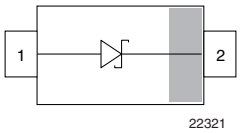
Small Signal Schottky Diode



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
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

MECHANICAL DATA

Case: SOD-523

Weight: approx. 1.4 mg

Molding compound flammability rating: UL94 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	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAT54-02V-V-G	BAT54-02V-V-G-18 or BAT54-02V-V-G-08	Single diode	.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

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	I_R			2	µA
Forward voltage	I_F = 0.1mA, 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, i_R = 1 mA, R_L = 100 Ω	t_{rr}			5	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

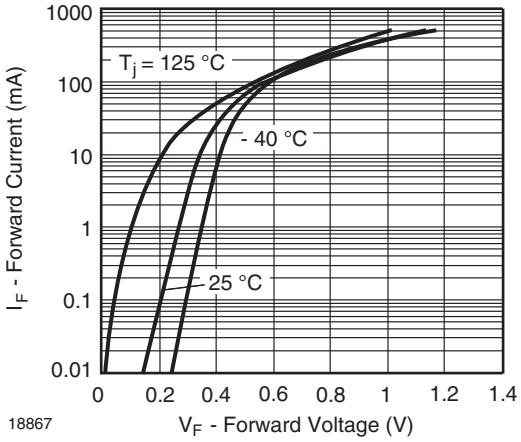


Fig. 1 - Typical Forward Voltage Forward Current vs. Various Temperatures

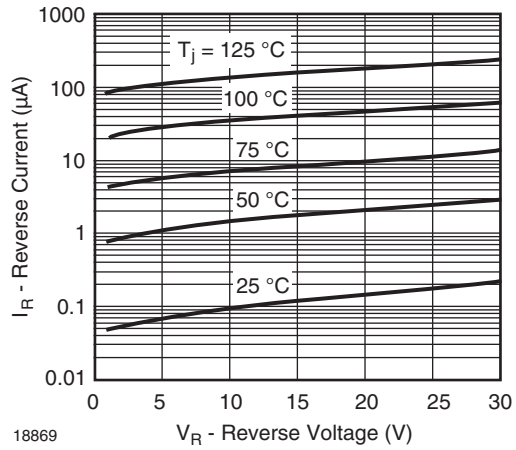


Fig. 2 - Typical Variation of Reverse Current vs. Various Temperatures

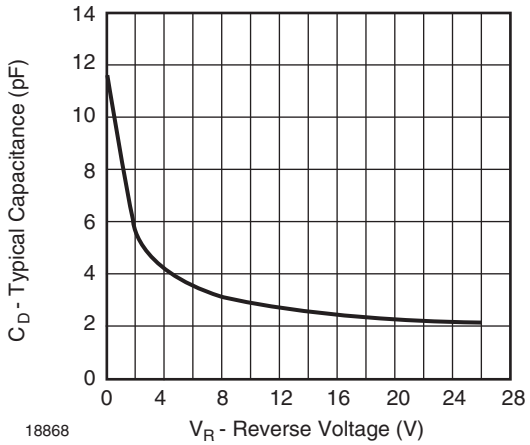
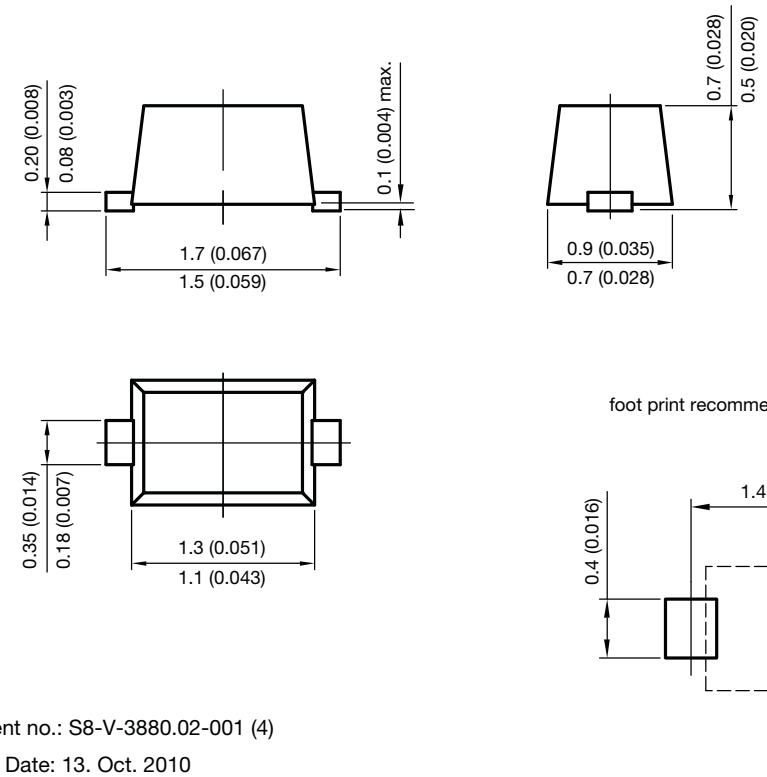


Fig. 3 - Typical Capacitance vs. Reverse Applied Voltage V_R

PACKAGE DIMENSIONS in millimeters (inches): **SOD-523**



foot print recommendation:

Document no.: S8-V-3880.02-001 (4)

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