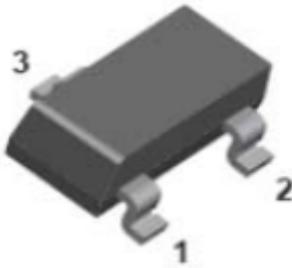
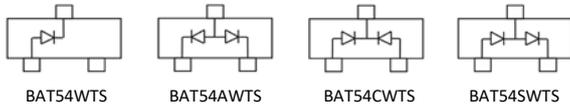


Schottky Barrier Diode



Features

- Moisture sensitivity level 1
- Reverse voltage: 30V
- Average forward current : 200mA

Application

- High frequency and low voltage rectifier

Mechanical data

- **Package:** SOT-323S
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings (T_a=25°C Unless otherwise specified)

| Parameter | Symbol | Unit | Value | |
|--------------------------------------------------------------------|------------------|------|-------------|-----|
| Device marking code | | | BAT54WTS | KL5 |
| | | | BAT54AWTS | KL6 |
| | | | BAT54CWTS | KL7 |
| | | | BAT54SWTS | KL8 |
| Repetitive peak reverse voltage | V _{RRM} | V | 30 | |
| Forward current | I _F | mA | 200 | |
| Non-repetitive surge peak forward current @ t=8.3ms half-sine wave | I _{FSM} | A | 0.6 | |
| Non-repetitive surge peak forward current @ t=1ms square wave | | | 0.6 | |
| Repetitive Peak Forward Current @ t _p =1ms, δ=0.25 | I _{FRM} | A | 0.3 | |
| Power dissipation | P _D | mW | 200 | |
| Junction temperature | T _J | °C | -55 to +125 | |
| Storage temperature | T _{STG} | °C | -55 to +125 | |



BAT54WTS THRU BAT54SWTS

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

| Parameter | Symbol | UNIT | Conditions | Min | Typ | Max |
|-------------------------|-----------------|------|-----------------------------------------------------------------------------------------------------|-----|-----|------|
| Reverse voltage | V _R | V | I _R =0.1mA | 30 | | |
| Forward voltage | V _{F1} | V | I _F =0.1mA | | | 0.24 |
| | V _{F2} | V | I _F =1mA | | | 0.32 |
| | V _{F3} | V | I _F =10mA | | | 0.4 |
| | V _{F4} | V | I _F =30mA | | | 0.5 |
| | V _{F5} | V | I _F =100mA | | | 1 |
| Reverse leakage current | I _R | uA | V _R =25V | | | 2 |
| Junction capacitance | C _j | pF | V _R =1.0V, f=1MHz | | 10 | |
| Reverse recovery time | T _{rr} | ns | I _F =I _R =10mA, I _{rr} =0.1*I _R , R _L =100Ω | | | 5 |

■ Thermal Characteristics

| Parameter | Symbol | Unit | Value |
|-----------------------------------------|----------------------------------|------|-------|
| Thermal resistance, junction-to-ambient | R _{θJ-A} ⁽¹⁾ | °C/W | 500 |
| Thermal resistance, junction-to-case | R _{θJ-C} ⁽¹⁾ | °C/W | 400 |

Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint



BAT54WTS THRU BAT54SWTS

■ Characteristics

Fig 1: P_D-T_a Curve

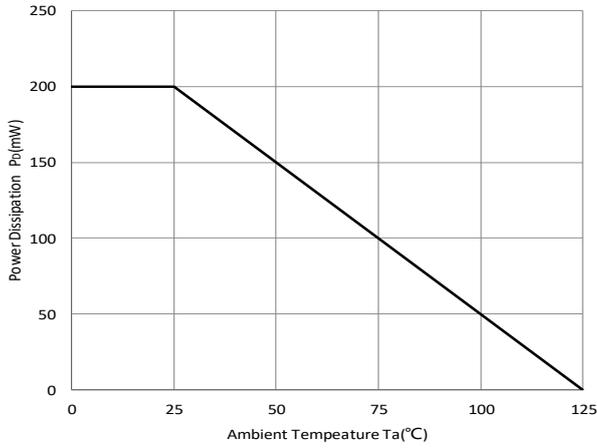


Fig 2: Capacitance Capability

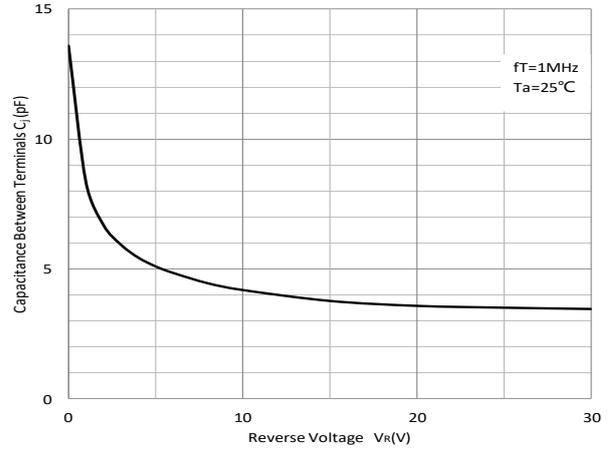


Fig 3: Typical Forward Characteristics

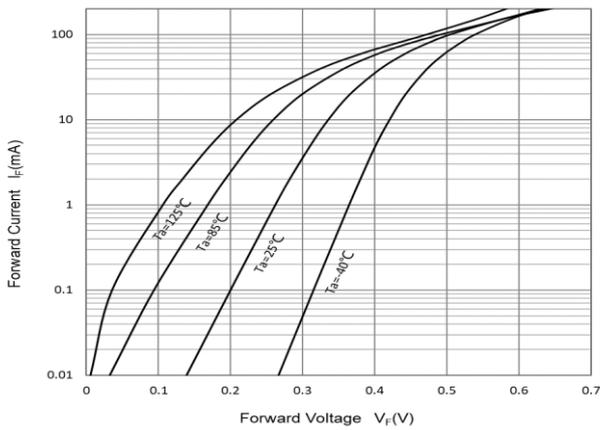
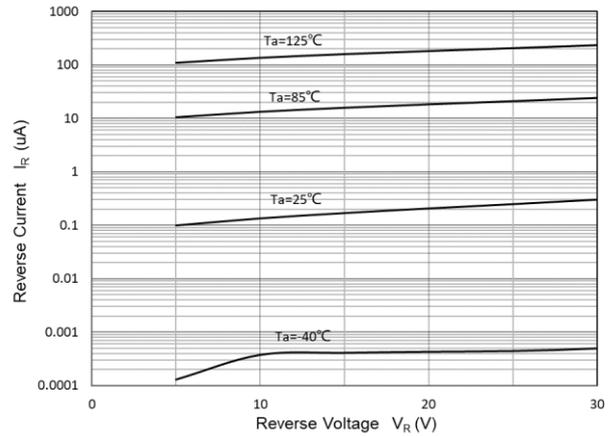


Fig 4: Typical Reverse Characteristics



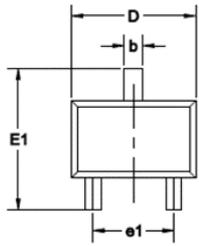
■ Ordering Information

| Preferred P/N | Packing code | Unit weight(g) | Minimum package(pcs) | Inner box quantity(pcs) | Outer carton quantity (pcs) | Delivery mode |
|----------------------------|--------------|-------------------|----------------------|-------------------------|-----------------------------|---------------|
| BAT54WTS THRU BAT54SWTS | F2 | Approximate 0.005 | 3000 | 30000 | 120000 | 7" reel |

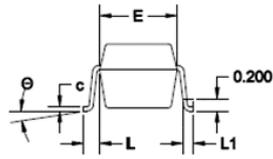


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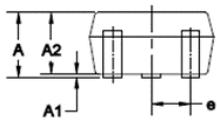
■ Outline Dimensions



TOP VIEW



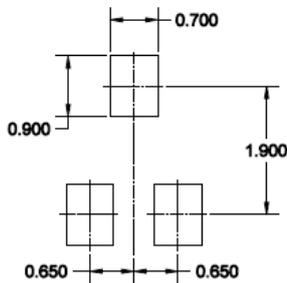
SIDE VIEW



SIDE VIEW

| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|------------|-------|
| | INCHES | | MILLIMETER | |
| | MIN. | MAX. | MIN. | MAX. |
| A | 0.035 | 0.043 | 0.900 | 1.100 |
| A1 | 0.000 | 0.004 | 0.000 | 0.100 |
| A2 | 0.035 | 0.039 | 0.900 | 1.000 |
| b | 0.006 | 0.016 | 0.150 | 0.400 |
| c | 0.004 | 0.010 | 0.100 | 0.250 |
| D | 0.071 | 0.087 | 1.800 | 2.200 |
| E | 0.045 | 0.053 | 1.150 | 1.350 |
| E1 | 0.080 | 0.096 | 2.000 | 2.200 |
| e | 0.026 TYP | | 0.650 TYP | |
| e1 | 0.047 | 0.055 | 1.200 | 1.400 |
| L | 0.021 REF | | 0.525 REF | |
| L1 | 0.010 | 0.018 | 0.260 | 0.460 |
| θ | 0° | 8° | 0° | 8° |

■ Suggested Pad Layout



Note:

1. All dimensions are in millimeters (mm) unless otherwise specified.

[所有尺寸均以毫米为单位，除非另有说明]

2. General tolerances: $\pm 0.10\text{mm}$ unless otherwise specified.

[通用公差为 $\pm 0.10\text{mm}$ ，除非另有说明]

3. Dimensions and tolerances per ASME Y14.5M-2018.

[尺寸和公差遵循 ASME Y14.5M-2018 标准]

4. All dimensions shown are exclusive of burrs and gate residues. Burrs and gate vestiges shall not exceed 0.15 mm in maximum.

[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]

5. Dimension b does not include dambar protrusion of max 0.100 mm per side.

[尺寸b不包括单边最大0.100 MM的中筋凸出部分]

6. Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.

[D和E是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]

7. Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.

[成型的管脚应为同一平面，共面性最大为0.1mm]



BAT54WTS THRU BAT54SWTS

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