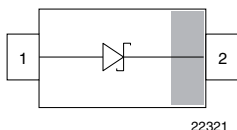


## Small Signal Schottky Diode



### 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](http://www.vishay.com/doc?99912)



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### 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:**

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 3K/box

### PARTS TABLE

PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAT54-02V-V-G	BAT54-02V-V-G-18 or BAT54-02V-V-G-08	Single	.V	Tape and reel

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ °C}$ , 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 ( $T_{amb} = 25\text{ °C}$ , 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

<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	100 $\mu\text{A}$ pulses	$V_{(BR)}$	30			V
Leakage current	Pulse test $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\text{ }\%$ at $V_R = 25\text{ V}$	$I_R$			2	$\mu\text{A}$
Forward voltage	$I_F = 0.1\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\text{ }\%$	$V_F$			240	mV
	$I_F = 1\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\text{ }\%$	$V_F$			320	mV
	$I_F = 10\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\text{ }\%$	$V_F$			400	mV
	$I_F = 30\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\text{ }\%$	$V_F$			500	mV
	$I_F = 100\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\text{ }\%$	$V_F$			800	mV
Diode capacitance	$V_R = 1\text{ V}$ , $f = 1\text{ MHz}$	$C_D$			10	pF
Reverse recovery time	$I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ , $i_R = 1\text{ mA}$ , $R_L = 100\text{ }\Omega$	$t_{rr}$			5	ns

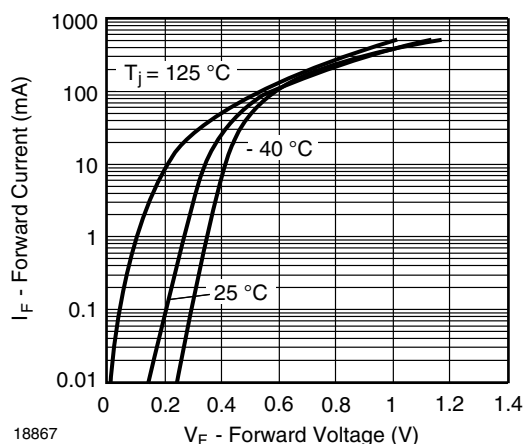
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

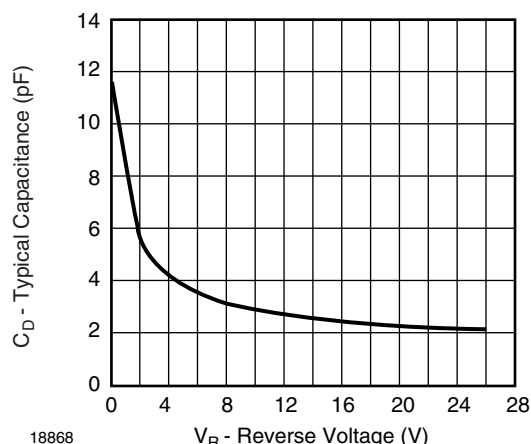
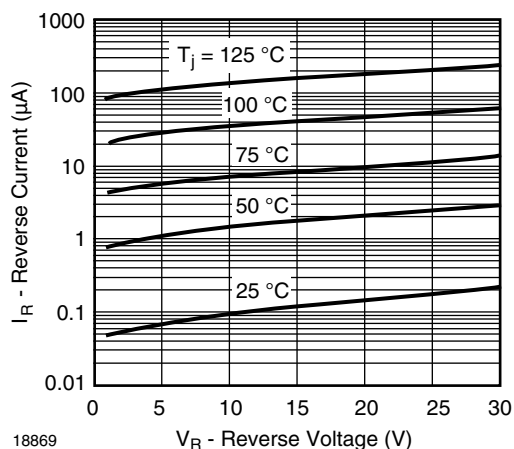
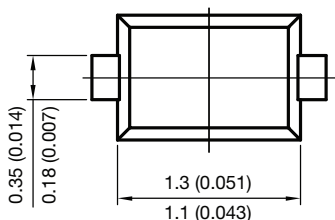
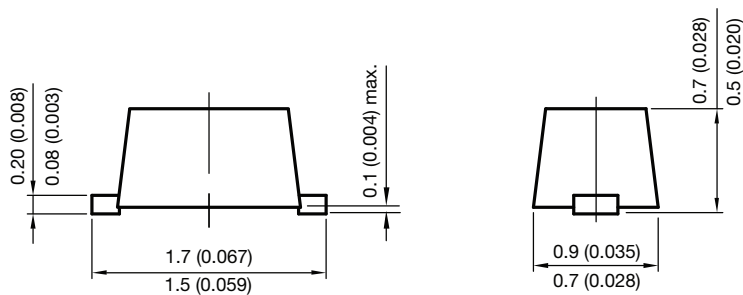

Fig. 3 - Typical Capacitance vs. Reverse Applied Voltage  $V_R$ 


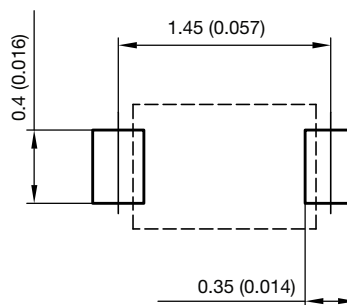
Fig. 2 - Typical Variation of Reverse Current vs. Various Temperatures



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



foot print recommendation:



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

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