

Small Signal Product

## Zener Diode, 2% Tolerance

### FEATURES

- Surface mounted device
- Zener voltage range from 2.4V-51V
- Power dissipation 200mW
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### MECHANICAL DATA

- Case: SOD-523F package
- Moisture sensitivity level (MSL): 1
- Pb free and RoHS compliant
- High temperature soldering guaranteed: 260°C/10s
- Weight: 1.36mg approx.



SOD-523F



<b>MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ unless otherwise noted)			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>VALUE</b>	<b>UNIT</b>
Power dissipation	$P_D$	200	mW
Thermal resistance (Junction to Ambient)	$R_{\theta JA}$	680	$^\circ\text{C}/\text{W}$
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature	$T_{STG}$	- 65 to +150	$^\circ\text{C}$

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**ELECTRICAL CHARACTERISTICS**

 (T<sub>A</sub>=25°C unless otherwise noted)

Part Number	Marking	Zener Voltage Range			I <sub>ZT</sub> (mA)	Maximum Zener Impedance		Maximum Reverse Current		Typical Temperature Coefficient		Test Current	
		V <sub>Z</sub> @ I <sub>ZT</sub> (V)				Z <sub>ZT</sub> @ I <sub>ZT</sub> (Ω)	Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> (μA)	V <sub>R</sub> (V)	T <sub>c</sub> @ I <sub>ZT</sub> (mV/°C)		
		Nom	Min	Max			(Ω)	(mA)			Min		Max
BZX585B2V4	05	2.4	2.35	2.45	5	100	564	1.0	45	1	-3.5	0.0	5
BZX585B2V7	15	2.7	2.65	2.75	5	100	564	1.0	18	1	-3.5	0.0	5
BZX585B3V0	25	3.0	2.94	3.06	5	100	564	1.0	9	1	-3.5	0.0	5
BZX585B3V3	35	3.3	3.23	3.37	5	95	564	1.0	4.5	1	-3.5	0.0	5
BZX585B3V6	45	3.6	3.53	3.67	5	90	564	1.0	4.5	1	-3.5	0.0	5
BZX585B3V9	55	3.9	3.82	3.98	5	90	564	1.0	2.7	1	-3.5	0.0	5
BZX585B4V3	65	4.3	4.21	4.39	5	90	564	1.0	2.7	1	-3.5	0.0	5
BZX585B4V7	75	4.7	4.61	4.79	5	80	470	1.0	2.7	2	-3.5	0.0	5
BZX585B5V1	85	5.1	5.00	5.20	5	60	451	1.0	1.8	2	-2.7	1.2	5
BZX585B5V6	95	5.6	5.49	5.71	5	40	376	1.0	0.9	2	-2	2.5	5
BZX585B6V2	A5	6.2	6.08	6.32	5	10	141	1.0	2.7	4	0.4	3.7	5
BZX585B6V8	B5	6.8	6.66	6.94	5	15	75	1.0	1.8	4	1.2	4.5	5
BZX585B7V5	C5	7.5	7.35	7.65	5	15	75	1.0	0.9	5	2.5	5.3	5
BZX585B8V2	D5	8.2	8.04	8.36	5	15	75	1.0	0.63	5	3.2	6.2	5
BZX585B9V1	E5	9.1	8.92	9.28	5	15	94	1.0	0.45	6	3.8	7.0	5
BZX585B10	F5	10	9.80	10.20	5	20	141	1.0	0.18	7	4.5	8.0	5
BZX585B11	G5	11	10.78	11.22	5	20	141	1.0	0.09	8	5.4	9.0	5
BZX585B12	H5	12	11.60	12.24	5	25	141	1.0	0.09	8	6.0	10.0	5
BZX585B13	J5	13	12.74	13.26	5	30	160	1.0	0.09	8	7.0	11.0	5
BZX585B15	K5	15	14.70	15.30	5	30	188	1.0	0.045	10.5	9.2	13.0	5
BZX585B16	L5	16	15.68	16.32	5	40	188	1.0	0.045	11.2	10.4	14.0	5
BZX585B18	M5	18	17.64	18.36	5	45	212	1.0	0.045	12.6	12.4	16.0	5
BZX585B20	N5	20	19.60	20.40	5	55	212	1.0	0.045	14.0	14.4	18.0	5
BZX585B22	P5	22	21.56	22.44	5	55	235	1.0	0.045	15.4	16.4	20.0	5
BZX585B24	R5	24	23.52	24.48	5	70	235	1.0	0.045	16.8	18.4	22.0	5
BZX585B27	S5	27	26.46	27.54	2	80	282	0.5	0.045	18.9	21.4	25.3	2
BZX585B30	T5	30	29.40	30.60	2	80	282	0.5	0.045	21.0	24.4	29.4	2
BZX585B33	U5	33	32.34	33.66	2	80	306	0.5	0.045	23.0	27.4	33.4	2
BZX585B36	V5	36	35.28	36.72	2	90	329	0.5	0.045	25.2	30.4	37.4	2
BZX585B39	X5	39	38.22	39.78	2	130	329	0.5	0.045	27.3	33.4	41.2	2
BZX585B43	Y5	43	42.14	43.86	2	150	353	0.5	0.045	30.1	10.0	12.0	5
BZX585B47	Z5	47	46.06	47.94	2	170	353	0.5	0.045	33.0	10.0	12.0	5
BZX585B51	-5	51	49.98	52.02	2	180	376	0.5	0.045	35.7	10.0	12.0	5

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**RATINGS AND CHARACTERISTICS CURVES**

( $T_A=25^\circ\text{C}$  unless otherwise noted)

Fig.1 Typical forward characteristics

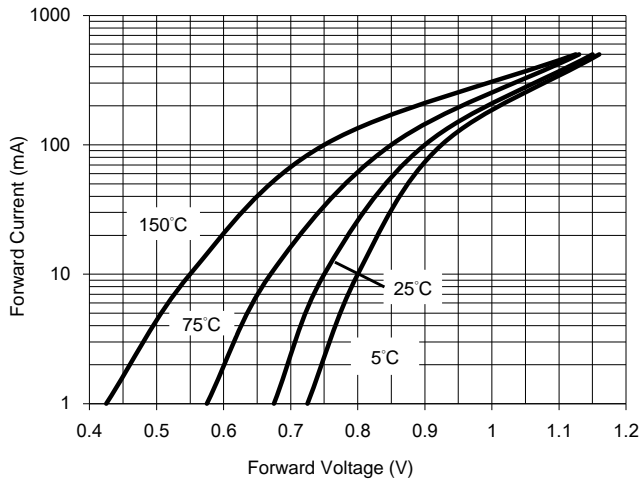


Fig. 2 Effect of Zener voltage on Zener impedance

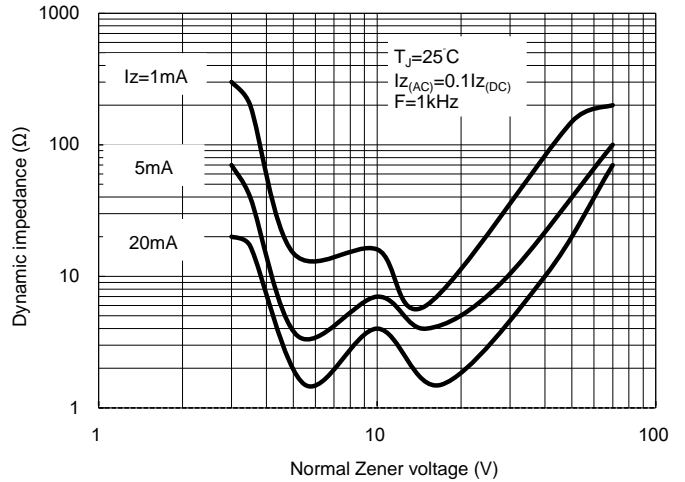


Fig.3 Power dissipation vs. ambient temp.

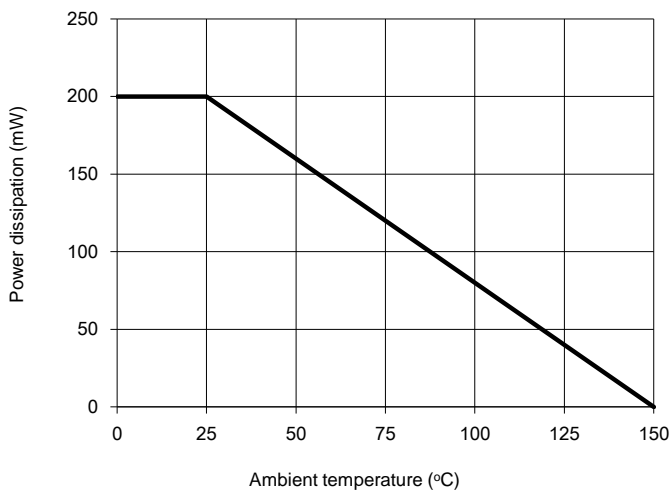


Fig. 4 Typical capacitance

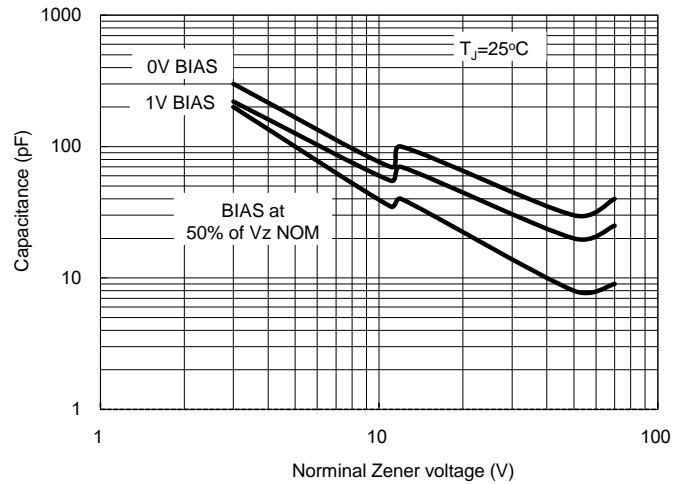


Fig.5 Zener breakdown characteristics

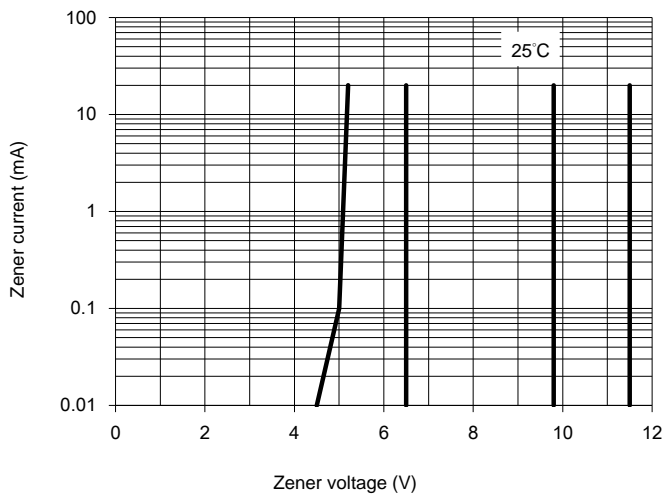
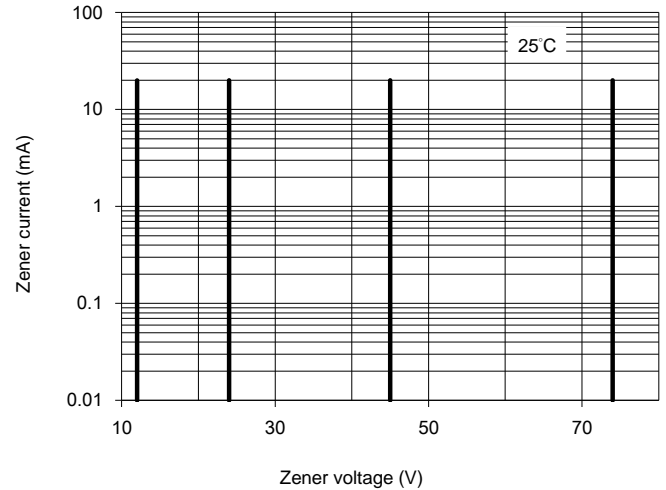


Fig.6 Zener breakdown characteristics



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<b>ORDERING INFORMATION</b>				
<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>PACKAGE</b>	<b>PACKING</b>
BZX585Bxxx (Note1, 2)	RS	G	SOD-523F	8,000 / 7" Reel
	RU			3,000 / 7" Reel

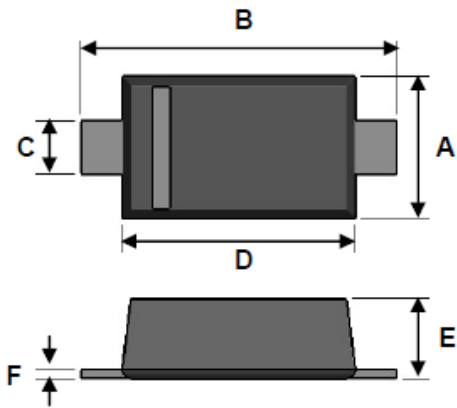
Note 1: "xxx" defines voltage from 2.4V (BZX585B2V4) to 51V (BZX585B51)

Note 2: Whole series with green compound

<b>EXAMPLE</b>				
<b>EXAMPLE P/N</b>	<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>DESCRIPTION</b>
BZX585B51 RSG	BZX585B51	RS	G	Green compound

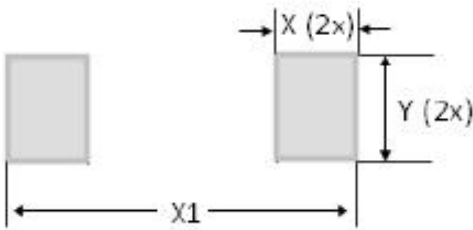
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**PACKAGE OUTLINE DIMENSIONS**  
SOD-523F



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.70	0.90	0.028	0.035
B	1.50	1.70	0.059	0.067
C	0.25	0.40	0.010	0.016
D	1.10	1.30	0.043	0.051
E	0.50	0.77	0.020	0.030
F	0.07	0.20	0.003	0.008

**SUGGESTED PAD LAYOUT**



DIM.	Unit (mm)	Unit (inch)
X	0.6	0.024
X1	2.3	0.091
Y	0.8	0.031

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