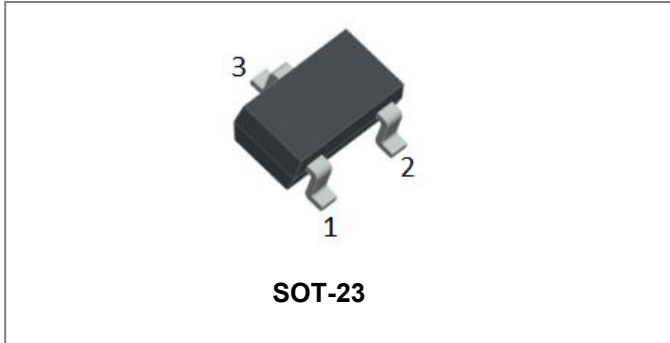
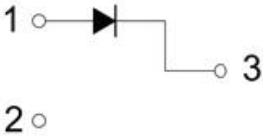
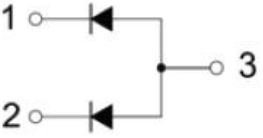
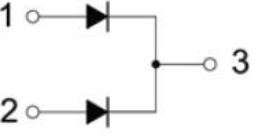
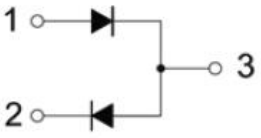
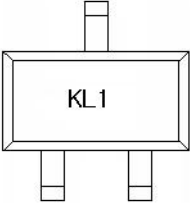
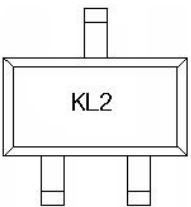
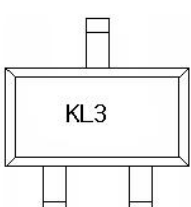
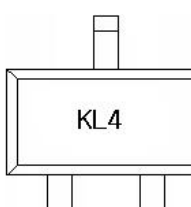


BAT54/A/C/S SCHOTTKY BARRIER DIODE



Features

- Negligible switching losses
- Very small conduction losses
- Low forward voltage drop
- Surface mount device
- Double diodes with different pinning are available
- This is a Pb – Free Device
- “-A” is an AEC-Q101 qualified device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

| BAT54 | BAT54A | BAT54C | BAT54S |
|---|---|--|---|
|  |  |  |  |
| MARKING:KL1 | MARKING:KL2 | MARKING:KL3 | MARKING:KL4 |
|  |  |  |  |

Note: If date code is before 16221, please contact with factory about marking.

Maximum Ratings@T_A=25°C unless otherwise specified

| Characteristics | Symbol | Condition | Max. | Units |
|--|--|--|------|-------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | - | 30 | V |
| Average Forward Current | I _{F(AV)} | 50% duty cycle @T _C =80°C, rectangular wave form | 0.2 | A |
| Peak One Cycle Non-Repetitive Surge Current (per leg) | I _{FSM} | 8.3 ms, half Sine pulse | 0.6 | A |
| Power dissipation# | P _{tot} | T _{amb} = 25 °C | 200 | mW |

Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

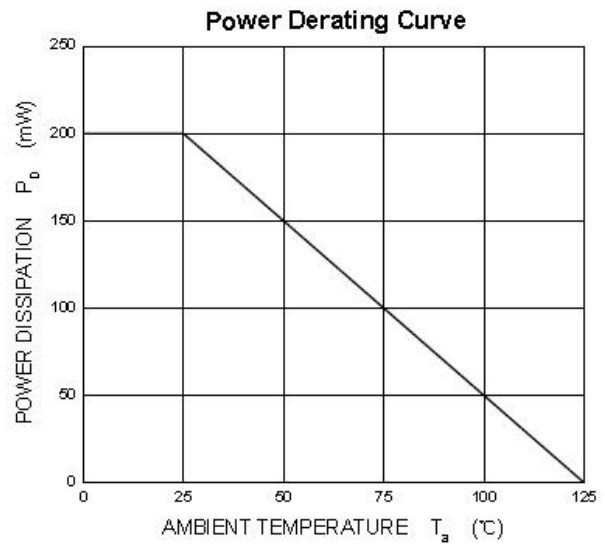
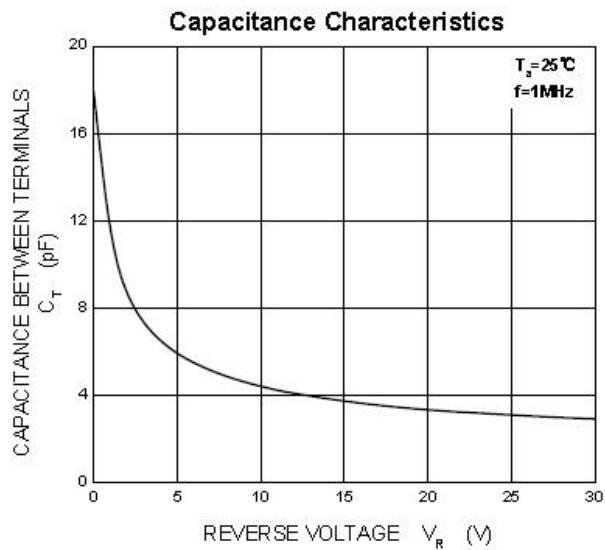
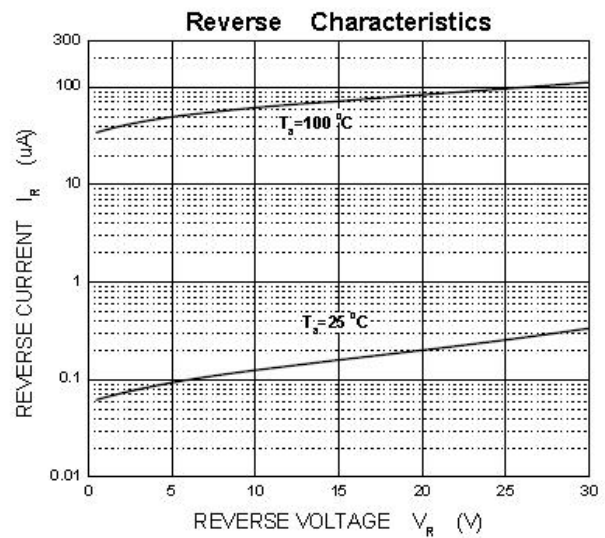
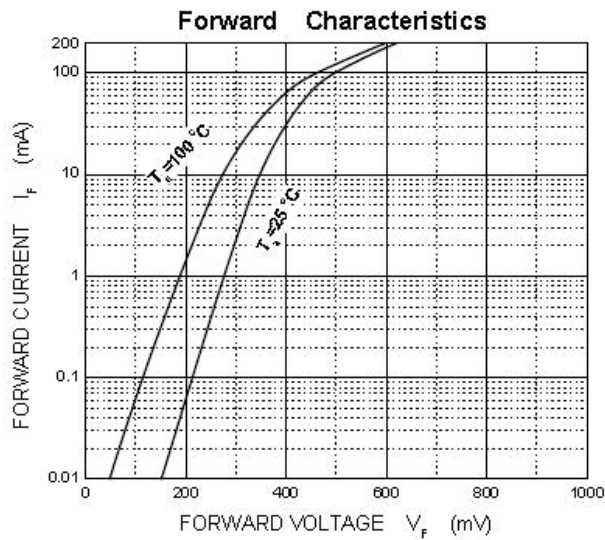
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|--------------------------------|----------|--|------|------|---------------|
| Forward Voltage Drop(per leg)* | V_{F1} | @ 0.1mA, Pulse, $T_J = 25^\circ\text{C}$ | 0.21 | 0.24 | V |
| | | @ 1mA, Pulse, $T_J = 25^\circ\text{C}$ | 0.29 | 0.32 | |
| | | @ 10mA, Pulse, $T_J = 25^\circ\text{C}$ | 0.35 | 0.40 | |
| | | @ 30mA, Pulse, $T_J = 25^\circ\text{C}$ | 0.40 | 0.50 | |
| | | @ 100mA, Pulse, $T_J = 25^\circ\text{C}$ | 0.50 | 1.0 | |
| Reverse Current(per leg)* | I_{R1} | @ $V_R = \text{rated } V_R$, Pulse, $T_J = 25^\circ\text{C}$ | 0.3 | 2.0 | μA |
| | I_{R2} | @ $V_R = \text{rated } V_R$, Pulse, $T_J = 100^\circ\text{C}$ | 102 | 200 | μA |
| Junction Capacitance(per leg) | C_T | @ $V_R = 1\text{ V}$, $T_C=25^\circ\text{C}$ fSIG = 1MHz | 6 | 10 | pF |
| Reverse Recovery Time | t_{rr} | $I_F=10\text{mA}$ $I_R = 10\text{mA}$ $T_J = 25^\circ\text{C}$ $I_{rr} = 1\text{ mA}$ $R_L=100\Omega$ | - | 5 | ns |

* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications

| Characteristics | Symbol | Condition | Specification | Units |
|--|-----------------|--------------|---------------|--------------------|
| Junction Temperature | T_J | - | 125 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +150 | $^\circ\text{C}$ |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | DC operation | 500 | $^\circ\text{C/W}$ |

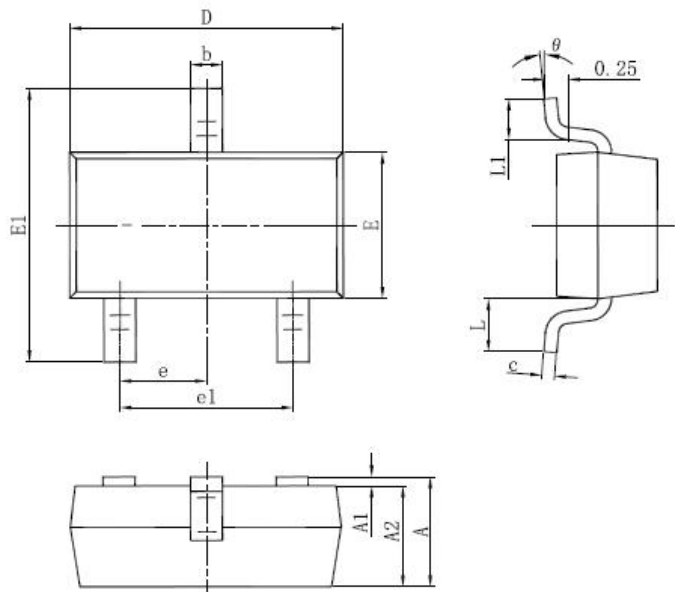
Ratings and Characteristics Curves



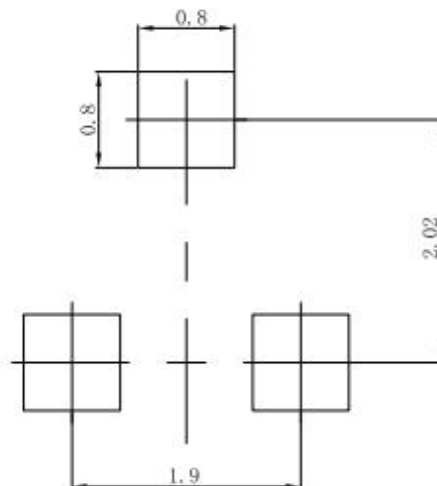
Ordering Information

| Device | Package | Shipping |
|-------------|---------|----------------|
| BAT54/A/C/S | SOT-23 | 3000pcs / reel |

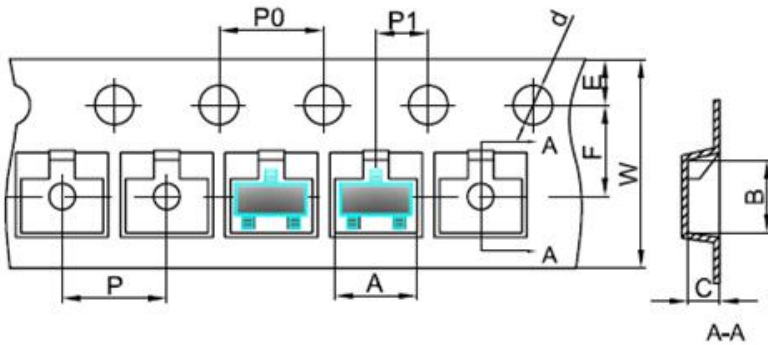
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Mechanical Dimensions SOT-23


| SYMBOL | Millimeters | | Inches | |
|----------|-------------|-------|------------|-------|
| | MIN. | MAX. | MIN. | MAX. |
| A | 0.890 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.076 | 0.170 | 0.003 | 0.007 |
| D | 2.650 | 3.050 | 0.104 | 0.120 |
| E | 1.190 | 1.400 | 0.047 | 0.055 |
| E1 | 2.100 | 2.550 | 0.083 | 0.100 |
| e | 0.950 TYP. | | 0.037 TYP. | |
| e1 | 1.780 | 2.050 | 0.070 | 0.081 |
| L | 0.550 REF. | | 0.022 REF. | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

Soldering Pad Layout (Millimeters)


Carrier Tape Specification SOT-23



| SYMBOL | Millimeters | |
|--------|-------------|------|
| | Min. | Max. |
| A | 3.05 | 3.25 |
| B | 2.67 | 2.87 |
| C | 1.12 | 1.32 |
| d | 1.40 | 1.60 |
| E | 1.65 | 1.85 |
| F | 3.40 | 3.60 |
| P | 3.90 | 4.10 |
| P0 | 3.90 | 4.10 |
| P1 | 1.90 | 2.10 |
| W | 7.90 | 8.30 |

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