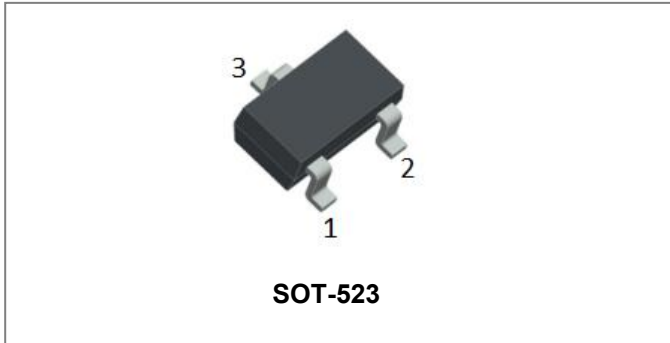
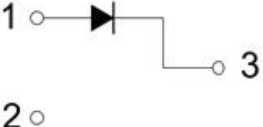
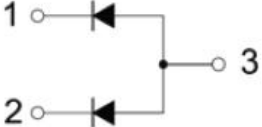
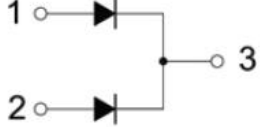
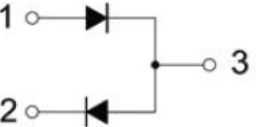
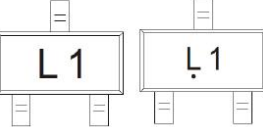





## BAT54T/AT/CT/ST SCHOTTKY BARRIER DIODE



### Features

- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

| BAT54T  | BAT54AT   | BAT54CT  | BAT54ST   |
|---|---|--|---|
|    |    |    |    |
| MARKING:L1  | MARKING:L2  | MARKING:L3   | MARKING:L4  |
|  |  |  |  |

Solid dot = Green molding compound device, if none, the normal device.

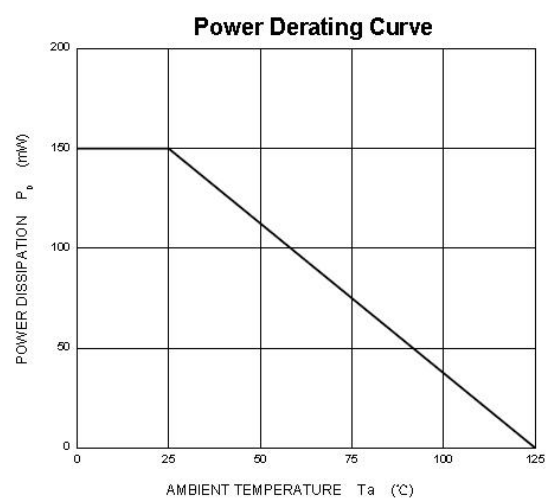
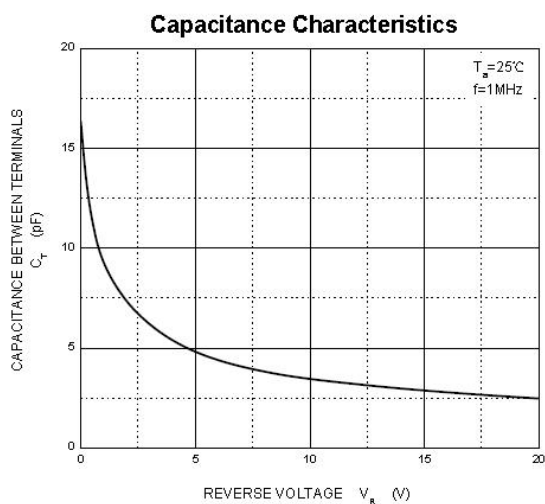
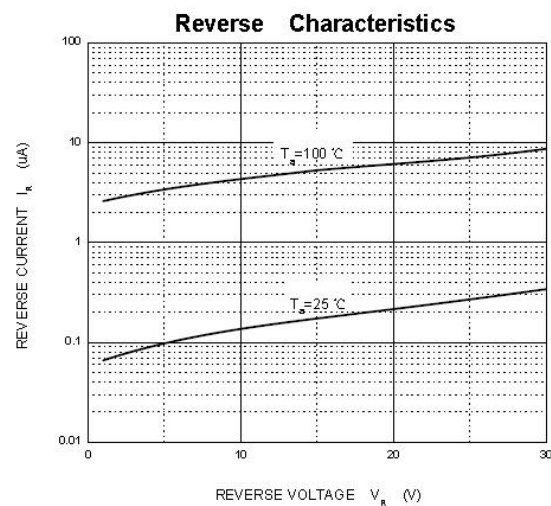
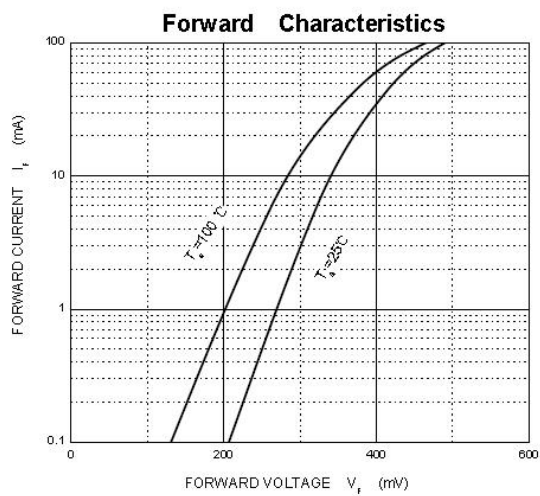
### Maximum Ratings@T<sub>A</sub>=25°C unless otherwise specified

| Symbol              | Parameter   | Value    | Units |
|---------------------|---|----------|-------|
| V <sub>RRM</sub>    | Peak Repetitive Reverse Voltage                     | 30       | V     |
| V <sub>RWM</sub>    | Working Peak Reverse Voltage                        |          |       |
| V <sub>R(RMS)</sub> | RMS Reverse Voltage                                 | 21       | V     |
| I <sub>O</sub>      | Average Rectified Output Current                    | 0.2      | A     |
| I <sub>FSM</sub>    | Non-repetitive Peak Forward Surge Current @ t=8.3ms | 600      | mA    |
| I <sub>FRM</sub>    | Repetitive Peak Forward Surge Current @ t≤1s;δ≤0.5  | 300      | mA    |
| P <sub>D</sub>      | Power Dissipation                                   | 150      | mW    |
| R <sub>θJA</sub>    | Thermal Resistance from Junction to Ambient         | 667      | °C/W  |
| T <sub>j</sub>      | Junction Temperature                                | 125      | °C    |
| T <sub>stg</sub>    | Storage Temperature                                 | -55~+150 | °C    |

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

| Parameter             | Symbol     | Test conditions  | Min | Typ | Max  | Units         |
|-----------------------|------------|--|-----|-----|------|---------------|
| Reverse voltage*      | $V_{(BR)}$ | $I_R=100\mu\text{A}$                                       | 30  | -   | -    | V             |
| Reverse current*      | $I_R$      | $V_R=25\text{V}$   | -   | -   | 2    | $\mu\text{A}$ |
| Forward voltage*      | $V_F$      | $I_F=1\text{mA}$   | -   | -   | 0.32 | V             |
|                       |            | $I_F=10\text{mA}$  | -   | -   | 0.4  |               |
|                       |            | $I_F=30\text{mA}$  | -   | -   | 0.5  |               |
|                       |            | $I_F=100\text{mA}$   | -   | -   | 1    |               |
| Total capacitance     | $C_{tot}$  | $V_R=1\text{V}, f=1\text{MHz}$                             | -   | -   | 10   | pF            |
| Reverse recovery time | $T_{rr}$   | $I_F=I_R=10\text{mA}, I_{rr}=0.1\times I_R, R_L=100\Omega$ | -   | -   | 5    | ns            |

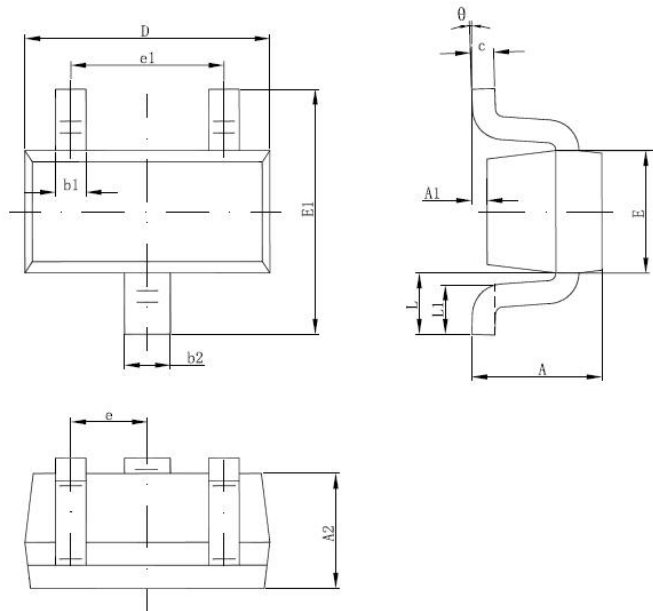
\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Ratings and Characteristics Curves**


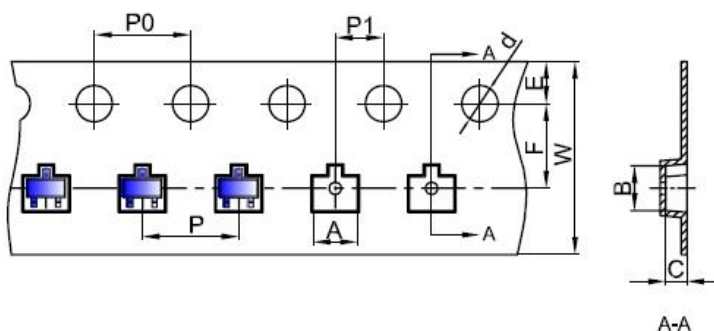
**Ordering Information**

| Device          | Package          | Shipping       |
|-----------------|------------------|----------------|
| BAT54T/AT/CT/ST | SOT-523(Pb-Free) | 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-523**


| SYMBOL | Millimeters |       | Inches     |       |
|--------|-------------|-------|------------|-------|
|        | MIN.        | MAX.  | MIN.       | MAX.  |
| A      | 0.700       | 0.900 | 0.028      | 0.035 |
| A1     | 0.000       | 0.100 | 0.000      | 0.004 |
| A2     | 0.700       | 0.800 | 0.028      | 0.031 |
| b1     | 0.150       | 0.250 | 0.006      | 0.010 |
| b2     | 0.250       | 0.350 | 0.010      | 0.014 |
| c      | 0.100       | 0.200 | 0.004      | 0.008 |
| D      | 1.500       | 1.700 | 0.059      | 0.067 |
| E      | 0.700       | 0.900 | 0.028      | 0.035 |
| E1     | 1.450       | 1.750 | 0.057      | 0.069 |
| e      | 0.500 TYP.  |       | 0.020 TYP. |       |
| e1     | 0.900       | 1.100 | 0.035      | 0.043 |
| L      | 0.400 REF.  |       | 0.016 REF. |       |
| L1     | 0.260       | 0.460 | 0.010      | 0.018 |
| θ      | 0°          | 8°    | 0°         | 8°    |

**Carrier Tape Specification SOT-523**


| SYMBOL | Millimeters |       |
|--------|-------------|-------|
|        | Min.        | Max.  |
| A      | 1.80        | 1.90  |
| B      | 1.80        | 1.90  |
| C      | 0.825       | 0.925 |
| 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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