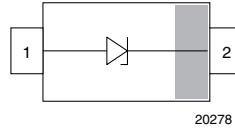


## Small Signal Zener Diodes



20278

### LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
$V_Z$ range nom.	2.2 to 36	V
Test current $I_{ZT}$	2; 5	mA
$V_Z$ specification	Pulse current	
Circuit configuration	Single	

ORDERING INFORMATION			
DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
BZX584Cxxx- Series	BZX584Cxxx-G3-08	8000 (8 mm tape on 7" reel)	8000
	BZX584Cxxx-HG3-08		

#### Note

- xxx stands for any part number / voltage group, as shown in the table of page 2

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOD-523	1.32 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	Peak temperature max. 260 °C

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ °C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	On FR-4 board with recommended soldering footprint	$P_{tot}$	200	mW
	On FR-4 board with 5 mm x 5 mm footprint		300	mW
Thermal resistance junction to ambient air	According to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	$R_{thJA}$	600	K/W
	According to JEDEC 51-3 on FR-4 board with 5 mm x 5 mm footprint		400	K/W
Thermal resistance junction to lead	Infinite heatsink	$R_{thJL}$	200	K/W
Junction temperature		$T_j$	150	°C
Storage temperature range		$T_{stg}$	-65 to +150	°C

### FEATURES

- With the BZX584C... Series Vishay offers a Z-diode in the tiny SOD-523 plastic package. Made for space sensitive applications the BZX584C... Series has a Zener voltage tolerance of  $\pm 5\%$
- AEC-Q101 qualified available
- 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](http://www.vishay.com/doc?99912)

 AUTOMOTIVE  
GRADE  
Available

**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2009)



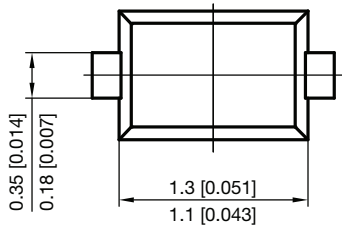
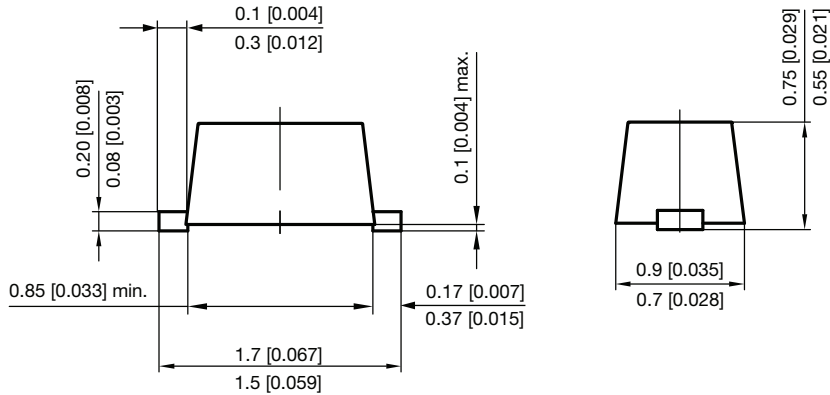
<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)												
PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE <sup>(1)</sup>			TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE	
		$V_Z$ at $I_{ZT1}$			$I_{ZT1}$	$I_{ZT2}$	$I_R$ at $V_R$		$Z_Z$ at $I_{ZT1}$	$Z_{ZK}$ at $I_{ZT2}$	$\alpha_{VZ}$ at $I_{ZT1}$	
		V			mA		$\mu\text{A}$	V	$\Omega$		$10^{-4}/^{\circ}\text{C}$	
		MIN.	NOM.	MAX.			MAX.		MAX.	MAX.	MIN.	MAX.
BZX584C2V2	:T	2	2.2	2.4	5	1	100	1	65 ( $\leq 120$ )	250 ( $\leq 600$ )	-9	-4
BZX584C2V4	:2	2.2	2.4	2.6	5	1	50	1	70 ( $\leq 100$ )	275 ( $\leq 600$ )	-9	-4
BZX584C2V7	:3	2.5	2.7	2.9	5	1	20	1	75 ( $\leq 100$ )	300 ( $\leq 600$ )	-9	-4
BZX584C3V0	:4	2.8	3.0	3.2	5	1	10	1	80 ( $\leq 100$ )	325 ( $\leq 600$ )	-9	-3
BZX584C3V3	:5	3.1	3.3	3.5	5	1	5	1	85 ( $\leq 95$ )	350 ( $\leq 600$ )	-8	-3
BZX584C3V6	:6	3.4	3.6	3.8	5	1	5	1	85 ( $\leq 95$ )	375 ( $\leq 600$ )	-8	-3
BZX584C3V9	:7	3.7	3.9	4.1	5	1	3	1	85 ( $\leq 90$ )	400 ( $\leq 600$ )	-7	-3
BZX584C4V3	:8	4	4.3	4.6	5	1	3	1	80 ( $\leq 90$ )	410 ( $\leq 600$ )	-6	-1
BZX584C4V7	:9	4.4	4.7	5	5	1	3	2	50 ( $\leq 80$ )	425 ( $\leq 500$ )	-5	2
BZX584C5V1	:1	4.8	5.1	5.4	5	1	2	2	40 ( $\leq 60$ )	400 ( $\leq 480$ )	-3	4
BZX584C5V6	:0	5.2	5.6	6	5	1	1	2	15 ( $\leq 40$ )	80 ( $\leq 400$ )	-2	6
BZX584C6V2	:1	5.8	6.2	6.6	5	1	3	4	6 ( $\leq 10$ )	40 ( $\leq 150$ )	-1	7
BZX584C6V8	:2	6.4	6.8	7.2	5	1	2	4	6 ( $\leq 15$ )	30 ( $\leq 80$ )	2	7
BZX584C7V5	:3	7	7.5	7.9	5	1	1	5	6 ( $\leq 15$ )	30 ( $\leq 80$ )	3	7
BZX584C8V2	:4	7.7	8.2	8.7	5	1	0.7	5	6 ( $\leq 15$ )	40 ( $\leq 80$ )	4	7
BZX584C9V1	:5	8.5	9.1	9.6	5	1	0.5	6	6 ( $\leq 15$ )	40 ( $\leq 100$ )	5	8
BZX584C10	:6	9.4	10	10.6	5	1	0.2	7	8 ( $\leq 20$ )	50 ( $\leq 150$ )	5	8
BZX584C11	:7	10.4	11	11.6	5	1	0.1	8	10 ( $\leq 20$ )	50 ( $\leq 150$ )	5	9
BZX584C12	:8	11.4	12	12.7	5	1	0.1	8	10 ( $\leq 25$ )	50 ( $\leq 150$ )	6	9
BZX584C13	:9	12.4	13	14.1	5	1	0.1	8	10 ( $\leq 30$ )	50 ( $\leq 170$ )	7	9
BZX584C15	:1	13.8	15	15.6	5	1	0.1	8	10 ( $\leq 30$ )	50 ( $\leq 200$ )	7	9
BZX584C16	:2	15.3	16	17.1	5	1	0.05	0.7 $V_{Znom.}$	10 ( $\leq 40$ )	50 ( $\leq 200$ )	8	9.5
BZX584C18	:3	16.8	18	19.1	5	1	0.05	0.7 $V_{Znom.}$	10 ( $\leq 45$ )	50 ( $\leq 225$ )	8	9.5
BZX584C20	:4	18.8	20	21.2	5	1	0.05	0.7 $V_{Znom.}$	15 ( $\leq 55$ )	60 ( $\leq 225$ )	8	10
BZX584C22	:5	20.8	22	23.3	5	1	0.05	0.7 $V_{Znom.}$	20 ( $\leq 55$ )	60 ( $\leq 250$ )	8	10
BZX584C24	:6	22.8	24	25.6	5	1	0.05	0.7 $V_{Znom.}$	25 ( $\leq 70$ )	60 ( $\leq 250$ )	8	10
BZX584C27	:7	25.1	27	28.9	2	0.5	0.05	0.7 $V_{Znom.}$	25 ( $\leq 80$ )	65 ( $\leq 300$ )	8	10
BZX584C30	:K	28	30	32	2	0.5	0.05	0.7 $V_{Znom.}$	30 ( $\leq 80$ )	70 ( $\leq 300$ )	8	10
BZX584C33	:9	31	33	35	2	0.5	0.05	0.7 $V_{Znom.}$	35 ( $\leq 80$ )	75 ( $\leq 325$ )	8	10
BZX584C36	:1	34	36	38	2	0.5	0.05	0.7 $V_{Znom.}$	35 ( $\leq 90$ )	80 ( $\leq 350$ )	8	10

**Note**

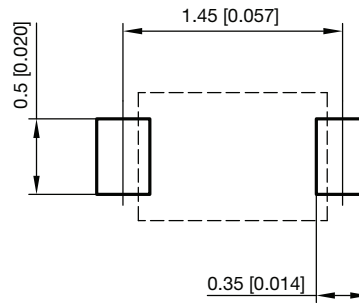
(1) Pulse test  $t_p = 10\text{ ms}$



**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.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. 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.