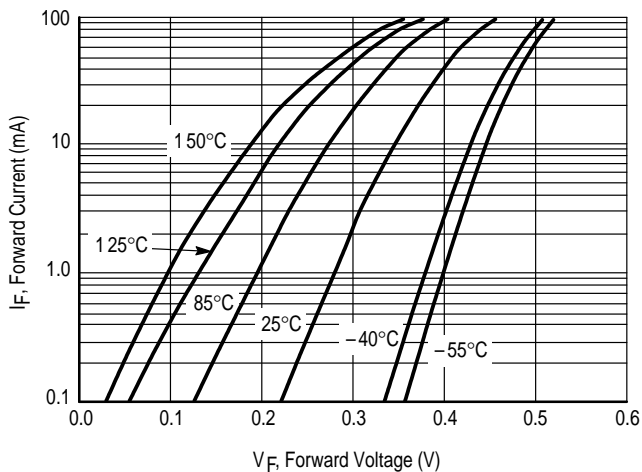


Figure 2. Forward Voltage

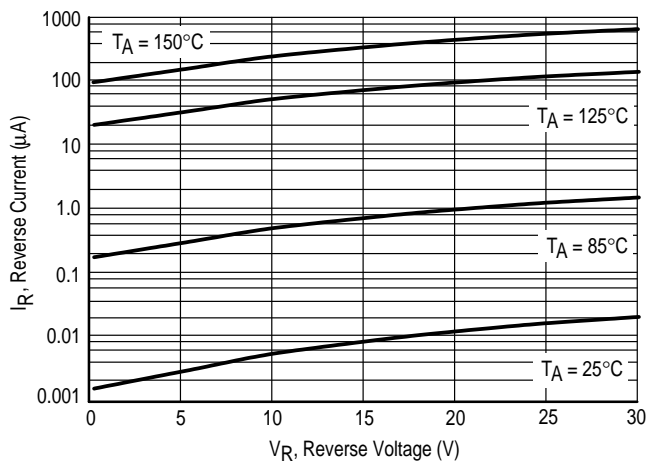


Figure 3. Leakage Current

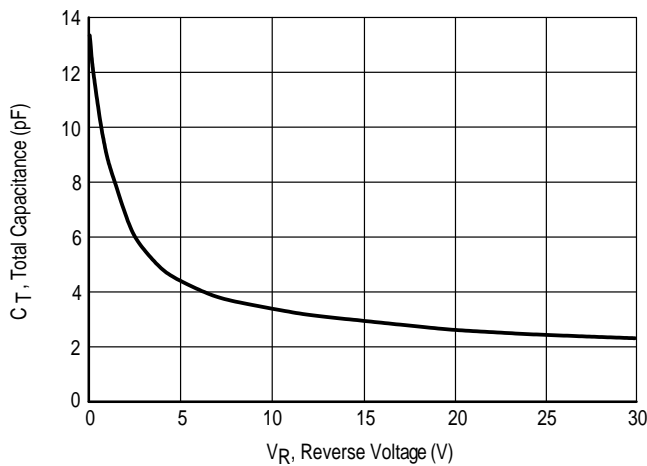


Figure 4. Total Capacitance