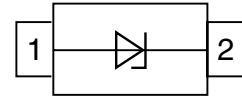
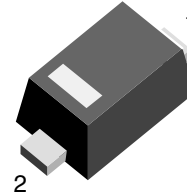


## Small Signal Zener Diodes

### Features

- With the BZX584C..-02V series vishay offers a Z-Diode in the tiny SOD523 plastic package. Made for space sensitive applications the BZX584C..-02V series has a zener voltage tolerance of  $\pm 5\%$ .
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



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### Mechanical Data

**Case:** SOD523 Plastic case

**Weight:** approx. 1.6 mg

**Packaging Codes/Options:**

GS08/3 k per 7" reel (8 mm tape), 15 k/box

### Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Power dissipation		$P_{tot}$	200 <sup>1)</sup>	mW

Note:

<sup>1)</sup> Device on fiberglass substrate

### Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		$R_{thJA}$	680 <sup>1)</sup>	K/W
Thermal resistance junction to soldering point		$R_{thJS}$	100	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$

Note:

<sup>1)</sup> Device on fiberglass substrate

# BZX584C-02V Series



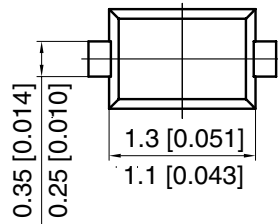
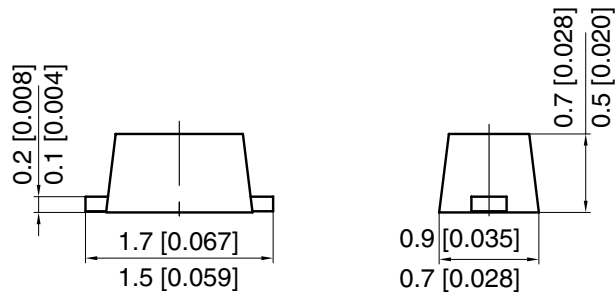
Vishay Semiconductors

## Electrical Characteristics

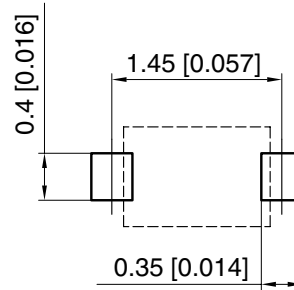
Partnumber	Marking Code	Zener Voltage Range		Dynamic Resistance		Test Current	Temp. Coefficient of Zener Voltage		Test Current	Reverse Leakage Current			
		$V_Z$ at 5 mA		$r_{zj}$ at $I_{ZT1}$	$r_{zj}$ at $I_{ZT2}$		$I_{ZT1}$	$\alpha_{VZ}$ at 5 mA		$I_{ZT2}$	$I_R$	at $V_R$	
		V		$\Omega$			mA	$10^{-4}/^{\circ}\text{C}$		mA	$\mu\text{A}$	V	
		min	max					min		max			
BZX584C2V4-02V	2	2.2	2.6	70 ( $\leq 100$ )	275 ( $\leq 600$ )	5	-9.0	-4.0	1	50	1		
BZX584C2V7-02V	3	2.5	2.9	75 ( $\leq 100$ )	300 ( $\leq 600$ )	5	-9.0	-4.0	1	20	1		
BZX584C3V0-02V	4	2.8	3.2	80 ( $\leq 95$ )	325 ( $\leq 600$ )	5	-9.0	-3.0	1	10	1		
BZX584C3V3-02V	5	3.1	3.5	85 ( $\leq 95$ )	350 ( $\leq 600$ )	5	-8.0	-3.0	1	5	1		
BZX584C3V6-02V	6	3.4	3.8	85 ( $\leq 90$ )	375 ( $\leq 600$ )	5	-8.0	-3.0	1	5	1		
BZX584C3V9-02V	7	3.7	4.1	85 ( $\leq 90$ )	400 ( $\leq 600$ )	5	-7.0	-3.0	1	3	1		
BZX584C4V3-02V	8	4	4.6	80 ( $\leq 90$ )	410 ( $\leq 600$ )	5	-6.0	-1.0	1	3	1		
BZX584C4V7-02V	9	4.4	5	50 ( $\leq 80$ )	425 ( $\leq 500$ )	5	-5.0	+2.0	1	3	2		
BZX584C5V1-02V	1	4.8	5.4	40 ( $\leq 60$ )	400 ( $\leq 480$ )	5	-3.0	+4.0	1	2	2		
BZX584C5V6-02V	0	5.2	6	15 ( $\leq 40$ )	80 ( $\leq 400$ )	5	-2.0	+6.0	1	1	2		
BZX584C6V2-02V	1	5.8	6.6	6.0 ( $\leq 10$ )	40 ( $\leq 150$ )	5	-1.0	+7.0	1	3	4		
BZX584C6V8-02V	2	6.4	7.2	6.0 ( $\leq 15$ )	30 ( $\leq 80$ )	5	+2.0	+7.0	1	2	4		
BZX584C7V5-02V	3	7	7.9	6.0 ( $\leq 15$ )	30 ( $\leq 80$ )	5	+3.0	+7.0	1	1	5		
BZX584C8V2-02V	4	7.7	8.7	6.0 ( $\leq 15$ )	40 ( $\leq 80$ )	5	+4.0	+7.0	1	0.7	5		
BZX584C9V1-02V	5	8.5	9.6	6.0 ( $\leq 15$ )	40 ( $\leq 100$ )	5	+5.0	+8.0	1	0.5	6		
BZX584C10-02V	6	9.4	10.6	8.0 ( $\leq 20$ )	50 ( $\leq 150$ )	5	+5.0	+8.0	1	0.2	7		
BZX584C11-02V	7	10.4	11.6	10 ( $\leq 20$ )	50 ( $\leq 150$ )	5	+5.0	+9.0	1	0.1	8		
BZX584C12-02V	8	11.4	12.7	10 ( $\leq 25$ )	50 ( $\leq 150$ )	5	+6.0	+9.0	1	0.1	8		
BZX584C13-02V	9	12.4	14.1	10 ( $\leq 30$ )	50 ( $\leq 170$ )	5	+7.0	+9.0	1	0.1	8		
BZX584C15-02V	0	13.8	15.6	10 ( $\leq 30$ )	50 ( $\leq 200$ )	5	+7.0	+9.0	1	0.1	8		
BZX584C16-02V	1	15.3	17.1	10 ( $\leq 40$ )	50 ( $\leq 200$ )	5	+8.0	+9.5	1	0.05	$0.7 V_{Znom}$		
BZX584C18-02V	2	16.8	19.1	10 ( $\leq 45$ )	50 ( $\leq 225$ )	5	+8.0	+9.5	1	0.05	$0.7 V_{Znom}$		
BZX584C20-02V	3	18.8	21.2	15 ( $\leq 55$ )	60 ( $\leq 225$ )	5	+8.0	+10	1	0.05	$0.7 V_{Znom}$		
BZX584C22-02V	4	20.8	23.3	20 ( $\leq 55$ )	60 ( $\leq 250$ )	5	+8.0	+10	1	0.05	$0.7 V_{Znom}$		
BZX584C24-02V	5	22.8	25.6	25 ( $\leq 70$ )	60 ( $\leq 250$ )	5	+8.0	+10	1	0.05	$0.7 V_{Znom}$		
BZX584C27-02V	6	25.1	28.9	25 ( $\leq 80$ )	65 ( $\leq 300$ )	2	+8.0	+10	0.5	0.05	$0.7 V_{Znom}$		
BZX584C30-02V	K	28	32	30 ( $\leq 80$ )	70 ( $\leq 300$ )	2	+8.0	+10	0.5	0.05	$0.7 V_{Znom}$		
BZX584C33-02V	e	31	35	35 ( $\leq 80$ )	75 ( $\leq 325$ )	2	+8.0	+10	0.5	0.05	$0.7 V_{Znom}$		
BZX584C36-02V	q	34	38	35 ( $\leq 90$ )	80 ( $\leq 350$ )	2	+8.0	+10	0.5	0.05	$0.7 V_{Znom}$		
BZX584C39-02V	fl	37	41	40 ( $\leq 130$ )	80 ( $\leq 350$ )	2	+10	+12	0.5	0.05	$0.7 V_{Znom}$		
BZX584C43-02V	l	40	46	45 ( $\leq 150$ )	85 ( $\leq 375$ )	2	+10	+12	0.5	0.05	$0.7 V_{Znom}$		
BZX584C47-02V	L	44	50	50 ( $\leq 170$ )	85 ( $\leq 375$ )	2	+10	+12	0.5	0.05	$0.7 V_{Znom}$		
BZX584C51-02V	M	48	54	60 ( $\leq 180$ )	85 ( $\leq 400$ )	2	+10	+12	0.5	0.05	$0.7 V_{Znom}$		



## Package Dimensions in millimeters (inches): SOD523



foot print recommendation:



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Rev. f - Date: 25. January. 2005  
16864

### Ozone Depleting Substances Policy Statement

It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

We reserve the right to make changes to improve technical design  
and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany



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