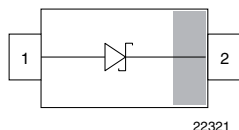
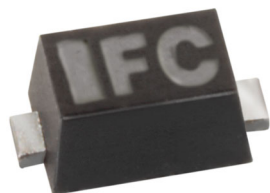


Small Signal Schottky Diode



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/4 x 10 s at terminals

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

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
- AEC-Q101 qualified 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



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

PARTS TABLE

PART	ORDERING CODE	AEC-Q101 QUALIFIED	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAT54-02V	BAT54-02V-G3-08	no	Single	:V	Tape and reel
	BAT54-02V-HG3-08	yes			

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	t _p = 10 ms square wave, T _j = 25 °C prior to surge	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
Thermal resistance junction to lead		R _{thJL}	480	K/W
Junction temperature		T _j	125	°C
Operating temperature range		T _{op}	-55 to +125	°C
Storage temperature range		T _{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$, 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 $t_p < 300\ \mu\text{s}$, $\delta < 2\%$ at $V_R = 25\ \text{V}$	I_R			2	μA
Forward voltage	$I_F = 0.1\ \text{mA}$, $t_p < 300\ \mu\text{s}$, $\delta < 2\%$	V_F			240	mV
	$I_F = 1\ \text{mA}$, $t_p < 300\ \mu\text{s}$, $\delta < 2\%$	V_F			320	mV
	$I_F = 10\ \text{mA}$, $t_p < 300\ \mu\text{s}$, $\delta < 2\%$	V_F			400	mV
	$I_F = 30\ \text{mA}$, $t_p < 300\ \mu\text{s}$, $\delta < 2\%$	V_F			500	mV
	$I_F = 100\ \text{mA}$, $t_p < 300\ \mu\text{s}$, $\delta < 2\%$	V_F			800	mV
Diode capacitance	$V_R = 1\ \text{V}$, $f = 1\ \text{MHz}$	C_D			10	pF
Reverse recovery time	$I_F = 10\ \text{mA}$, $I_R = 10\ \text{mA}$, $i_R = 1\ \text{mA}$, $R_L = 100\ \Omega$	t_{rr}			5	ns

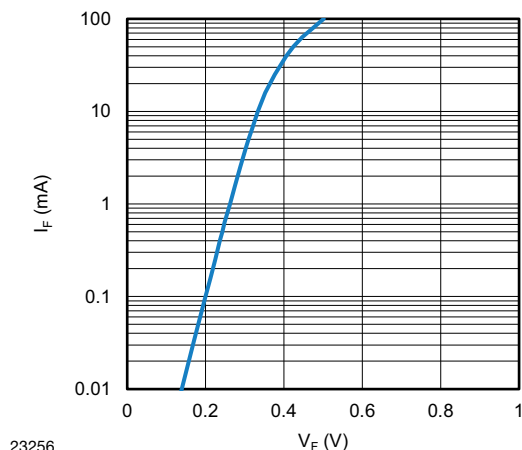
TYPICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Forward Current vs. Forward Voltage

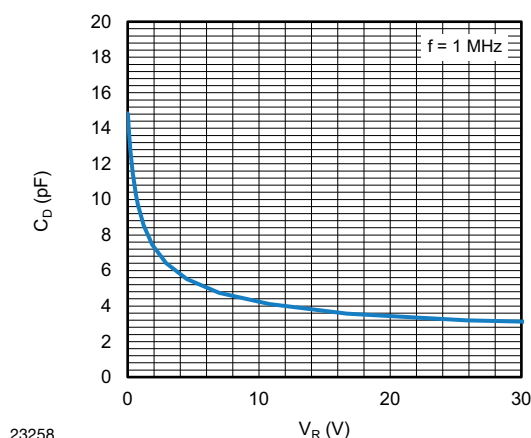


Fig. 3 - Typical Capacitance vs. Reverse Voltage

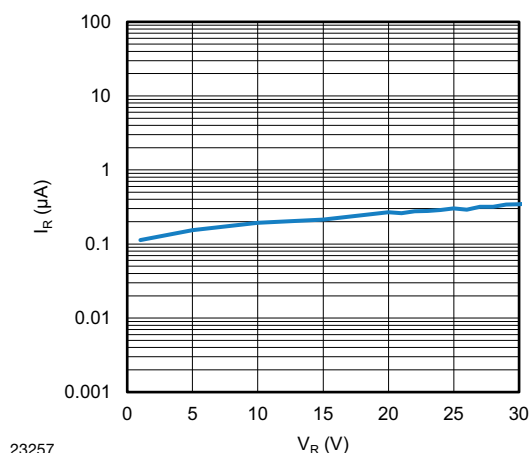
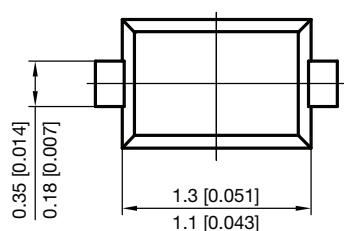
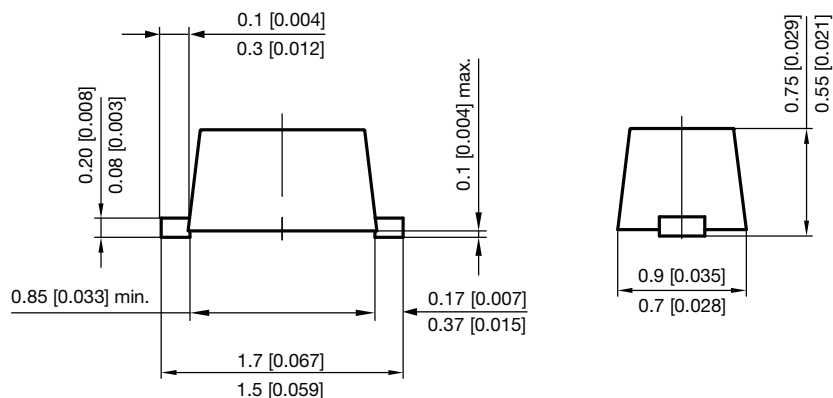


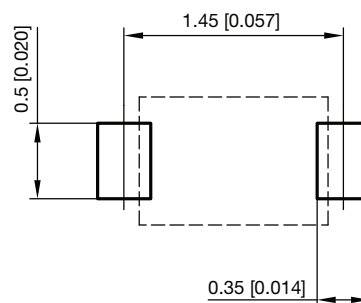
Fig. 2 - Typical Reverse Leakage Current vs. Reverse Voltage



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



Footprint recommendation:



Document no.: S8-V-3880.02-003 (4)

Created - Date: 04. April 2017

Rev. 4 - Date: 03. Aug. 2020

23093



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.