



### SURFACE MOUNT SCHOTTKY BARRIER

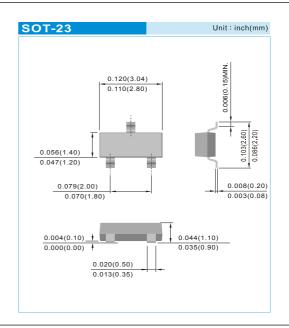
VOLTAGE 30 Volt CURRENT 0.2 Ampere

#### **FEATURES**

- · Low turn-on voltage
- · Fast switching
- · PN Junction Guard Ring for Transient and ESD Protection.
- · Lead free in compliance with EU RoHS 2.0
- · Green molding compound as per IEC 61249 standard

### **MECHANICAL DATA**

- · Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- · Approx. Weight: 0.0003 ounces, 0.0084 grams

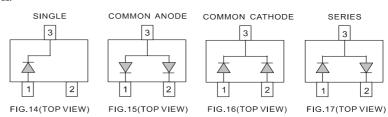


### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. For capacitive load, derate current by 20%.

| Parameter   | Symbol                            | BAT54       | BAT54A          | BAT54C            | BAT54S | Units |
|---|-----------------------------------|-------------|-----------------|-------------------|--------|-------|
| Forward Power Dissipation@T <sub>A</sub> =25°C  | P <sub>D</sub>                    | 225         |                 |                   | mW     |       |
| Peak Repetitive Reverse Voltage   | V <sub>RRM</sub>                  | 30          |                 |                   | ٧      |       |
| Maximum Average Forward Current at T <sub>A</sub> =75°C                                   | Io                                | 0.2         |                 |                   | А      |       |
| Repetitive Peak Forward Current (tp=8.3ms,50%Duty Cycle)                                  | I <sub>FRM</sub>                  | 300         |                 |                   | mA     |       |
| Peak Forward Surge Current, 1s  | I <sub>FSM</sub>                  | 0.6         |                 |                   | А      |       |
| Maximum Instantaneous Forward Voltage @ $I_F = 1  \mathrm{mA}$ @ $I_F = 100  \mathrm{mA}$ | V <sub>F</sub>                    | 0.32<br>0.6 |                 |                   | ٧      |       |
| Typical Instantaneous Forward Voltage @ I <sub>F</sub> =0.1mA                             | V <sub>F</sub>                    | 0.22        |                 |                   | V      |       |
| Maximum DC Reverse Current at Rated DC Blocking Voltage@V <sub>R</sub> =25V               | I <sub>R</sub>                    | 2           |                 |                   | μА     |       |
| Junction Capacitance at V <sub>R</sub> =1V  | C                                 | 10          |                 |                   | pF     |       |
| Thermal Resistance, Junction to Ambient   | $R_{\theta JA}$                   | 500         |                 |                   | °C/ W  |       |
| Operating Junction and Storage Temperature Range  | T <sub>J</sub> , T <sub>STG</sub> | -55 to +125 |                 |                   | °C     |       |
| Circuit Figure  | -                                 | Single      | Common<br>Anode | Common<br>Cathode | Series | -     |

Note : 1.  $I_F$ =10mA through  $I_R$ =10mA to  $I_R$ =1mA,  $R_I$ =100 $\Omega$ .

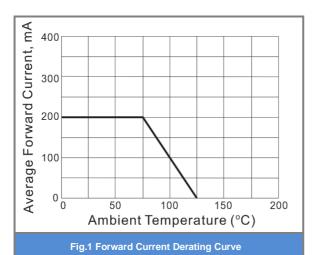


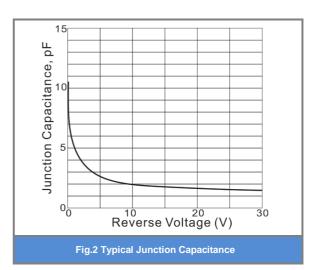
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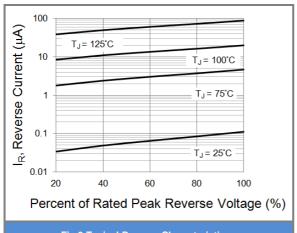




### **TYPICAL CHARACTERISTIC CURVES**







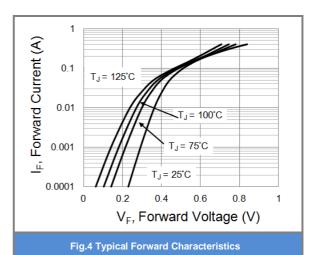


Fig.3 Typical Reverse Characteristics

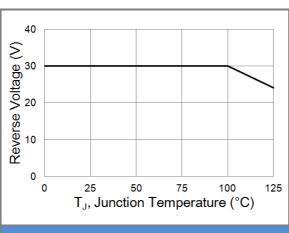


Fig.5 Operating Temperature Derating Curve

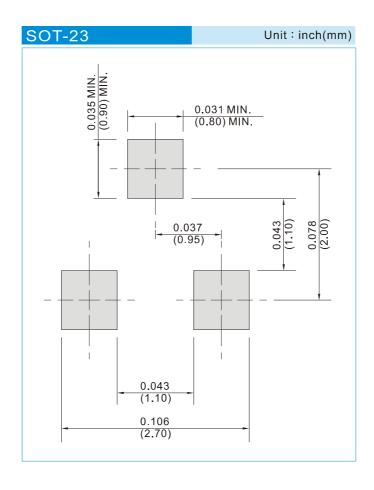




### PART NO PACKING CODE VERSION

| Part No Packing Code | Package Type | Packing Type       | Marking | Version      |  |
|----------------------|--------------|--------------------|---------|--------------|--|
| BAT54_R1_00001       | SOT-23       | 3K pcs / 7" reel   | L4      | Halogen free |  |
| BAT54_R2_00001       | SOT-23       | 12K pcs / 13" reel | L4      | Halogen free |  |
| BAT54A_R1_00001      | SOT-23       | 3K pcs / 7" reel   | L42     | Halogen free |  |
| BAT54A_R2_00001      | SOT-23       | 12K pcs / 13" reel | L42     | Halogen free |  |
| BAT54C_R1_00001      | SOT-23       | 3K pcs / 7" reel   | L43     | Halogen free |  |
| BAT54C_R2_00001      | SOT-23       | 12K pcs / 13" reel | L43     | Halogen free |  |
| BAT54S_R1_00001      | SOT-23       | 3K pcs / 7" reel   | L44     | Halogen free |  |
| BAT54S_R2_00001      | SOT-23       | 12K pcs / 13" reel | L44     | Halogen free |  |

### **MOUNTING PAD LAYOUT**







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