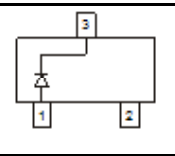
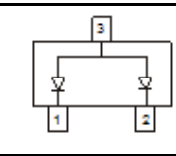
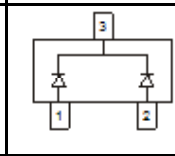
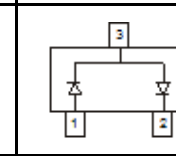


## Small Signal Schottky Barrier Rectifiers



SOT-23

| Marking information   |  |   |   |
|---|--|---|---|
| BAT54   | BAT54A   | BAT54C  | BAT54S  |
|  |  |  |  |
| LV3, KL1,<br>JV3, HL4P, L4P   | B6, KL2,<br>HL42, L42  | B5, KL3,<br>5C, HL43, L43   | LD3, KL4,<br>HL44, L44  |

### 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

### Ordering Information

| Part No.      | Remark             | Package | Packing            |
|---------------|--------------------|---------|--------------------|
| BAT54/A/C/S   | General            | SOT-23  | 3000 / Tape & Reel |
| BAT54/A/C/S-H | Halogen Free       |         |                    |
| BAT54/A/C/S-Q | AEC-Q101 qualified |         |                    |

### Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter                 | Symbol    | Limits    | Unit             |
|---------------------------|-----------|-----------|------------------|
| Reverse Voltage           | $V_R$     | 30        | V                |
| Forward Power Dissipation | $P_D$     | 200       | mW               |
| Forward Current (DC)      | $I_F$     | 200       | mA               |
| Junction Temperature      | $T_J$     | 125       | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$ | -55 ~ 150 | $^\circ\text{C}$ |

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

| Parameter   | Symbol      | Min. | Max. | Unit          |
|---|-------------|------|------|---------------|
| Reverse Breakdown Voltage ( $I_R = 100 \mu\text{A}$ )   | $V_{(BR)R}$ | 30   | -    | V             |
| Total Capacitance ( $V_R = 1.0 \text{ V}$ , $f = 1.0 \text{ MHz}$ )                                   | $C_T$       | -    | 10   | pF            |
| Reverse Leakage ( $V_R = 25 \text{ V}$ )  | $I_R$       | -    | 2    | $\mu\text{A}$ |
| Forward Voltage ( $I_F = 0.1 \text{ mAdc}$ )  | $V_F$       | -    | 0.24 | V             |
| Forward Voltage ( $I_F = 1.0 \text{ mAdc}$ )  |             | -    | 0.32 | V             |
| Forward Voltage ( $I_F = 10 \text{ mAdc}$ )   |             | -    | 0.4  | V             |
| Forward Voltage ( $I_F = 30 \text{ mAdc}$ )   |             | -    | 0.5  | V             |
| Forward Voltage ( $I_F = 100 \text{ mAdc}$ )  |             | -    | 1    | V             |
| Reverse Recovery Time ( $I_F = I_R = 10 \text{ mA}$ , $I_{RR} = 1.0 \text{ mA}$ , $R_L = 100\Omega$ ) | $t_{rr}$    | -    | 5    | nS            |
| Non-Repetitive Peak Forward Current ( $t < 1.0 \text{ s}$ )   | $I_{FSM}$   | -    | 600  | mA            |

## Small Signal Schottky Barrier Rectifiers

### Rating and Characteristics Curves

Figure 1. Total Capacitance

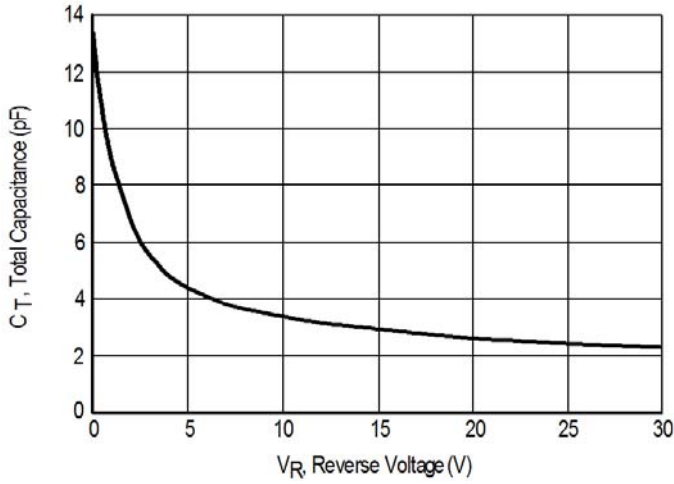


Figure 2. Forward Voltage

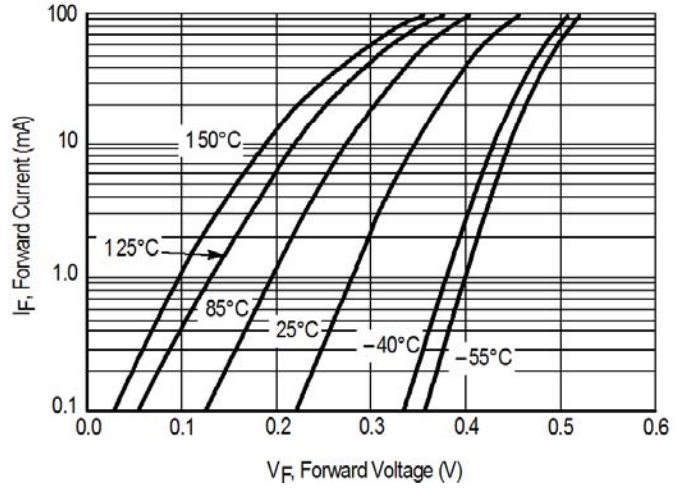
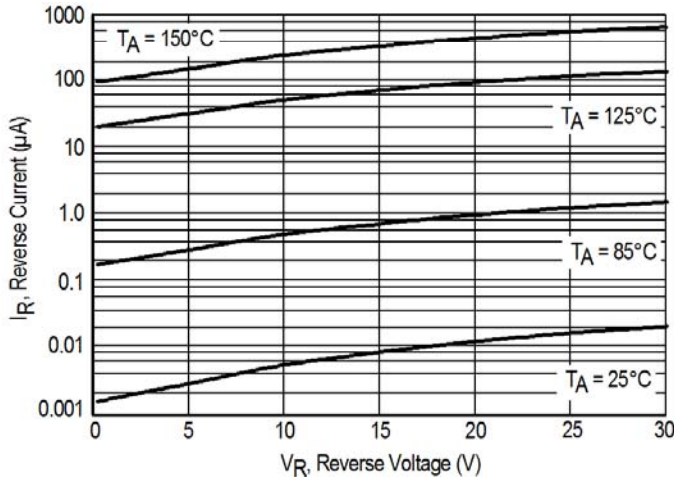
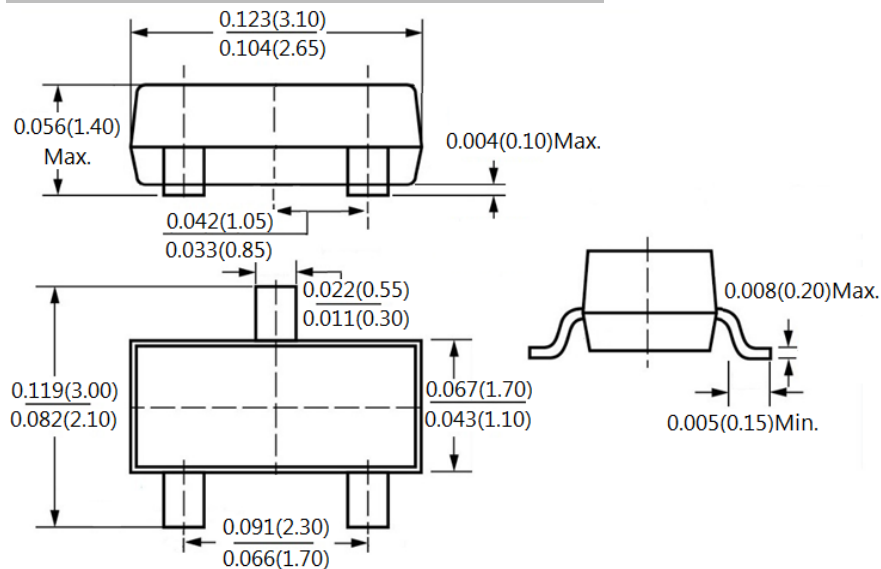


Figure 3. Leakage Current



### Package Outline Dimensions

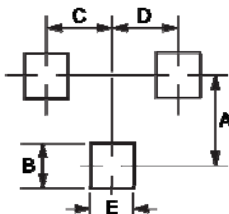


### SOT-23

Dimensions in inches and (millimeters)

### Suggested Pad Layout

| Dimension | Outline | SOT-23 |
|-----------|---------|--------|
| A         |         | 2.00   |
| B         |         | 0.90   |
| C         |         | 0.95   |
| D         |         | 0.95   |
| E         |         | 0.80   |



### Tape & Reel Specification

| Item                   | Symbol | Dimension  |
|------------------------|--------|------------|
| Carrier width          | A      | 3.15 ±0.12 |
| Carrier length         | B      | 2.85±0.16  |
| Carrier depth          | C      | 1.40±0.13  |
| Sprocket hole          | d      | 1.52±0.11  |
| Reel outside diameter  | D      | 178±1.0    |
| Reel inner diameter    | D1     | 60±0.12    |
| Feed hole width        | D2     | 13 ±0.14   |
| Sprocket hole position | E      | 1.75 ±0.15 |
| Punch hole position    | F      | 3.5 ±0.05  |
| Punch hole pitch       | P      | 4.0 ±0.17  |
| Sprocket hole pitch    | P0     | 4.0 ±0.11  |
| Embossment center      | P1     | 2.0 ±0.05  |
| Tape width             | W      | 8.0 ±0.12  |
| Reel width             | W1     | 9.0 ±0.13  |

