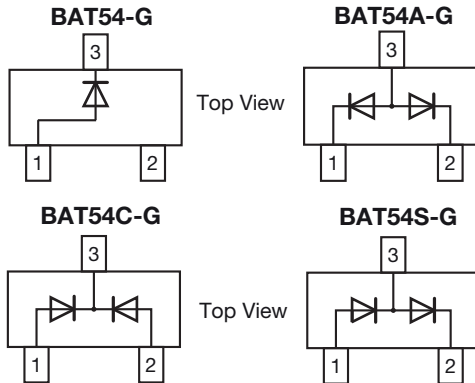


## Small Signal Schottky Diodes, Single and Dual



### FEATURES

- These diodes feature very low turn-on voltage and fast switching
- These devices are protected by a PN junction guarding against excessive voltage, such as electrostatic discharges
- AEC-Q101 qualified available (part number on request)
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**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

**DESIGN SUPPORT TOOLS** click logo to get started



PARTS TABLE				
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAT54-G	BAT54-G3-08 or BAT54-G3-18	Single	L8	Tape and reel
BAT54A-G	BAT54A-G3-08 or BAT54A-G3-18	Common anode	L46	
BAT54C-G	BAT54C-G3-08 or BAT54C-G3-18	Common cathode	L47	
BAT54S-G	BAT54S-G3-08 or BAT54S-G3-18	Dual serial	L48	

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 <sup>(1)</sup>		$I_F$	200	mA
Repetitive peak forward current <sup>(1)</sup>		$I_{FRM}$	300	mA
Surge forward current <sup>(1)</sup>	$t_p < 1\text{ s}$	$I_{FSM}$	600	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 <sup>(1)</sup>		$R_{thJA}$	430	K/W
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	-55 to +125	$^{\circ}\text{C}$

**Note**

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

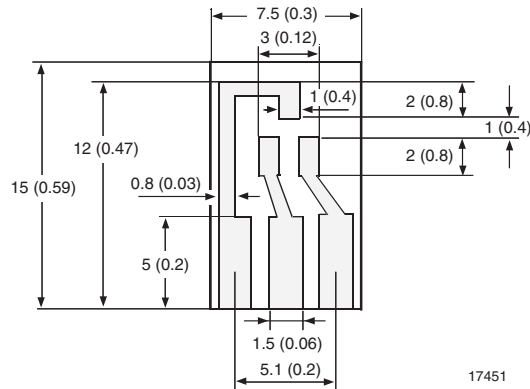
<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$ (pulsed)	$V_{(BR)}$	30			V
Leakage current	Pulse test $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$ at $V_R = 25\text{ V}$	$I_R$			2	$\mu\text{A}$
Forward voltage	$I_F = 0.1\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$	$V_F$			240	mV
	$I_F = 1\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$	$V_F$			320	mV
	$I_F = 10\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$	$V_F$			400	mV
	$I_F = 30\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$	$V_F$			500	mV
	$I_F = 100\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$	$V_F$			800	mV
Diode capacitance	$V_R = 1\text{ V}$ , $f = 1\text{ MHz}$	$C_D$			10	pF
Reverse recovery time	$I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$ , $i_R = 1\text{ mA}$ , $R_L = 100\text{ }\Omega$	$t_{rr}$			5	ns

**LAYOUT FOR  $R_{thJA}$  TEST**

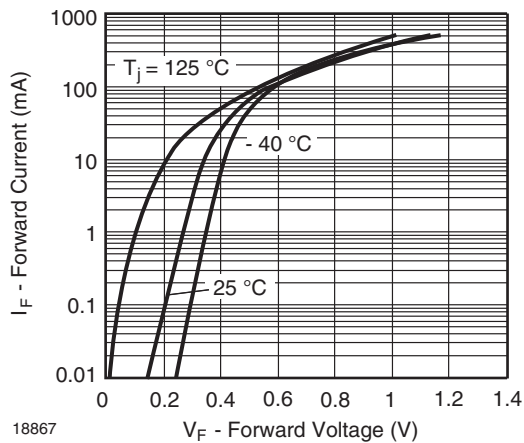
Thickness:

Fiberglass 1.5 mm (0.059 inches)

Copper leads 0.3 mm (0.012 inches)

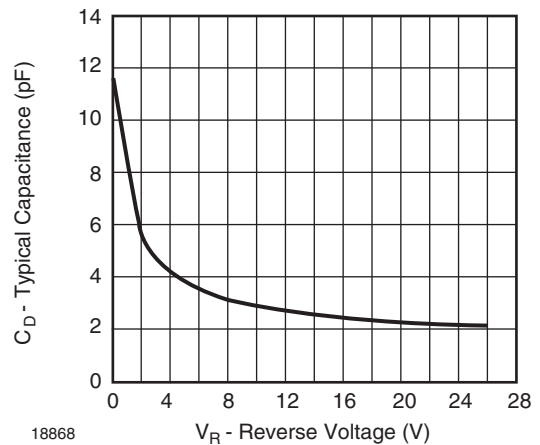


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**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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



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 Fig. 2 - Diode Capacitance vs. Reverse Voltage  $V_R$

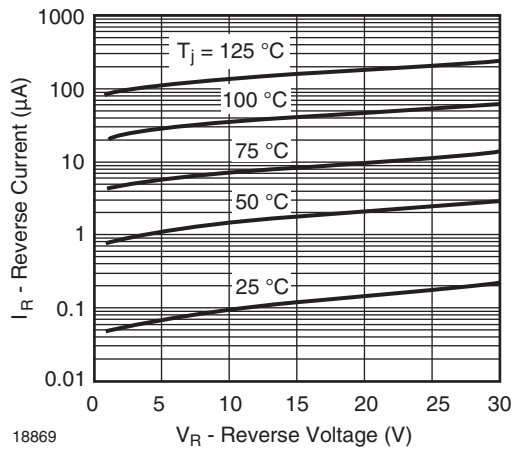
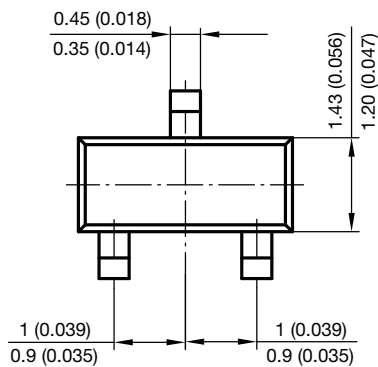
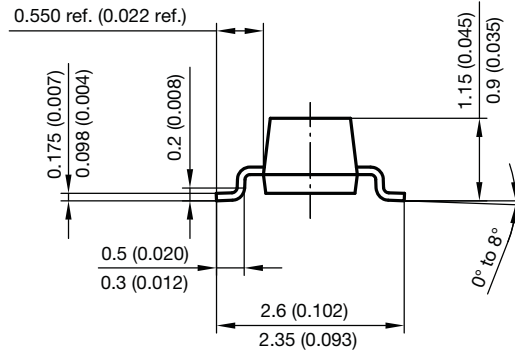
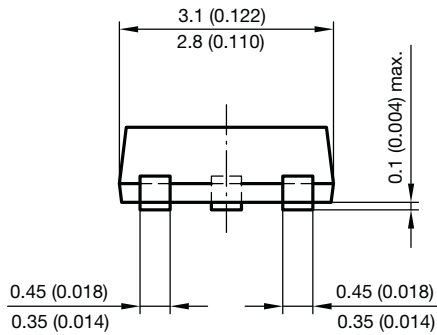
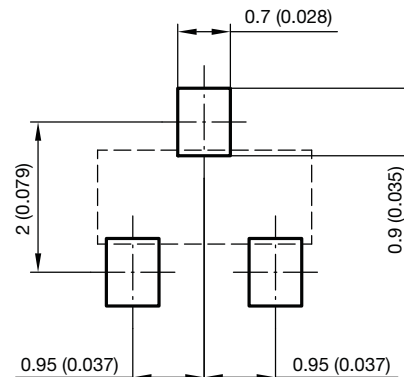


Fig. 3 - Typical Variation of Reverse Current vs. Various Temperatures

## PACKAGE DIMENSIONS in millimeters (inches): SOT-23



Foot print recommendation:



Document no.: 6.541-5014.01-4  
 Rev. 8 - Date: 23.Sept.2009  
 17418



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