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**Vishay Semiconductors** 

# **Small Signal Schottky Diode**



### LINKS TO ADDITIONAL RESOURCES



#### **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/10 s at terminals

Packaging codes / options: 08/8K per 7" reel (8 mm tape)



- · 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
- AEC-Q101 gualified available
- Space saving SOD-523 package
- Base P/N-G3 RoHS-compliant, commercial grade
- Base P/N-HG3 RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

PARTS TABLE						
PART	ORDERING CODE	AEC-Q101 QUALIFIED	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS	
BAS40-02V	BAS40-02V-G3-08	no	Single	:W	Tape and reel	
	BAS40-02V-HG3-08	yes	Single	.vv	rape and reer	

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE UNIT		
Repetitive peak reverse voltage		V <sub>RRM</sub>	40	V	
Forward continuous current		I <sub>F</sub>	120	mA	
Surge forward current $t_p = 10 \text{ ms}$ square wave, $T_j = 25 \text{ °C}$ prior to surge		I <sub>FSM</sub>	600	mA	
Power dissipation	on FR-4 board with recommended soldering footprint	Pt <sub>ot</sub>	150	mW	

<b>THERMAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air	on FR-4 board according to JEDEC <sup>®</sup> 51-3 with recommended soldering footprint	R <sub>thJA</sub>	680	K/W	
Thermal resistance junction to lead		R <sub>thJL</sub>	480	K/W	
Junction temperature		Tj	125	°C	
Operating temperature range		T <sub>op</sub>	-55 to +125	°C	
Storage temperature range		T <sub>stg</sub>	-55 to +150	°C	

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb}$ = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_{\rm R}$ = 10 µA (pulsed)	V <sub>(BR)</sub>	40			V
Leakage current	Pulse test $V_R$ = 30 V, $t_p$ < 300 µs	I <sub>R</sub>		20	100	nA
Forward voltage	Pulse test $t_p < 300 \ \mu s$ , $I_F = 1 \ mA$	V <sub>F</sub>			380	mV
Forward voltage	Pulse test t <sub>p</sub> < 300 μs, I <sub>F</sub> = 40 mA	V <sub>F</sub>			1000	mV
Diode capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	CD		4	5	pF
Reverse recovery time	$I_F$ = 10 mA, $I_R$ = 10 mA, $I_{rr}$ = 1 mA, $R_L$ = 100 $\Omega$	t <sub>rr</sub>			5	ns

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RoHS

COMPLIANT

HALOGEN

FREE

<u>GREEN</u>

(5-2008)



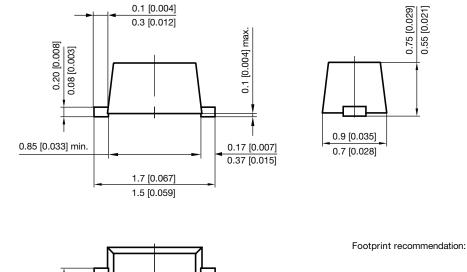
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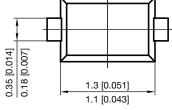
1.45 [0.057]

0.35 [0.014]

0.5 [0.020]

### PACKAGE DIMENSIONS in millimeters [inches]: SOD-523





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