



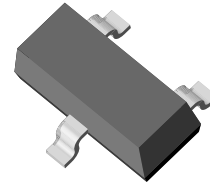
## Small Signal Schottky Diodes, Single and Dual

### Features

- These diodes feature very low turn-on voltage and fast switching
- These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



**RoHS**  
COMPLIANT  
**GREEN**  
(5-2008)\*\*



### Mechanical Data

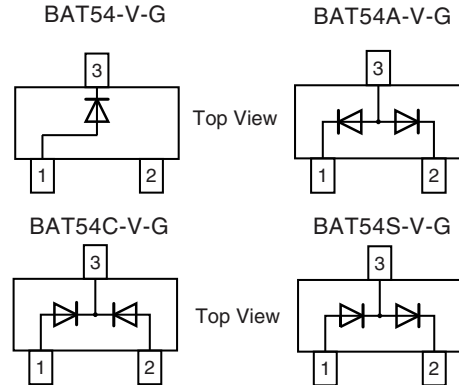
**Case:** SOT-23

**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



18034\_3

### Parts Table

Part	Ordering code	Type marking	Remarks
BAT54-V-G	BAT54-V-G-18 or BAT54-V-G-08	L8	Tape and reel
BAT54A-V-G	BAT54A-V-G-18 or BAT54A-V-G-08	L46	Tape and reel
BAT54C-V-G	BAT54C-V-G-18 or BAT54C-V-G-08	L47	Tape and reel
BAT54S-V-G	BAT54S-V-G-18 or BAT54S-V-G-08	L48	Tape and reel

### Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		$V_{RRM}$	30	V
Forward continuous current		$I_F$	200 <sup>1)</sup>	mA
Repetitive peak forward current		$I_{FRM}$	300 <sup>1)</sup>	mA
Surge forward current	$t_p < 1\text{ s}$	$I_{FSM}$	600 <sup>1)</sup>	mA
Power dissipation		$P_{tot}$	230	mW

Note

<sup>1)</sup> Device on fiberglass substrate, see layout on next page.

### Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		$R_{thJA}$	430 <sup>1)</sup>	K/W
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$

Note

<sup>1)</sup> Device on fiberglass substrate, see layout on next page.

\*\* Please see document "Vishay Material Category Policy": [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)

## Electrical Characteristics

T<sub>amb</sub> = 25 °C, unless otherwise specified

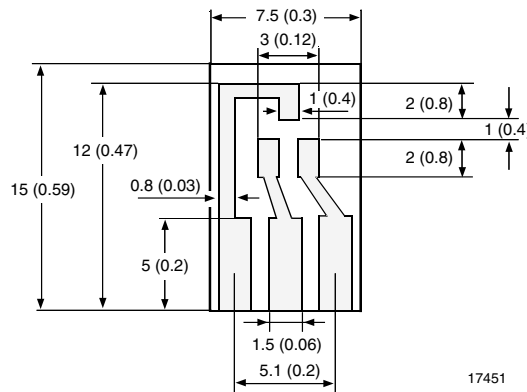
Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown voltage	I <sub>R</sub> = 100 μA (pulsed)	V <sub>(BR)</sub>	30			V
Leakage current	Pulse test t <sub>p</sub> < 300 μs, δ < 2 % at V <sub>R</sub> = 25 V	I <sub>R</sub>			2	μA
Forward voltage	I <sub>F</sub> = 0.1 mA, t <sub>p</sub> < 300 μs, δ < 2 %	V <sub>F</sub>			240	mV
	I <sub>F</sub> = 1 mA, t <sub>p</sub> < 300 μs, δ < 2 %	V <sub>F</sub>			320	mV
	I <sub>F</sub> = 10 mA, t <sub>p</sub> < 300 μs, δ < 2 %	V <sub>F</sub>			400	mV
	I <sub>F</sub> = 30 mA, t <sub>p</sub> < 300 μs, δ < 2 %	V <sub>F</sub>			500	mV
	I <sub>F</sub> = 100 mA, t <sub>p</sub> < 300 μs, δ < 2 %	V <sub>F</sub>			800	mV
Diode capacitance	V <sub>R</sub> = 1 V, f = 1 MHz	C <sub>D</sub>			10	pF
Reverse recovery time	I <sub>F</sub> = 10 mA to I <sub>R</sub> = 10 mA, i <sub>R</sub> = 1 mA, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			5	ns

## Layout for R<sub>thJA</sub> test

Thickness:

Fiberglass 1.5 mm (0.059 in.)

Copper leads 0.3 mm (0.012 in.)



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## Typical Characteristics

T<sub>amb</sub> = 25 °C, unless otherwise specified

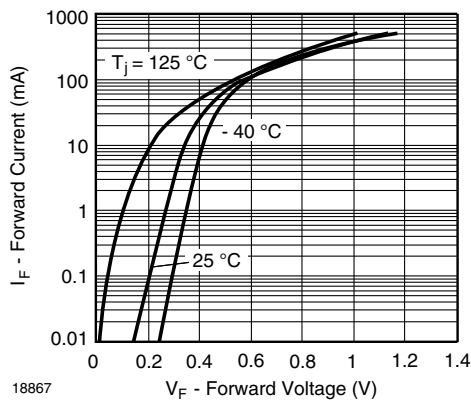


Figure 1. Typical Forward Voltage Forward Current vs. Various Temperatures

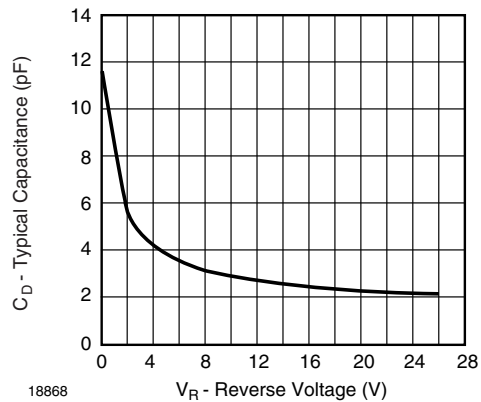


Figure 2. Diode Capacitance vs. Reverse Voltage V<sub>R</sub>

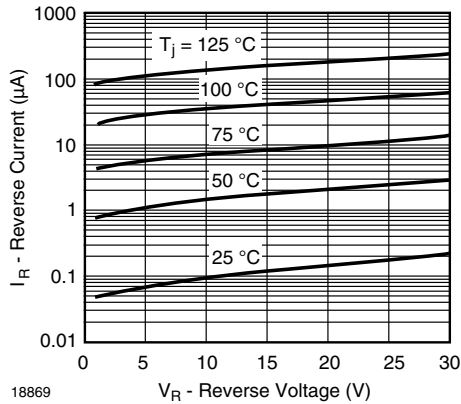
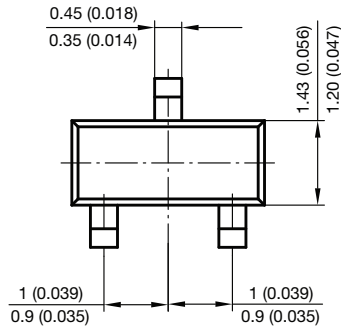
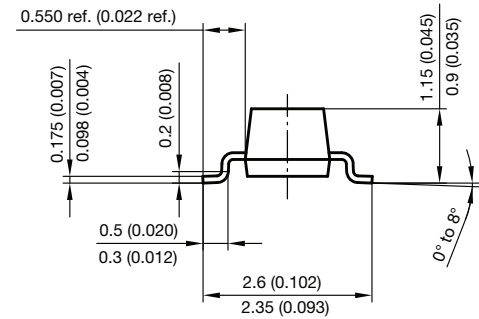
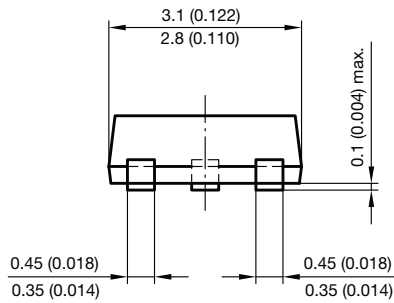
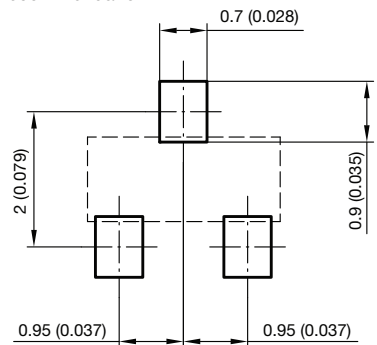


Figure 3. Typical Variation of Reverse Current vs. Various Temperatures

## Package Dimensions in millimeters (inches): SOT-23



Foot print recommendation:



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 Rev. 8 - Date: 23.Sept.2009  
 17418



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