Small Signal Schottky Diode

Features

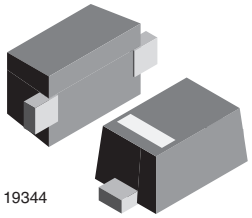
- This diode features very low turn-on voltage and fast switching
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- Space saving SOD-523 package
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

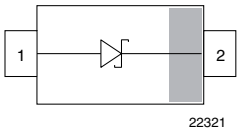
Pb-free

e3

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_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage = working peak reverse voltage		V_{RRM}	30	V
Forward continuous current		I_F	200	mA
Repetitive peak forward current		I_{FRM}	300	mA
Surge forward current		I_{FSM}	600	mA
Power dissipation		P_{tot}	150	mW

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	680	K/W
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	- 65 to + 150	°C

** Please see document “Vishay Material Category Policy”: www.vishay.com/doc?99902

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	100 µA pulses	$V_{(BR)}$	30			V
Leakage current	Pulse test t_p < 300 µs, δ < 2 % at V_R = 25 V				2	µA
Forward voltage	I_F = 0.1 mA, t_p < 300 µs, δ < 2 %	V_F			240	mV
	I_F = 1 mA, t_p < 300 µs, δ < 2 %	V_F			320	mV
	I_F = 10 mA, t_p < 300 µs, δ < 2 %	V_F			400	mV
	I_F = 30 mA, t_p < 300 µs, δ < 2 %	V_F			500	mV
	I_F = 100 mA, t_p < 300 µs, δ < 2 %	V_F			800	mV
Diode capacitance	V_R = 1 V, f = 1 MHz	C_D			10	pF
Reverse recovery time	I_F = 10 mA , I_R = 10 mA to I_R = 1 mA, R_L = 100 Ω	t_{rr}			5	ns

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

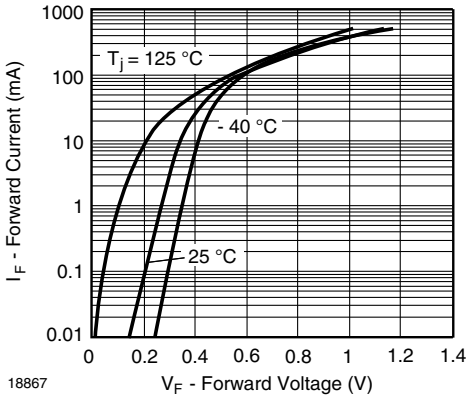


Figure 1. Typical Forward Voltage Forward Current vs. Various Temperatures

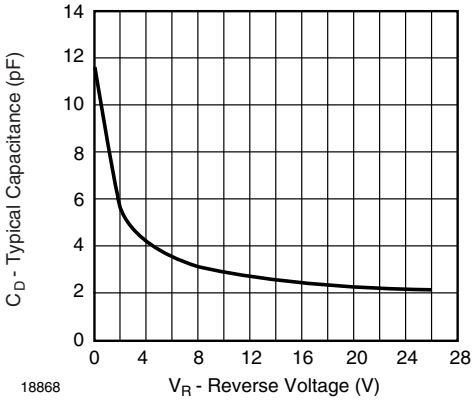


Figure 3. Typical Capacitance °C vs. Reverse Applied Voltage V_R

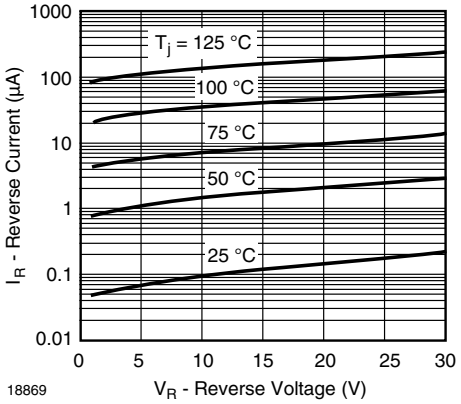


Figure 2. Typical Variation of Reverse Current vs. Various Temperatures

For technical questions within your region, please contact one of the following:
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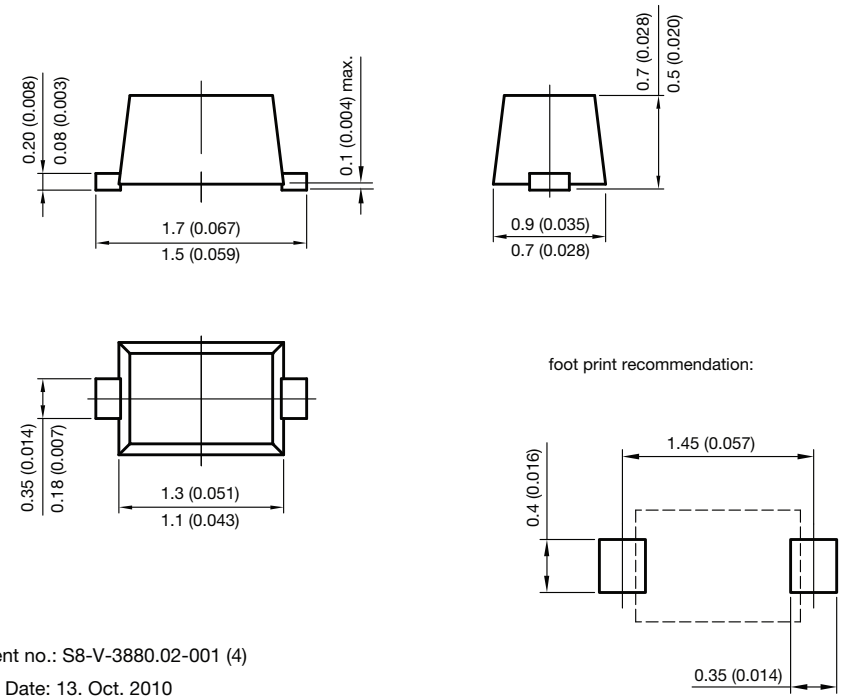
Document Number 82394
Rev. 1.0, 14-Oct-10

Package Dimensions in millimeters (inches): SOD-523



Document no.: S8-V-3880.02-001 (4)
Rev. h - Date: 13. Oct. 2010
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