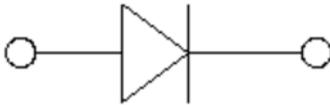


Schottky Rectifier



Features

- Moisture sensitivity level 1
- Reverse voltage: 30V
- Average forward current : 0.2A

Application

- High frequency and low voltage rectifier

Mechanical data

- **Package:** SOD-123
- **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 | | | L9 |
| Repetitive peak reverse voltage | V _{RRM} | V | 30 |
| Forward current | I _F | A | 0.2 |
| 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 |
| Power dissipation | P _D | mW | 500 |
| Junction temperature | T _J | °C | -55 to +125 |
| Storage temperature | T _{STG} | °C | -55 to +150 |



BAT54W

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

| Parameter | Symbol | Unit | Conditions | Min | Typ | Max |
|-------------------------|-----------------|------|---|-----|-----|------|
| Breakdown voltage | V _R | V | I _R =100uA | 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 =1V, f =1MHz | | | 10 |
| Reverse recovery time | T _{rr} | ns | I _F =I _R =10mA, I _{rr} =1mA, R _L =100Ω | | | 5 |

■ Thermal Characteristics

| Parameter | Symbol | Unit | Value |
|---|----------------------------------|------|-------|
| Thermal resistance, junction-to-ambient | R _{θJ-A} ⁽¹⁾ | °C/W | 200 |
| Thermal resistance, junction-to-case | R _{θJ-C} ⁽¹⁾ | °C/W | 160 |

Note:

(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm*9mm copper pad areas



■ Characteristics

Fig 1: P_D-T_a Curve

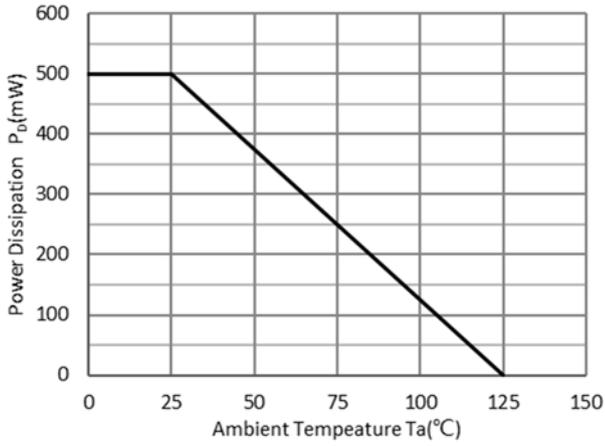


Fig 2: Capacitance Capability

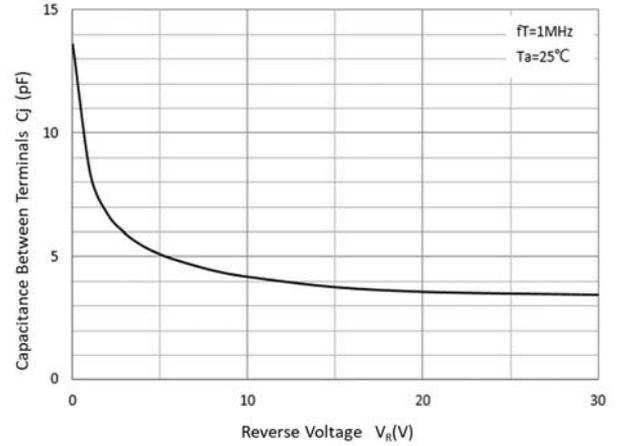


Fig 3: Typical Forward Characteristics

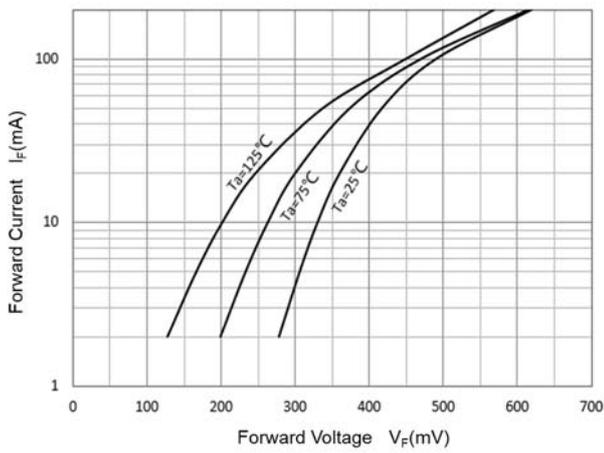
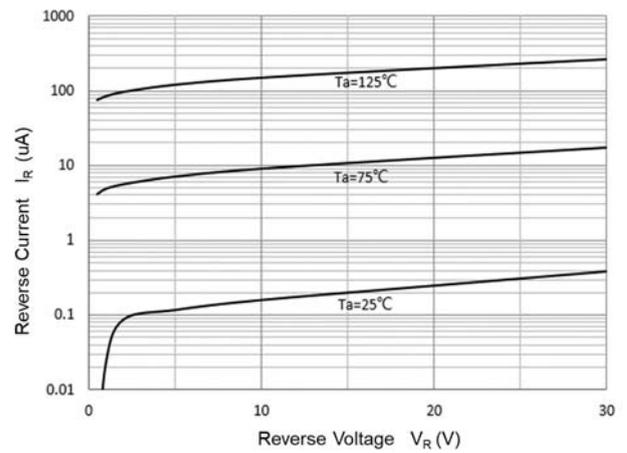


Fig 4: Typical Reverse Characteristics



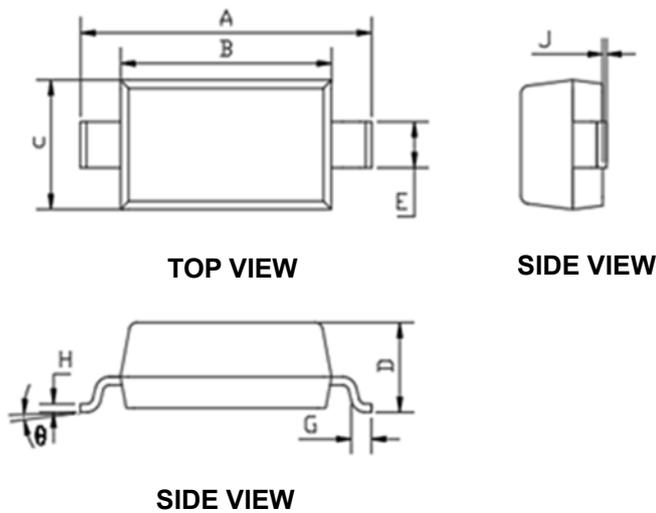


BAT54W

Ordering Information

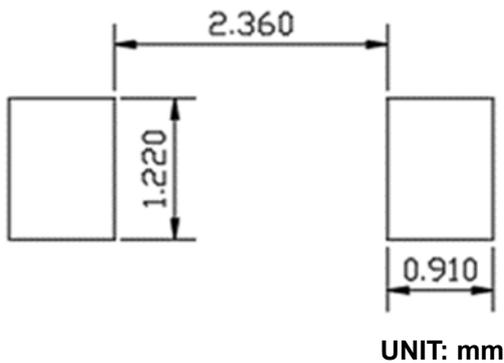
| Preferred P/N | Packing code | Unit weight(g) | Minimum package(pcs) | Inner box quantity(pcs) | Outer carton quantity(pcs) | Delivery mode |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| BAT54W | F2 | Approximate 0.011 | 3000 | 30000 | 120000 | 7" reel |
| BAT54W | F3 | Approximate 0.011 | 10000 | / | 210000 | 13" reel |

Outline Dimensions



| DIMENSIONS | | | | |
|------------|--------|-------|-------|-------|
| DIM | INCHES | | MM | |
| | MIN | MAX | MIN | MAX |
| A | 0.140 | 0.152 | 3.550 | 3.850 |
| B | 0.100 | 0.112 | 2.550 | 2.850 |
| C | 0.055 | 0.071 | 1.400 | 1.800 |
| D | 0.037 | 0.053 | 0.950 | 1.350 |
| E | 0.020 | 0.028 | 0.510 | 0.710 |
| G | 0.006 | 0.018 | 0.150 | 0.450 |
| H | 0.003 | 0.010 | 0.080 | 0.250 |
| J | 0.000 | 0.006 | 0.000 | 0.150 |
| θ | 0 | 8° | 0 | 8° |

Suggested Pad Layout



Note:

- 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]
- 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]
- Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
- 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]
- 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]
- Dimensions B and C 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.
[B和C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]
- 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]



BAT54W

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