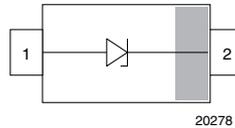


## Small Signal Zener Diodes



20278

### LINKS TO ADDITIONAL RESOURCES



### 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)



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



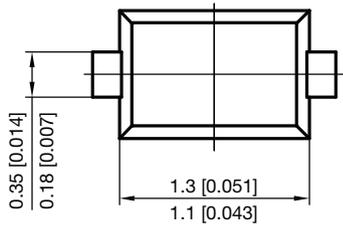
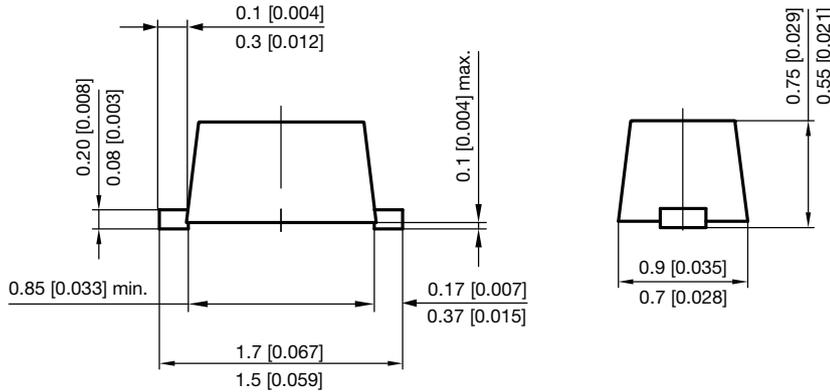
<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)												
PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE <sup>(1)</sup>			TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE	
		$V_Z$ at $I_{ZT1}$			$I_{ZT1}$	$I_{ZT2}$	$I_R$ 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	:e	31	33	35	2	0.5	0.05	0.7 $V_{Znom.}$	35 ( $\leq 80$ )	75 ( $\leq 325$ )	8	10
BZX584C36	:q	34	36	38	2	0.5	0.05	0.7 $V_{Znom.}$	35 ( $\leq 90$ )	80 ( $\leq 350$ )	8	10

**Note**

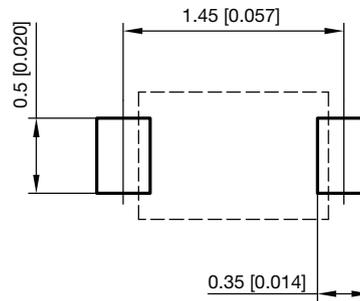
<sup>(1)</sup> Pulse test  $t_p = 10\text{ ms}$



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



Footprint recommendation:



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23093



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