



Small Signal Schottky Diode



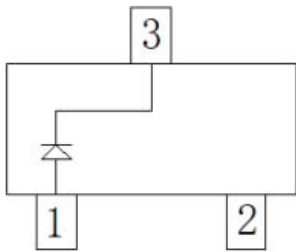
Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Low Forward Voltage Schottky Rectifier
- V_{RRM} 30V
- I_{FAV} 200mA
- Part no. with suffix "Q" means AEC-Q101 qualified

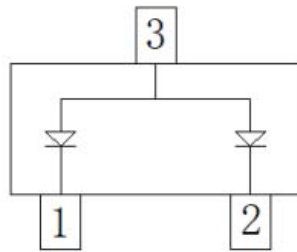
Mechanical Data

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

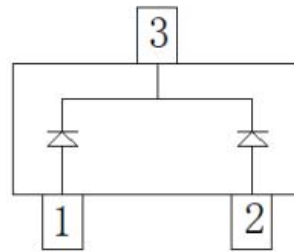
SOT-323



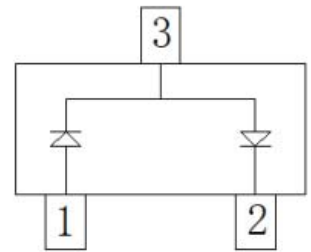
BAT54WTQ
Marking:KL5



BAT54AWTQ
Marking:KL6



BAT54CWTQ
Marking:KL7



BAT54SWTQ
Marking:KL8

■ Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | CONDITIONS | VALUE |
|---|-----------------|--------------------|---------------------------------|-------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | V | | 30 |
| Average Forward Current | $I_{FAV}^{[1]}$ | mA | | 200 |
| Non-Repetitive Peak Forward Surge Current | I_{FSM} | A | square wave $t_p < 10\text{ms}$ | 3 |
| Power Dissipation | $P_D^{[1]}$ | mW | | 200 |
| Thermal Resistance Junction to Ambient | R_{thJA} | $^\circ\text{C/W}$ | | 500 |
| Junction Temperature | T_j | $^\circ\text{C}$ | | -55 to +125 |
| Storage Temperature Range | T_{stg} | $^\circ\text{C}$ | | -55 to +150 |

[1] Single diode loaded



BAT54WTQ&BAT54AWTQ&BAT54CWTQ&BAT54SWTQ

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

| PARAMETER | SYMBOL | UNIT | CONDITIONS | MIN | MAX |
|---------------------------|-----------------|------|--|-----|------|
| Forward Voltage | V _F | V | I _F =0.1mA | | 0.24 |
| | | | I _F =1mA | | 0.32 |
| | | | I _F =10mA | | 0.4 |
| | | | I _F =30mA | | 0.5 |
| | | | I _F =100mA | | 1 |
| Reverse Current | I _R | μA | V _R =25V | | 2 |
| Reverse Breakdown Voltage | V _{BR} | V | I _R =10μA | 30 | |
| 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 |

■ Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| BAT54WTQ BAT54AWTQ BAT54CWTQ BAT54SWTQ | F2 | Approximate 0.006 | 3000 | 30000 | 120000 | 7" reel |



■ Characteristics (Typical)

Fig.1: P_D-T_A

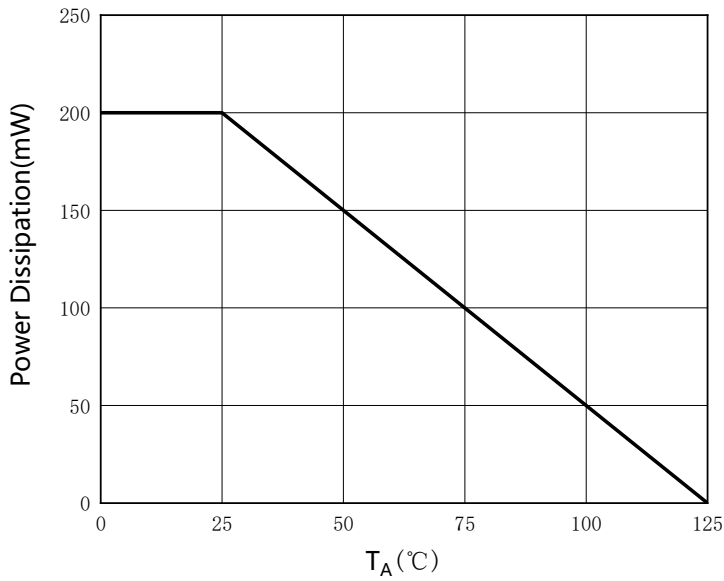


Fig.2: Capacitance Characteristics

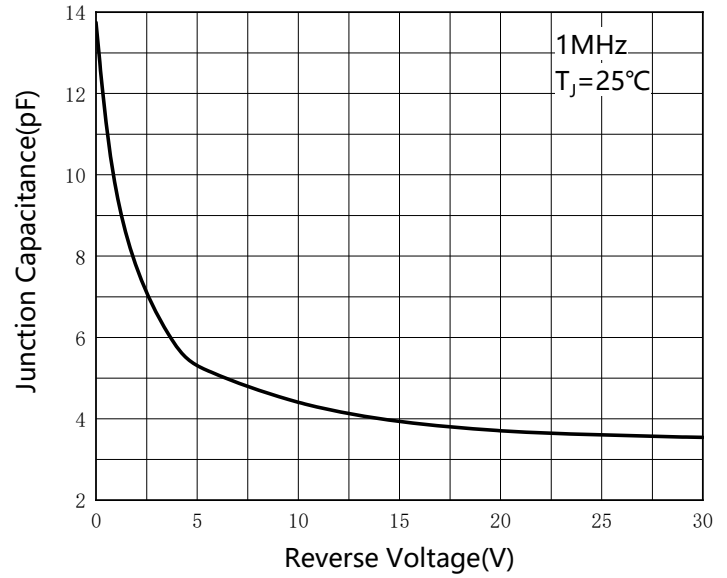


Fig.3: Forward Characteristics

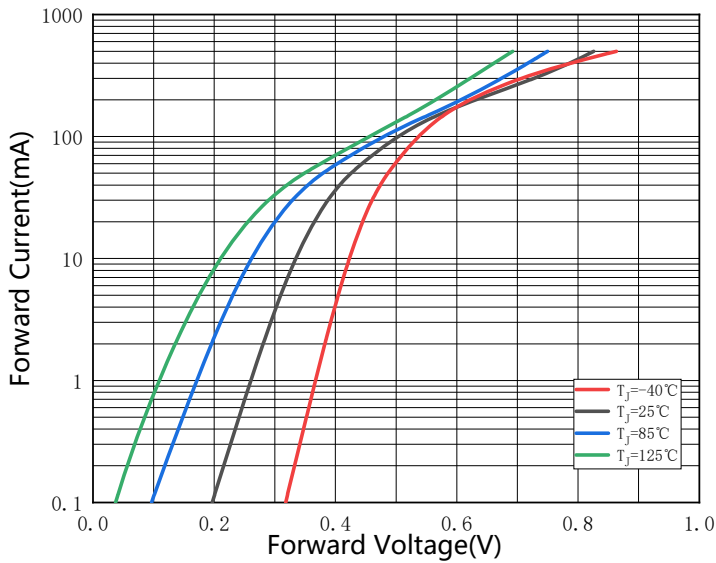
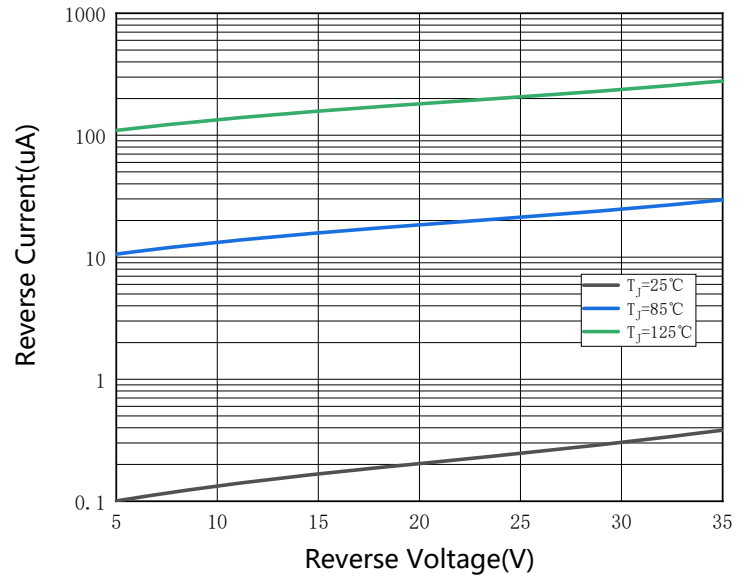
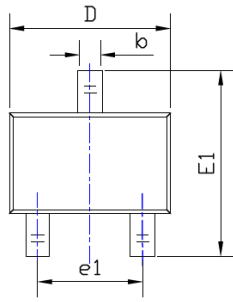


Fig.4: Reverse Characteristics

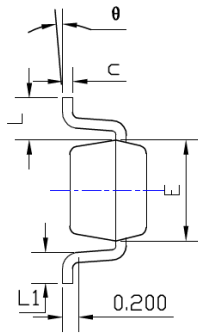




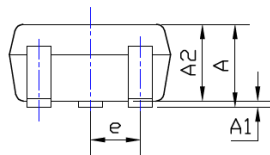
■ Outline Dimensions



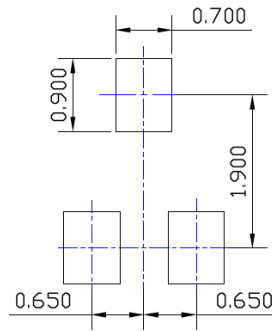
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

| 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 | 0.085 | 0.096 | 2.150 | 2.450 |
| e | 0.026TYP | | 0.650TYP | |
| e1 | 0.047 | 0.055 | 1.200 | 1.400 |
| L | 0.021REF | | 0.525REF | |
| L1 | 0.010 | 0.018 | 0.260 | 0.460 |
| θ | 0° | 8° | 0° | 8° |

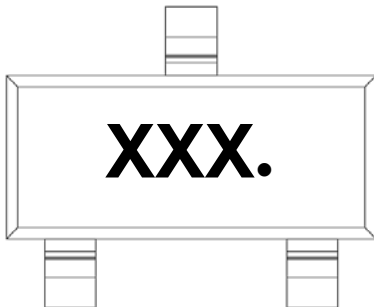
NOTE:

1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.

2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.

3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

■ Marking Information



| PN | Marking Code |
|-----------|--------------|
| BAT54WTQ | KL5. |
| BAT54AWTQ | KL6. |
| BAT54CWTQ | KL7. |
| BAT54SWTQ | KL8. |

Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. XXX is Marking Code
4. Body color: Black



Disclaimer

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