



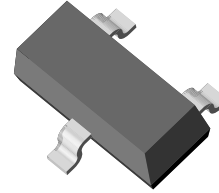
## Small Signal Schottky Diodes, Single and Dual

### 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



### Mechanical Data

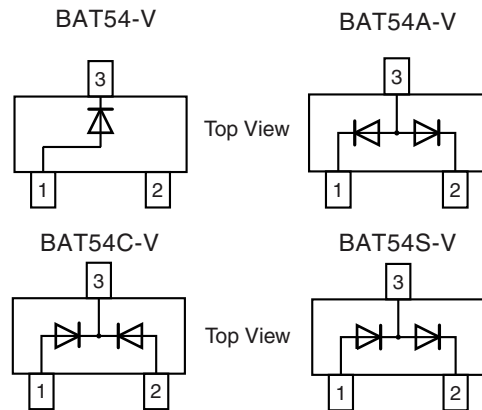
**Case:** SOT-23

**Weight:** approx. 8.8 mg

**Packaging codes/options:**

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/3K per 7" reel (8 mm tape), 15K/box



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### Parts Table

Part	Ordering code	Type marking	Remarks
BAT54-V	BAT54-V-GS18 or BAT54-V-GS08	L4	Tape and reel
BAT54A-V	BAT54A-V-GS18 or BAT54A-V-GS08	L42	Tape and reel
BAT54C-V	BAT54C-V-GS18 or BAT54C-V-GS08	L43	Tape and reel
BAT54S-V	BAT54S-V-GS18 or BAT54S-V-GS08	L44	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.

## Electrical Characteristics

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

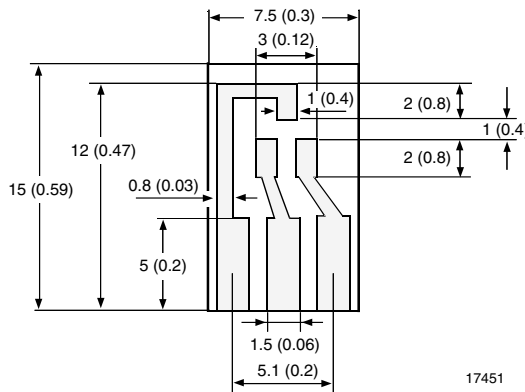
Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$ (pulsed)	$V_{(BR)}$	30			V
Leakage current	Pulse test $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$ at $V_R = 25\text{ V}$	$I_R$			2	$\mu\text{A}$
Forward voltage	$I_F = 0.1\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$	$V_F$			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 in.)

Copper leads 0.3 mm (0.012 in.)



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## Typical Characteristics

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

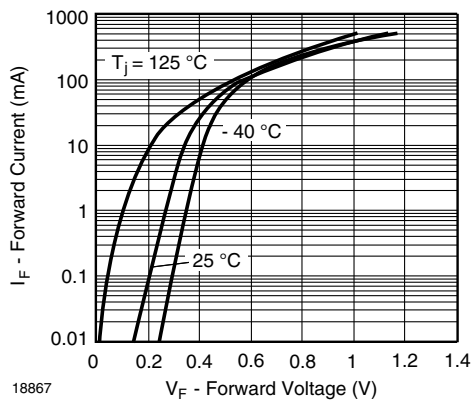


Figure 1. Typical Forward Voltage Forward Current vs. Various Temperatures

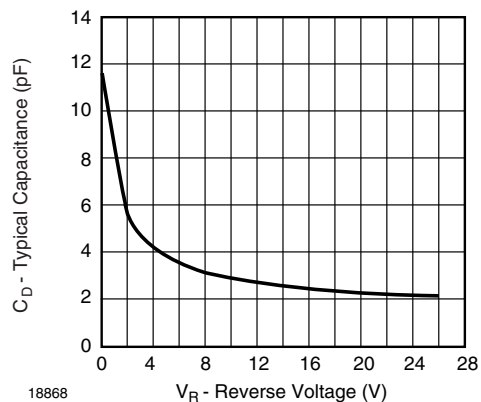


Figure 2. Diode Capacitance vs. Reverse Voltage  $V_R$

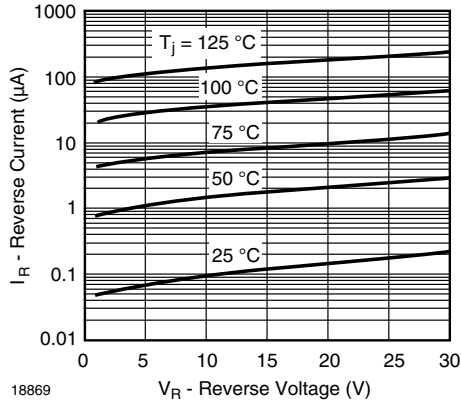
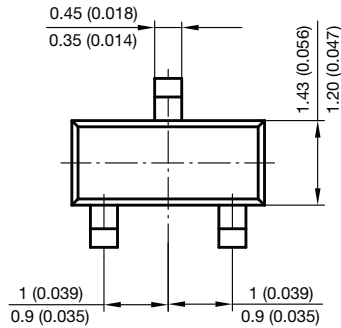
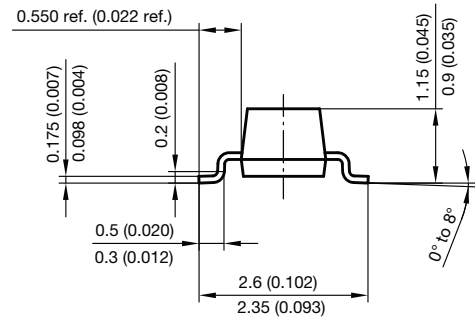
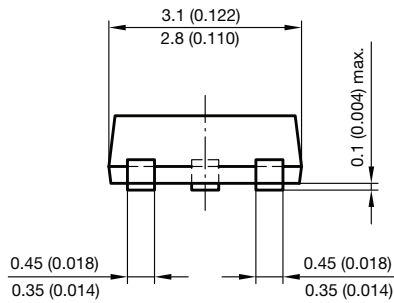
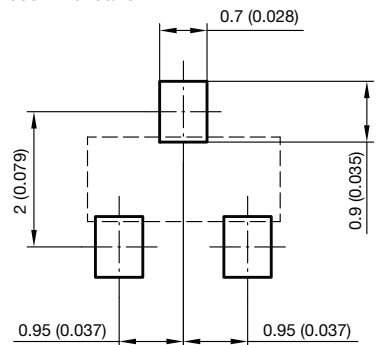


Figure 3. Typical Variation of Reverse Current vs. Various Temperatures

## 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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