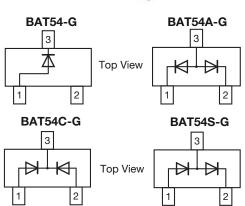
BAT54-G, BAT54A-G, BAT54C-G, BAT54S-G

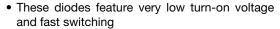
Vishay Semiconductors

Small Signal Schottky Diodes, Single and Dual





FEATURES





 These devices are protected by a PN junction guardring against excessive voltage, such as electrostatic discharges



AEC-Q101 qualified

• Base P/N-G3 - green, commercial grade

ROHS COMPLIANT GREEN (5-2008)

 Material categorization: For definitions of compliance please see <u>www.vishav.com/doc?99912</u>

MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.1 mg
Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box 08/3K per 7" reel (8 mm tape), 15K/box

| PARTS TABLE | | | | | |
|-------------|------------------------------|----------------------------|--------------|---------------|--|
| PART | ORDERING CODE | INTERNAL CONSTRUCTION | TYPE MARKING | REMARKS | |
| BAT54-G | BAT54-G3-08 or BAT54-G3-18 | Single diode | L8 | | |
| BAT54A-G | BAT54A-G3-08 or BAT54A-G3-18 | Dual diodes common anode | L46 | Tana and roal | |
| BAT54C-G | BAT54C-G3-08 or BAT54C-G3-18 | Dual diodes common cathode | L47 | Tape and reel | |
| BAT54S-G | BAT54S-G3-08 or BAT54S-G3-18 | Dual diodes serial | L48 | | |

| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified) | | | | | |
|--|----------------------|------------------|-------|------|--|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT | |
| Repetitive peak reverse voltage | | V _{RRM} | 30 | V | |
| Forward continuous current (1) | | I _F | 200 | mA | |
| Repetitive peak forward current (1) | | I _{FRM} | 300 | mA | |
| Surge forward current (1) | t _p < 1 s | I _{FSM} | 600 | mA | |
| Power dissipation | | P _{tot} | 230 | mW | |

Note

(1) Device on fiberglass substrate, see layout on next page.

| THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | |
|--|----------------|-------------------|---------------|------|--|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT | |
| Thermal resistance junction to ambient air (1) | | R _{thJA} | 430 | K/W | |
| Junction temperature | | Tj | 125 | °C | |
| Storage temperature range | | T _{stg} | - 65 to + 150 | °C | |
| Operating temperature range | | T _{op} | - 55 to + 125 | °C | |

Note

⁽¹⁾ Device on fiberglass substrate, see layout on next page.



www.vishay.com

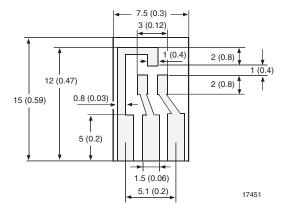
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| ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | |
|--|--|-------------------|------|------|------|------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage | I _R = 100 μA (pulsed) | V _(BR) | 30 | | | V |
| Leakage current | Pulse test t_p < 300 μ s, δ < 2 % at V_R = 25 V | I _R | | | 2 | μΑ |
| | I_F = 0.1 mA, t_p < 300 μ s, δ < 2 % | V _F | | | 240 | mV |
| | I_F = 1 mA, t_p < 300 μ s, δ < 2 % | V _F | | | 320 | mV |
| Forward voltage | I_F = 10 mA, t_p < 300 $\mu s, \delta < 2 $ % | V_{F} | | | 400 | mV |
| | I_F = 30 mA, t_p < 300 μ s, δ < 2 % | V _F | | | 500 | mV |
| | I_F = 100 mA, t_p < 300 $\mu s,~\delta < 2~\%$ | V _F | | | 800 | mV |
| Diode capacitance | V _R = 1 V, f = 1 MHz | C _D | | | 10 | pF |
| Reverse recovery time | $I_F = 10 \text{ mA to } I_R = 10 \text{ mA},$ $I_R = 1 \text{ mA}, R_L = 100 \Omega$ | t _{rr} | | | 5 | ns |

LAYOUT FOR R_{thJA} TEST

Thickness:

Fiberglass 1.5 mm (0.059 inches) Copper leads 0.3 mm (0.012 inches)



TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

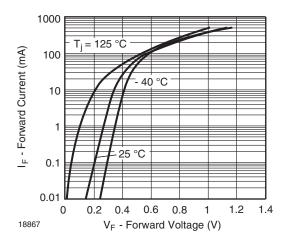


Fig. 1 - Typical Forward Voltage Forward Current vs. Various Temperatures

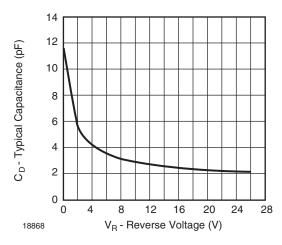


Fig. 2 - Diode Capacitance vs. Reverse Voltage V_R

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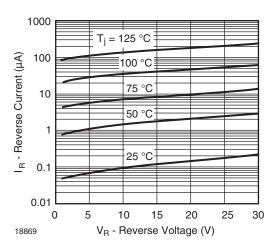
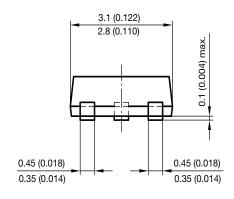
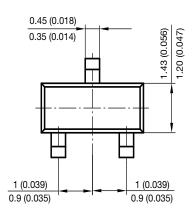


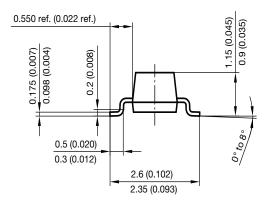
Fig. 3 - Typical Variation of Reverse Current vs. Various Temperatures

PACKAGE DIMENSIONS in millimeters (inches): SOT-23

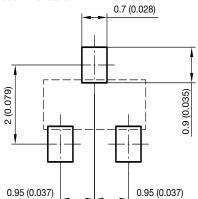




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