

BAT54WT

Schottky Barrier Diode

Features

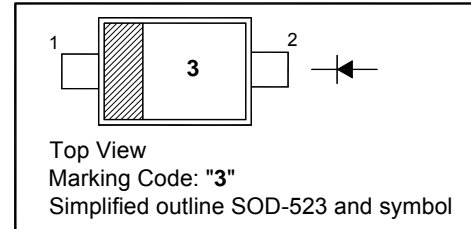
- Low forward voltage

Applications

- Ultrahigh-speed switching
- Voltage clamping
- Protection circuits

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Value | Unit |
|---|-----------|---------------|------------------|
| Reverse Voltage | V_R | 30 | V |
| Forward Current | I_F | 200 | mA |
| Repetitive Peak Forward Current | I_{FRM} | 300 | mA |
| Peak Forward Surge Current ($t_p = 10$ ms) | I_{FSM} | 600 | mA |
| Power Dissipation | P_D | 200 | mW |
| Junction Temperature | T_J | 125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 65 to + 150 | $^\circ\text{C}$ |

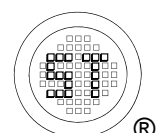
Thermal Characteristics

| Parameter | Symbol | Max. | Unit |
|---|-----------------|------|---------------------------|
| Thermal Resistance from Junction to Ambient ¹⁾ | $R_{\theta JA}$ | 500 | $^\circ\text{C}/\text{W}$ |

¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Min. | Max. | Unit |
|--|-------------|-----------------------|---------------------------------|---------------|
| Reverse Breakdown Voltage at $I_R = 10 \mu\text{A}$ | $V_{(BR)R}$ | 30 | - | V |
| Forward Voltage at $I_F = 0.1$ mA at $I_F = 1$ mA at $I_F = 10$ mA at $I_F = 30$ mA at $I_F = 100$ mA | V_F | - - - - - | 240 320 400 500 800 | mV |
| Reverse Current at $V_R = 25$ V | I_R | - | 2 | μA |
| Total Capacitance at $V_R = 1$ V, $f = 1$ MHz | C_T | - | 10 | pF |
| Reverse Recovery Time at $I_F = 10$ mA, $V_R = 6$ V, $R_L = 100 \Omega$, $I_{rr} = 0.1 \times I_R$ | t_{rr} | - | 6 | ns |



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Electrical Characteristic Curves

Fig 1. Reverse Characteristic Curve

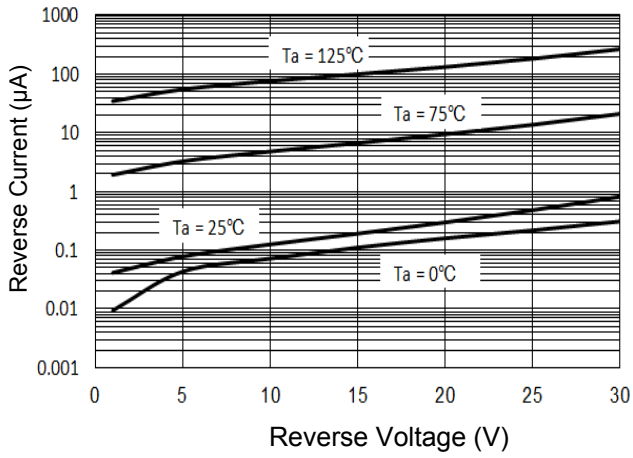


Fig 2. Forward Characteristic Curve

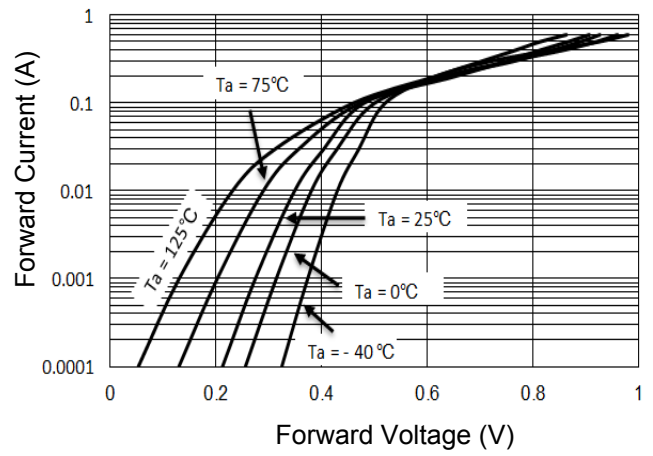


Fig 3. Junction Capacitance

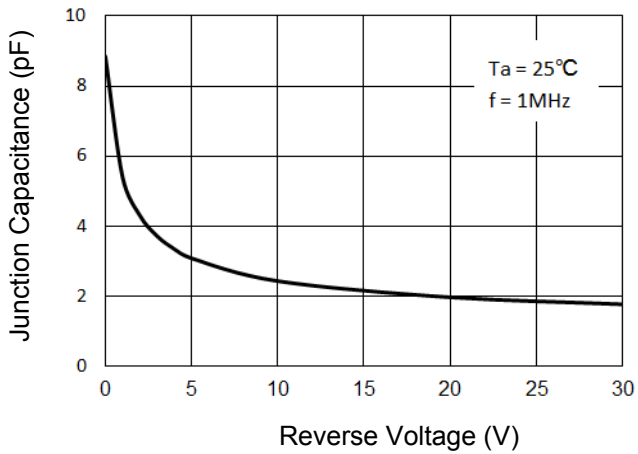
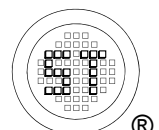
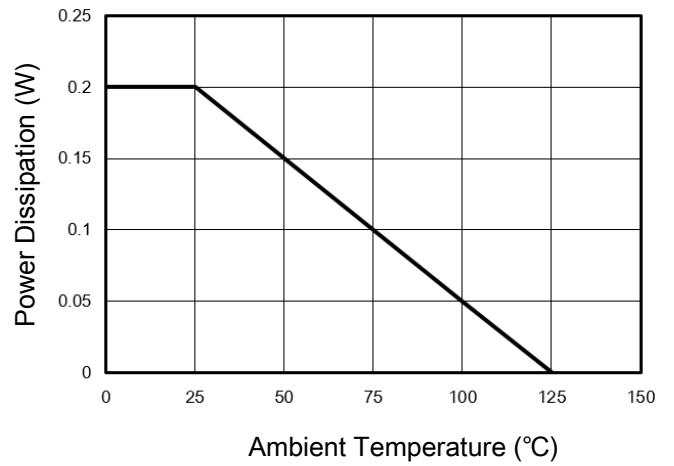


Fig 4. Power Derating Curve

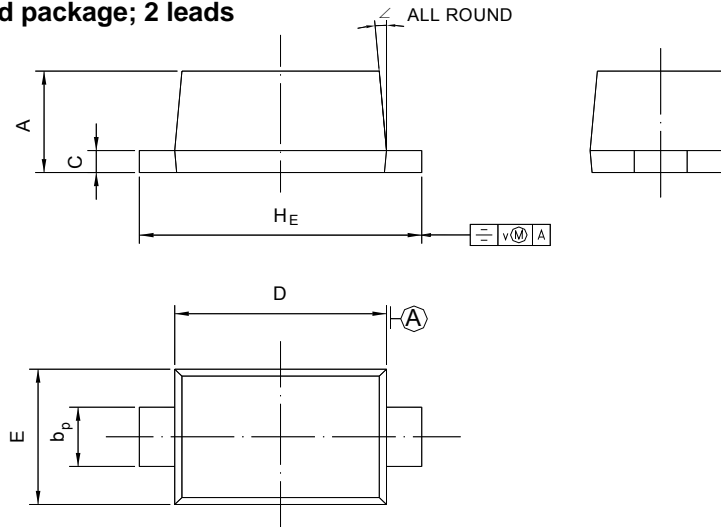


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PACKAGE OUTLINE

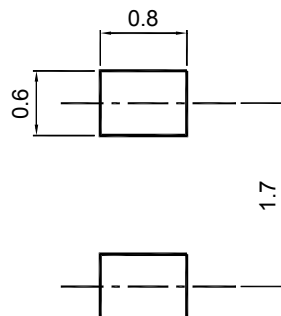
Plastic surface mounted package; 2 leads

SOD-523



| UNIT | A | b _p | C | D | E | H _E | V | ∠ |
|------|--------------|----------------|----------------|--------------|--------------|----------------|-----|----|
| mm | 0.70 0.60 | 0.4 0.3 | 0.135 0.100 | 1.25 1.15 | 0.85 0.75 | 1.7 1.5 | 0.1 | 5° |

Recommended Soldering Footprint

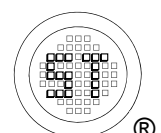
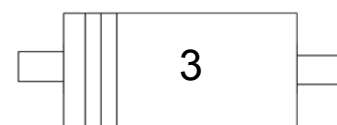


Packing information

| Package | Tape Width (mm) | Pitch | | Reel Size | | Per Reel Packing Quantity |
|---------|-----------------|---------|---------------|-----------|------|---------------------------|
| | | mm | inch | mm | inch | |
| SOD-523 | 8 | 4 ± 0.1 | 0.157 ± 0.004 | 178 | 7 | 4,000 |

Marking information

" 3 " = Part No.
 " III " = Cathode line
 Font type: Arial



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