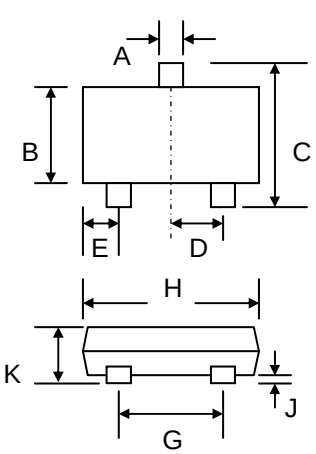
# BAT54 / A / C / S

## SURFACE MOUNT SCHOTTKY BARRIER DIODE

## Features

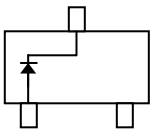
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material – UL Recognition Flammability Classification 94V-O



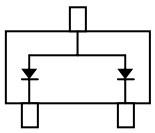

| SOT-23 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 0.37 | 0.51 |
| **B** | 1.19 | 1.40 |
| **C** | 2.10 | 2.50 |
| **D** | 0.89 | 1.05 |
| **E** | 0.45 | 0.61 |
| **G** | 1.78 | 2.05 |
| **H** | 2.65 | 3.05 |
| **J** | 0.013 | 0.15 |
| **K** | 0.89 | 1.10 |
| **L** | 0.45 | 0.61 |
| **M** | 0.076 | 0.178 |
| **All Dimensions in mm** | | |

## Mechanical Data

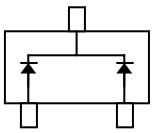
- Case: SOT-23, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Marking: Device Code, See Page 3
- Mounting Position: Any
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



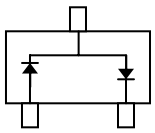
TOP VIEW
BAT54



TOP VIEW
BAT54A



TOP VIEW
BAT54C



TOP VIEW
BAT54S

## Maximum Ratings and Electrical Characteristics, Single Diode @$T_A$=25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 30 | V |
| Forward Continuous Current (Note 1) | $I_F$ | 200 | mA |
| Repetitive Peak Forward Current (Note 1) | $I_{FRM}$ | 300 | mA |
| Forward Surge Current (Note 1) @ t < 1.0s | $I_{FSM}$ | 600 | mA |
| Power Dissipation (Note 1) | $P_d$ | 200 | mW |
| Typical Thermal Resistance, Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 500 | K/W |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -65 to +125 | °C |

Note: 1. Device on fiberglass substrate.

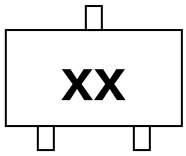

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## Maximum Ratings and Electrical Characteristics, Single Diode @$T_A$=25°C unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | 30 | — | — | V | @ $I_{RS}$ = 100μA |
| Forward Voltage | $V_F$ | — | — | 240<br>320<br>400<br>500<br>1000 | mV | $t_p$ < 300μs, duty cycle < 2%<br>@ $I_F$ = 0.1mA<br>@ $I_F$ = 1mA<br>@ $I_F$ = 10mA<br>@ $I_F$ = 30mA<br>@ $I_F$ = 100mA |
| Reverse Leakage Current | $I_R$ | — | — | 2.0 | μA | $t_p$ < 300μs, duty cycle < 2%<br>@ $V_R$ = 25V |
| Junction Capacitance | $C_j$ | — | — | 10 | pF | $V_R$ = 1.0V, f = 1.0MHz |
| Reverse Recovery Time | $t_{rr}$ | — | — | 5.0 | nS | $I_F$ = 10mA through $I_R$ = 10mA<br>to $I_R$ = 1.0mA, $R_L$ = 100Ω |

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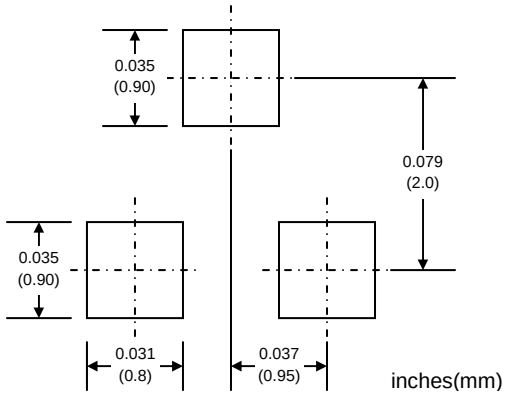
## MARKING INFORMATION




xx = Device Code, See Table Below

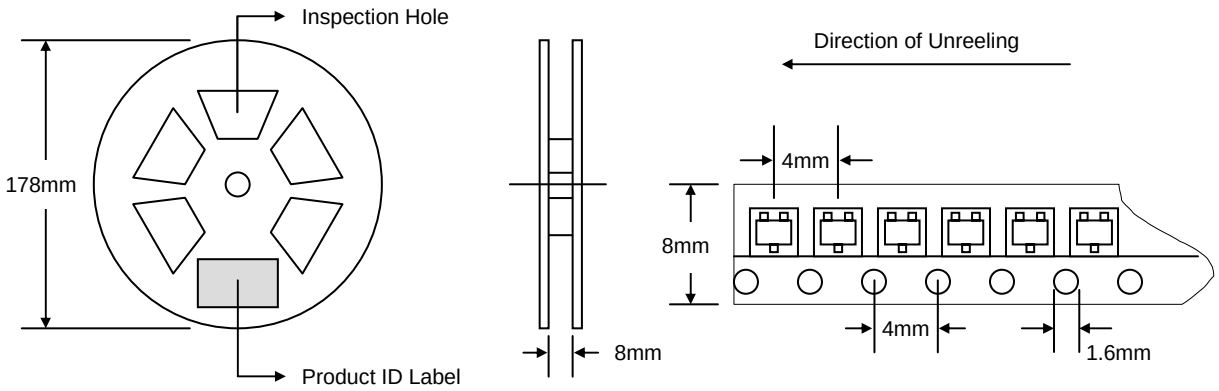
| Mfg Site | BAT54 | BAT54A | BAT54C | BAT54S |
|---|---|---|---|---|
| TW Plant | L4 | L42 | L43 | L44 |
| CN Plant | KL1 | KL2 | KL3 | KL4 |

## RECOMMENDED FOOTPRINT




## PACKAGING INFORMATION

### TAPE & REEL




| Reel Diameter (mm) | Quantity (PCS) | Inner Box Size L x W x H (mm) | Quantity (PCS) | Carton Size L x W x H (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|---|---|---|---|---|---|---|
| 178 | 3,000 | 187 x 187 x 65 | 15,000 | 390 x 240 x 420 | 150,000 | 10.0 |

**Note:** 1. Anti-static plastic reel, white, water clear or blue color. Inspection hole might be varied in different alignment.
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

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## ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|---|---|---|
| BAT54-T1 | SOT-23 | 3000/Tape & Reel |
| BAT54A-T1 | SOT-23 | 3000/Tape & Reel |
| BAT54C-T1 | SOT-23 | 3000/Tape & Reel |
| BAT54S-T1 | SOT-23 | 3000/Tape & Reel |

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, BAT54-T1-LF**.

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**WARNING**: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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