

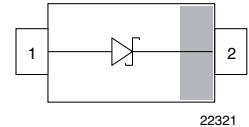
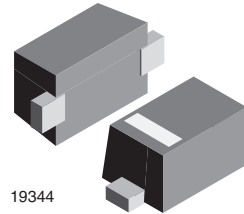
## Small Signal Schottky Diode

### Features

- This diode features very low turn-on voltage and fast switching
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- Space saving SOD-523 package
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC



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



### Mechanical Data

**Case:** SOD-523

**Weight:** approx. 1.4 mg

**Molding compound flammability rating:**  
UL 94 V-0

**Terminals:** high temperature soldering guaranteed:  
260 °C/4 x 10 s at terminals

#### Packaging codes/options:

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

### Parts Table

Part	Ordering code	Type marking	Remarks
BAT54-02V-V-G	BAT54-02V-V-G-18 or BAT54-02V-V-G-08	.V	Tape and reel

### Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage = working peak reverse voltage		V <sub>RRM</sub>	30	V
Forward continuous current		I <sub>F</sub>	200	mA
Repetitive peak forward current		I <sub>FRM</sub>	300	mA
Surge forward current		I <sub>FSM</sub>	600	mA
Power dissipation		P <sub>tot</sub>	150	mW

### Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R <sub>thJA</sub>	680	K/W
Junction temperature		T <sub>j</sub>	125	°C
Storage temperature range		T <sub>stg</sub>	- 65 to + 150	°C

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

## Electrical Characteristics

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

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	100 $\mu\text{A}$ pulses	$V_{(BR)}$	30			V
Leakage current	Pulse test $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$ at $V_R = 25\text{ V}$				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	$I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ to $I_R = 1\text{ mA}$ , $R_L = 100\text{ }\Omega$	$t_{rr}$			5	ns

## Typical Characteristics

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

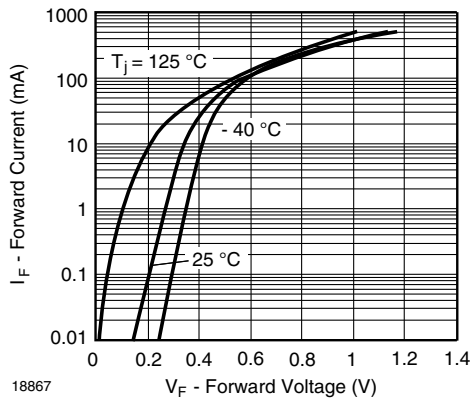


Figure 1. Typical Forward Voltage Forward Current vs. Various Temperatures

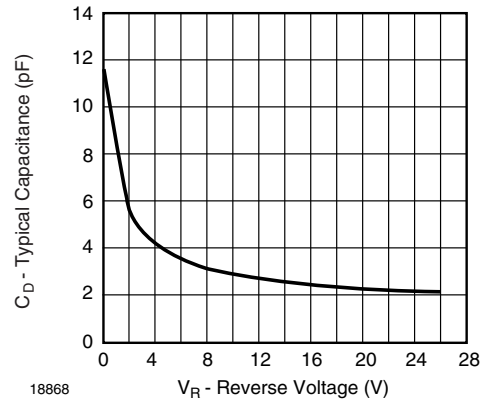


Figure 3. Typical Capacitance  $^{\circ}\text{C}$  vs. Reverse Applied Voltage  $V_R$

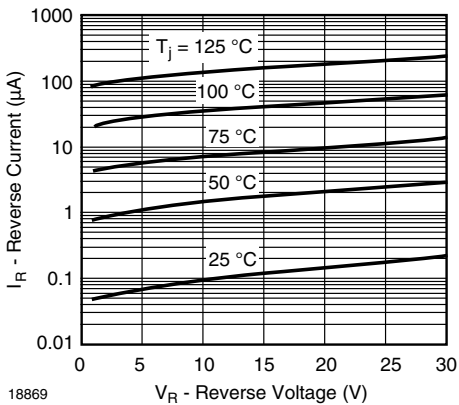
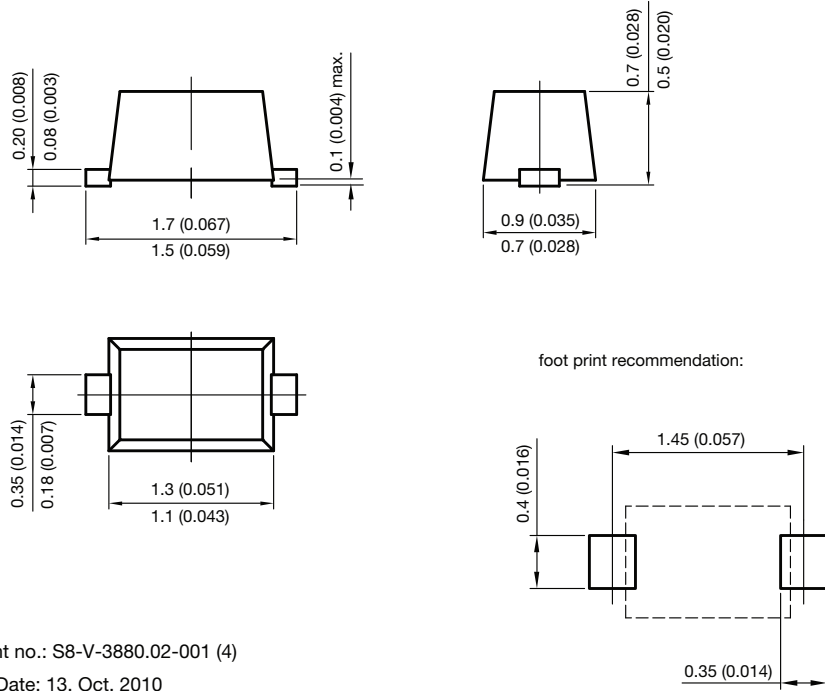


Figure 2. Typical Variation of Reverse Current vs. Various Temperatures

**Package Dimensions** in millimeters (inches): **SOD-523**



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