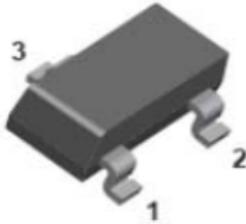
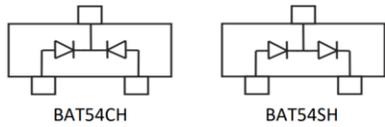
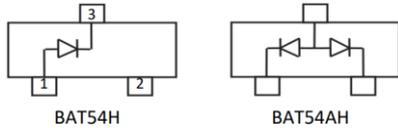


## Schottky Barrier Diode



### Features

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

### Application

- High frequency and low voltage rectifier

### Mechanical data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

### ■ Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

| Parameter  | Symbol           | Unit | Value       |      |
|--|------------------|------|-------------|------|
|  |                  |      | BAT54H      | KL1H |
| Device marking code  |                  |      | BAT54AH     | KL2H |
|  |                  |      | BAT54CH     | KL3H |
|  |                  |      | BAT54SH     | KL4H |
|  |                  |      |             |      |
| Repetitive peak reverse voltage                                    | V <sub>RRM</sub> | V    | 30          |      |
| Forward current, per leg   | I <sub>F</sub>   | mA   | 200         |      |
| Non-repetitive Surge peak forward current @ t=8.3ms half-sine wave | I <sub>FSM</sub> | A    | 0.6         |      |
| Non-repetitive Surge peak forward current @ t=1ms square wave      |                  |      | 0.6         |      |
| Repetitive Peak Forward Current@ tp=1ms, δ=0.25                    | I <sub>FRM</sub> | A    | 0.3         |      |
| Power dissipation  | P <sub>D</sub>   | mW   | 250         |      |
| Junction temperature   | T <sub>J</sub>   | °C   | -55 to +150 |      |
| Storage temperature  | T <sub>STG</sub> | °C   | -55 to +150 |      |



## BAT54H THRU BAT54SH

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| Parameter               | Symbol          | UNIT | Conditions  | Min | TYP | Max  |
|-------------------------|-----------------|------|---|-----|-----|------|
| Reverse voltage         | V <sub>R</sub>  | V    | I <sub>R</sub> =0.1mA   | 30  |     |      |
| Forward voltage         | V <sub>F1</sub> | V    | I <sub>F</sub> =0.1mA   |     |     | 0.24 |
|                         | V <sub>F2</sub> | V    | I <sub>F</sub> =1mA   |     |     | 0.32 |
|                         | V <sub>F3</sub> | V    | I <sub>F</sub> =10mA  |     |     | 0.4  |
|                         | V <sub>F4</sub> | V    | I <sub>F</sub> =30mA  |     |     | 0.5  |
|                         | V <sub>F5</sub> | V    | I <sub>F</sub> =100mA   |     |     | 0.8  |
| Reverse leakage current | I <sub>R</sub>  | uA   | V <sub>R</sub> =25V   |     |     | 2    |
| Junction capacitance    | C <sub>j</sub>  | pF   | V <sub>R</sub> =1.0V, f=1MHz  |     |     | 10   |
| Reverse recovery time   | T <sub>rr</sub> | ns   | I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =0.1*I <sub>R</sub> , |     |     | 5    |

### ■ Thermal Characteristics

| Parameter                               | Symbol                           | Unit | Value |
|---|----------------------------------|------|-------|
| Thermal resistance, junction-to-ambient | R <sub>θJ-A</sub> <sup>(1)</sup> | °C/W | 500   |
| Thermal resistance, junction-to-case    | R <sub>θJ-C</sub> <sup>(1)</sup> | °C/W | 400   |

#### Note:

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



# BAT54H THRU BAT54SH

## ■ Characteristics

Fig 1:  $P_D$ - $T_a$  Curve

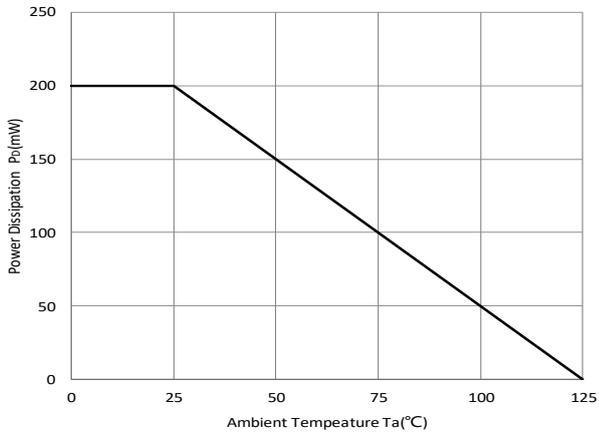


Fig 2: Capacitance Capability

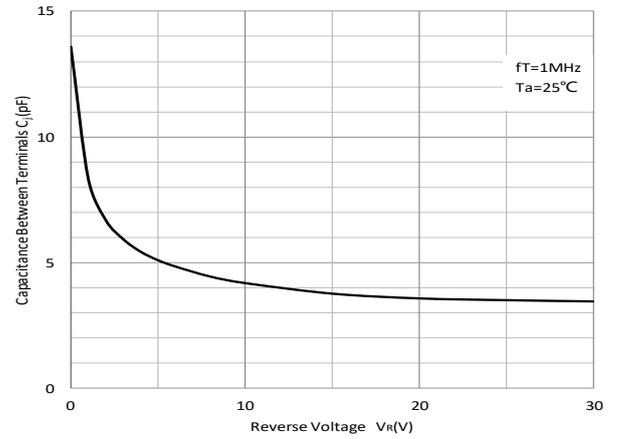


Fig 3: Typical Forward Characteristics

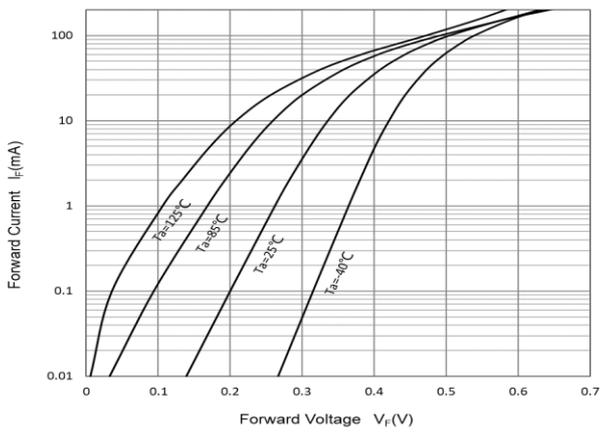
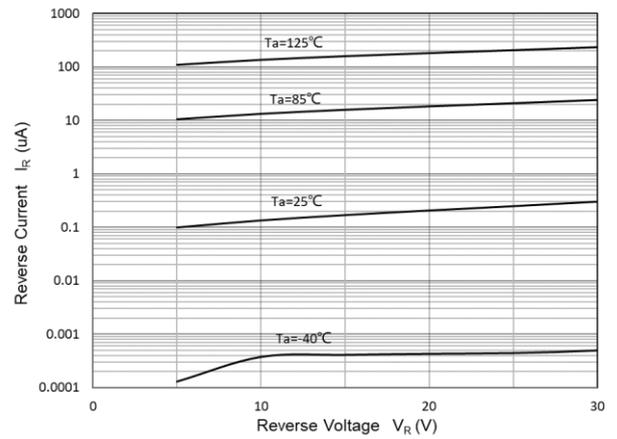


Fig 4: Typical Reverse Characteristics



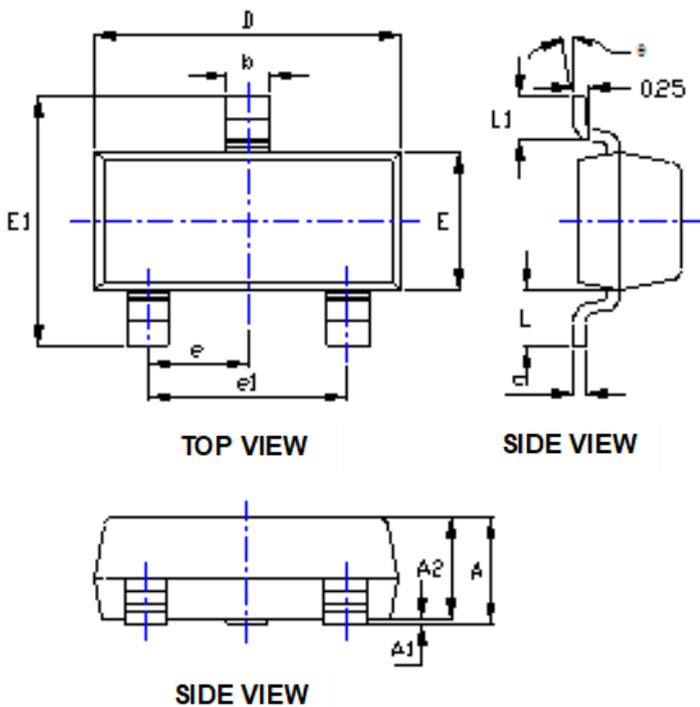


# BAT54H THRU BAT54SH

## ■ Ordering Information

| Preferred P/N | Packing code | Unit weight(g)    | Minimum package(pcs) | Inner box quantity(pcs) | Outer carton quantity (pcs) | Delivery mode |
|---------------|--------------|-------------------|----------------------|-------------------------|-----------------------------|---------------|
| BAT54H        | F2           | Approximate 0.008 | 3000                 | 30000                   | 120000                      | 7" reel       |
| BAT54H        | F4           | Approximate 0.008 | 10000                | -                       | 210000                      | 13" reel      |
| BAT54AH       | F2           | Approximate 0.008 | 3000                 | 30000                   | 120000                      | 7" reel       |
| BAT54AH       | F4           | Approximate 0.008 | 10000                | -                       | 210000                      | 13" reel      |
| BAT54CH       | F2           | Approximate 0.008 | 3000                 | 30000                   | 120000                      | 7" reel       |
| BAT54CH       | F4           | Approximate 0.008 | 10000                | -                       | 210000                      | 13" reel      |
| BAT54SH       | F2           | Approximate 0.008 | 3000                 | 30000                   | 120000                      | 7" reel       |
| BAT54SH       | F4           | Approximate 0.008 | 10000                | -                       | 210000                      | 13" reel      |

## ■ Outline Dimensions

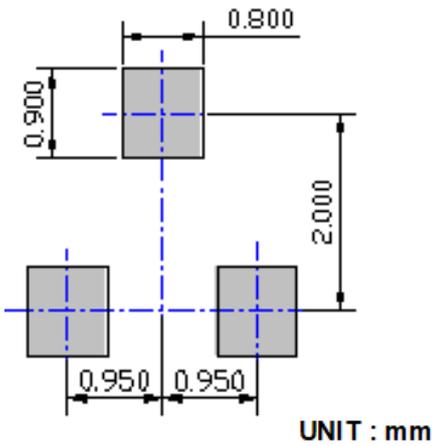


| SYMBOL | DIMENSIONS |       |            |       |
|--------|------------|-------|------------|-------|
|        | INCHES     |       | Millimeter |       |
|        | MIN.       | MAX.  | MIN.       | MAX.  |
| A      | 0.035      | 0.045 | 0.900      | 1.150 |
| A1     | 0.000      | 0.004 | 0.000      | 0.100 |
| A2     | 0.035      | 0.041 | 0.900      | 1.050 |
| b      | 0.012      | 0.020 | 0.300      | 0.500 |
| c      | 0.004      | 0.008 | 0.100      | 0.200 |
| D      | 0.110      | 0.118 | 2.800      | 3.000 |
| E      | 0.047      | 0.055 | 1.200      | 1.400 |
| E1     | 0.089      | 0.100 | 2.250      | 2.550 |
| e      | 0.037TYP   |       | 0.950TYP   |       |
| e1     | 0.071      | 0.079 | 1.800      | 2.000 |
| L      | 0.022REF   |       | 0.550REF   |       |
| L1     | 0.012      | 0.020 | 0.300      | 0.500 |
| θ      | 0°         | 8°    | 0°         | 8°    |



## BAT54H THRU BAT54SH

### ■ 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]



## BAT54H THRU BAT54SH

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