

2% Zener Voltage Tolerance SMD Zener Diode

FEATURES

- Wide zener voltage range selection: 2.4V to 75V
- V_Z Tolerance Selection of $\pm 2\%$
- Surface device type mounting
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- General regulation functions

MECHANICAL DATA

- Case: SOD-523F
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 1.30mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
P_D	150	mW
V_Z	2.4 - 75	V
$T_{J\ MAX}$	150	°C
Package	SOD-523F	
Configuration	Single die	



SOD-523F



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

PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	P_D	150	mW
Junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	833	°C/W

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

PART NUMBER	MARKING CODE	ZENER VOLTAGE			TEST CURRENT	REGULAR IMPEDANCE		TEST CURRENT	LEAKAGE CURRENT		TYPICAL TEMPERATURE COEFFICIENT		TEST CURRENT
		$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$		@ I_{ZTC}		I_{ZTC}
		V			mA	Ω	Ω	mA	μA	V	mV/ $^\circ\text{C}$		mA
		Min	Nom	Max		Max	Max		Max		Min	Max	
BZX584B2V4	Z1.	2.35	2.4	2.45	5	100	600	1.0	50	1.0	-3.5	0	5
BZX584B2V7	Z2.	2.65	2.7	2.75	5	100	600	1.0	20	1.0	-3.5	0	5
BZX584B3V0	Z3.	2.94	3.0	3.06	5	95	600	1.0	10	1.0	-3.5	0	5
BZX584B3V3	Z4.	3.23	3.3	3.37	5	95	600	1.0	5	1.0	-3.5	0	5
BZX584B3V6	Z5.	3.53	3.6	3.67	5	90	600	1.0	5	1.0	-3.5	0	5
BZX584B3V9	Z6.	3.82	3.9	3.98	5	90	600	1.0	3	1.0	-3.5	0	5
BZX584B4V3	Z7.	4.21	4.3	4.39	5	90	600	1.0	3	1.0	-3.5	0	5
BZX584B4V7	Z1.	4.61	4.7	4.79	5	80	500	1.0	3	2.0	-3.5	0.2	5
BZX584B5V1	2Z2	5.00	5.1	5.20	5	60	480	1.0	2	2.0	-2.7	1.2	5
BZX584B5V6	2Z3	5.49	5.6	5.71	5	40	400	1.0	1	2.0	-2.0	2.5	5
BZX584B6V2	2Z4	6.08	6.2	6.32	5	10	150	1.0	3	4.0	0.4	3.7	5
BZX584B6V8	2Z5	6.66	6.8	6.94	5	15	80	1.0	2	4.0	1.2	4.5	5
BZX584B7V5	2Z6	7.35	7.5	7.65	5	15	80	1.0	1	5.0	2.5	5.3	5
BZX584B8V2	2Z7	8.04	8.2	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZX584B9V1	2Z8	8.92	9.1	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZX584B10	2Z9	9.80	10	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZX584B11	2Y1	10.78	11	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZX584B12	2Y2	11.76	12	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZX584B13	2Y3	12.74	13	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZX584B15	2Y4	14.70	15	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZX584B16	2Y5	15.68	16	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZX584B18	2Y6	17.64	18	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZX584B20	2Y7	19.60	20	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZX584B22	W8.	21.56	22	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZX584B24	W9.	23.52	24	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZX584B27	Y1.	26.46	27	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZX584B30	Y2.	29.40	30	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZX584B33	Y3.	32.34	33	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZX584B36	Y4.	35.28	36	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZX584B39	Y5.	38.22	39	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZX584B43	Y6.	42.14	43	43.86	2	130	350	0.5	0.1	29.4	37.6	46.6	2
BZX584B47	V1.	45.83	47	48.17	2	170	1000	0.25	0.1	36.0.	42.0	51.8	2
BZX584B51	V2.	49.73	51	52.27	2	180	1300	0.25	0.1	39.0	46.6	57.2	2
BZX584B56	V3.	54.60	56	57.40	2	200	1400	0.25	0.1	43.0	52.2	63.8	2
BZX584B62	V4.	60.45	62	63.55	2	225	1400	0.25	0.1	47.0	58.8	71.6	2
BZX584B68	V5.	66.30	68	69.70	2	240	1600	0.25	0.1	52.0	65.6	79.8	2
BZX584B75	V6.	73.13	75	76.87	2	265	1700	0.25	0.1	56.0	73.4	88.6	2

ORDERING INFORMATION

ORDERING CODE⁽¹⁾	PACKAGE	PACKING
BZX584Bx RSG	SOD-523F	8K / 7" Reel

Notes:

1. "x" defines voltage from 2.4V(BZX584B2V4) to 75V(BZX584B75)

CHARACTERISTICS CURVES

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

Fig.1 Typical Forward Characteristics

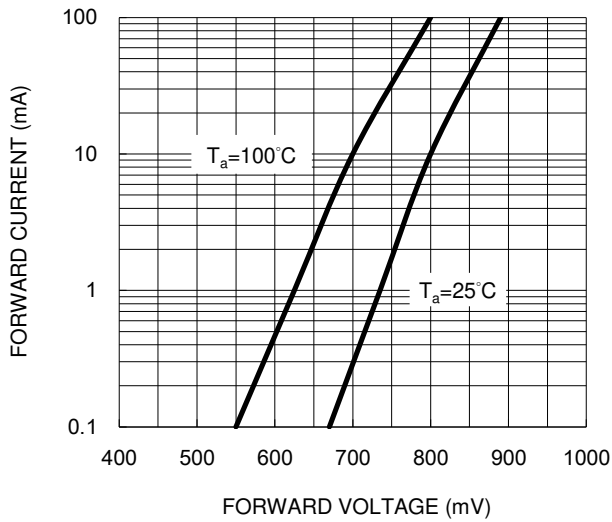


Fig.2 Admissible Power Dissipation Curve

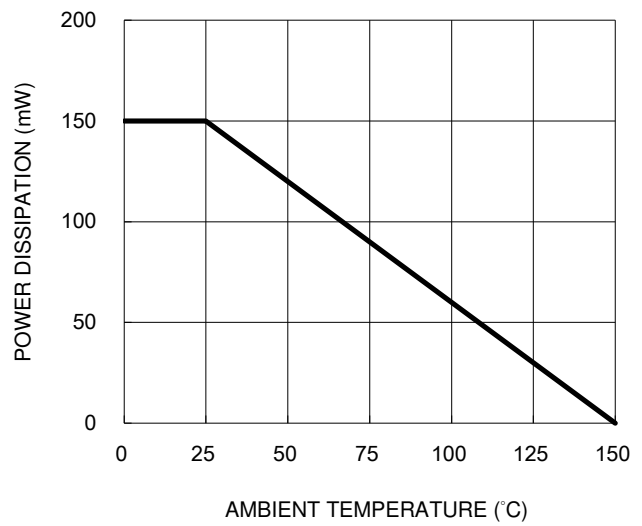
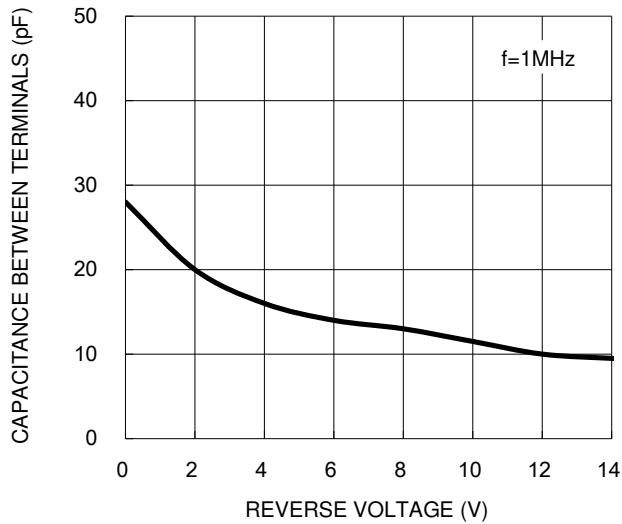


Fig.3 Typical Capacitance Characteristics



CHARACTERISTICS CURVES

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

Fig.4 Zener Breakdown Characteristics

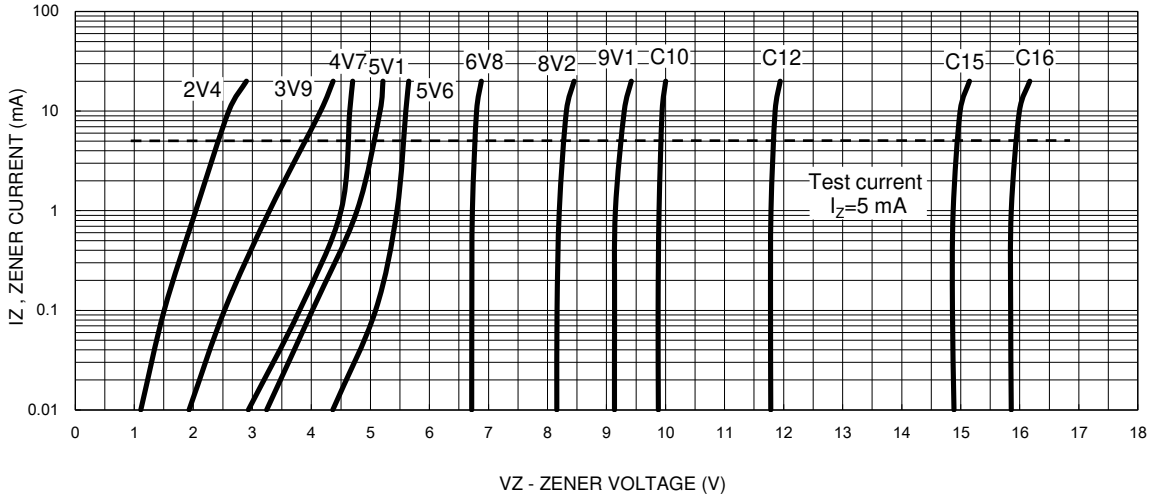
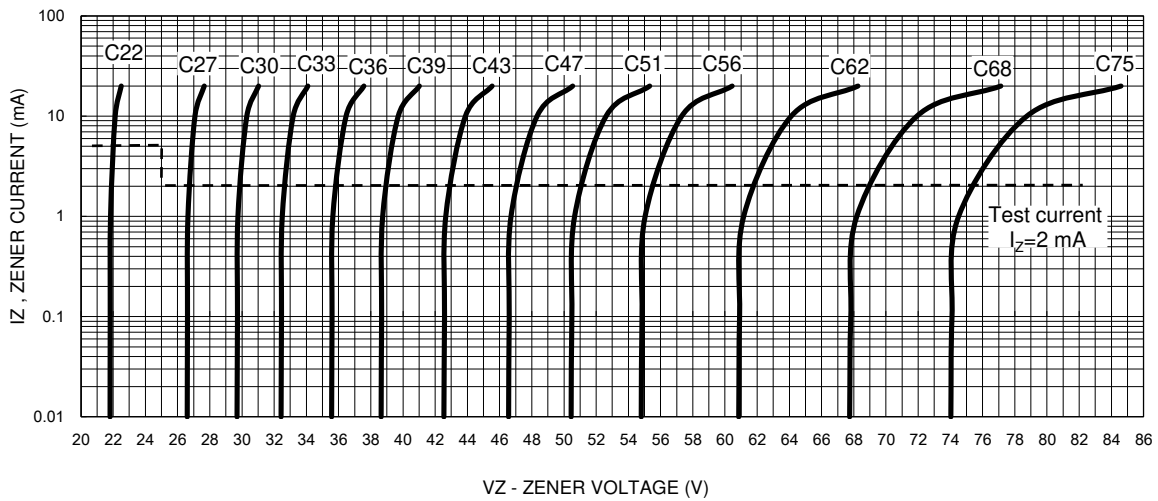
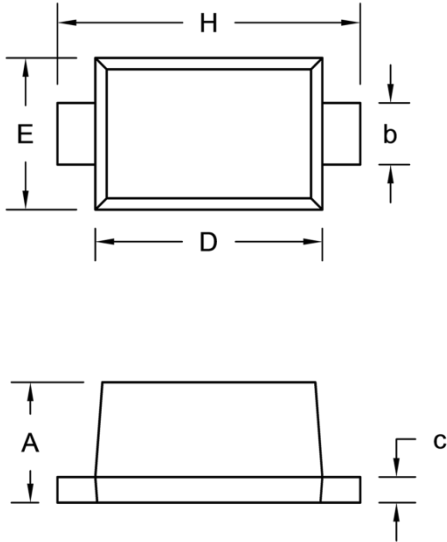


Fig.5 Zener Breakdown Characteristics



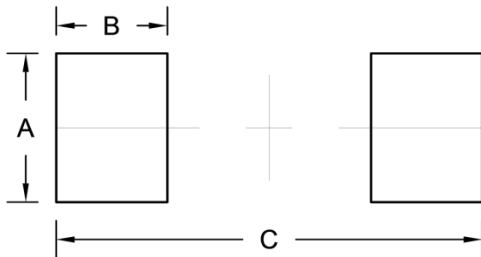
PACKAGE OUTLINE DIMENSION

SOD-523F



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

SUGGEST PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	0.80	0.031
B	0.60	0.024
C	2.30	0.091

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.