

410mW 2% Zener Diodes

FEATURES

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

APPLICATIONS

- Low voltage stabilizers or voltage references
- Adapters
- On-board DC/DC converter

MECHANICAL DATA

- Case: SOD-123
- Molding compound: UL flammability classification rating 94V-0
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 10.54mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
V_Z	2.4-75	V
Test current I_{ZT}	5-2	mA
P_{tot}	410	mW
V_F at $I_F=10mA$	0.9	V
T_J Max.	150	$^{\circ}C$
Package	SOD-123	
Configuration	Single die	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^{\circ}C$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Forward voltage @ $I_F=10mA$	V_F	0.9	V
Total power dissipation	P_{tot}	410	mW
Junction temperature range	T_J	-55 to +150	$^{\circ}C$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}C$

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	357	$^{\circ}C/W$

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.	
BZT52B2V4-G	2WX	2.35	2.4	2.45	5	100	600	1.0	50	1.0	-3.5	0	5
BZT52B2V7-G	2W1	2.65	2.7	2.75	5	100	600	1.0	20	1.0	-3.5	0	5
BZT52B3V0-G	2W2	2.94	3.0	3.06	5	95	600	1.0	10	1.0	-3.5	0	5
BZT52B3V3-G	2W3	3.23	3.3	3.37	5	95	600	1.0	5	1.0	-3.5	0	5
BZT52B3V6-G	2W4	3.53	3.6	3.67	5	90	600	1.0	5	1.0	-3.5	0	5
BZT52B3V9-G	2W5	3.82	3.9	3.98	5	90	600	1.0	3	1.0	-3.5	0	5
BZT52B4V3-G	2W6	4.21	4.3	4.39	5	90	600	1.0	3	1.0	-3.5	0	5
BZT52B4V7-G	2W7	4.61	4.7	4.79	5	80	500	1.0	3	2.0	-3.5	0.2	5
BZT52B5V1-G	2W8	5.00	5.1	5.20	5	60	480	1.0	2	2.0	-2.7	1.2	5
BZT52B5V6-G	2W9	5.49	5.6	5.71	5	40	400	1.0	1	2.0	-2.0	2.5	5
BZT52B6V2-G	2WA	6.08	6.2	6.32	5	10	150	1.0	3	4.0	0.4	3.7	5
BZT52B6V8-G	2WB	6.66	6.8	6.94	5	15	80	1.0	2	4.0	1.2	4.5	5
BZT52B7V5-G	2WC	7.35	7.5	7.65	5	15	80	1.0	1	5.0	2.5	5.3	5
BZT52B8V2-G	2WD	8.04	8.2	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZT52B9V1-G	2WE	8.92	9.1	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZT52B10-G	2WF	9.80	10	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZT52B11-G	2WG	10.78	11	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZT52B12-G	2WH	11.76	12	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZT52B13-G	2WI	12.74	13	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZT52B15-G	2WJ	14.70	15	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZT52B16-G	2WK	15.68	16	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZT52B18-G	2WL	17.64	18	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZT52B20-G	2WM	19.60	20	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZT52B22-G	2WN	21.56	22	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZT52B24-G	2WO	23.52	24	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZT52B27-G	2WP	26.46	27	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52B30-G	2WQ	29.40	30	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZT52B33-G	2WR	32.34	33	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52B36-G	2WS	35.28	36	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52B39-G	2WT	38.22	39	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52B43-G	2WU	42.14	43	43.86	2	130	350	0.5	0.1	29.4	36.4	45.2	2
BZT52B47-G	2WV	46.06	47	47.94	2	100	750	1.0	0.1	35.0	10.0	12.0	5
BZT52B51-G	X1.	49.98	51	52.02	2	100	750	1.0	0.045	35.7	10.0	12.0	5
BZT52B56-G	X2.	54.88	56	57.12	2	200	400	0.5	0.045	39.2	10.0	12.0	5
BZT52B62-G	X3.	60.76	62	63.24	2	215	423	0.5	0.045	43.4	10.0	12.0	5

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.	
BZT52B68-G	X4.	66.64	68	69.36	2	240	447	0.5	0.045	47.6	10.0	12.0	5
BZT52B75-G	X5.	73.5	75	76.5	2	255	470	0.5	0.045	52.5	10.0	12.0	5

ORDERING INFORMATION		
ORDERING CODE (Note 1)	PACKAGE	PACKING
BZT52Bxxx-G RHG	SOD-123	3K / 7" Reel

Note:

- "xxx" defines voltage from 2.4V (BZT52B2V4-G) to 75V (BZT52B75-G)

CHARACTERISTICS CURVES

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

Fig.1 Power Dissipation Curve

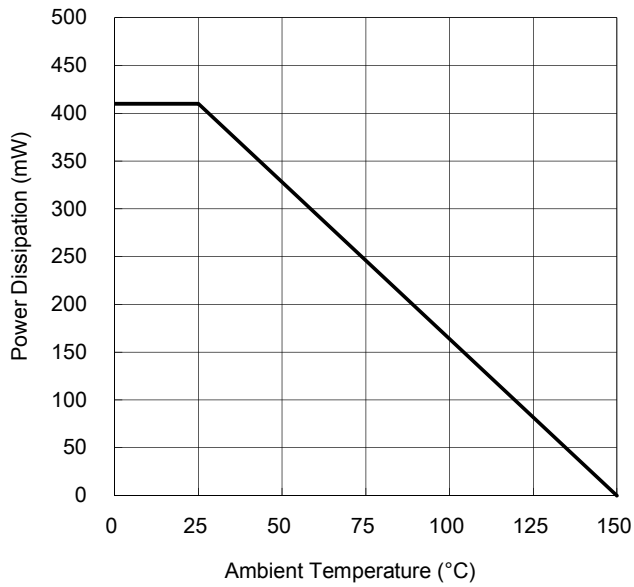


Fig.2 Zener Breakdown Characteristics

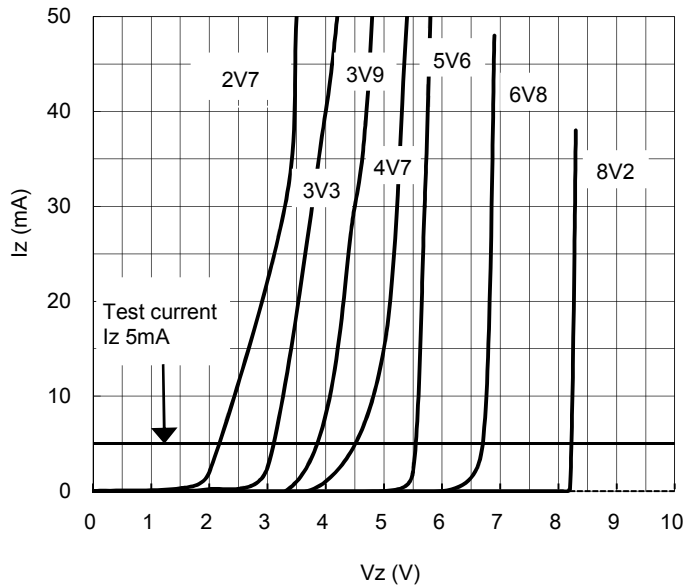
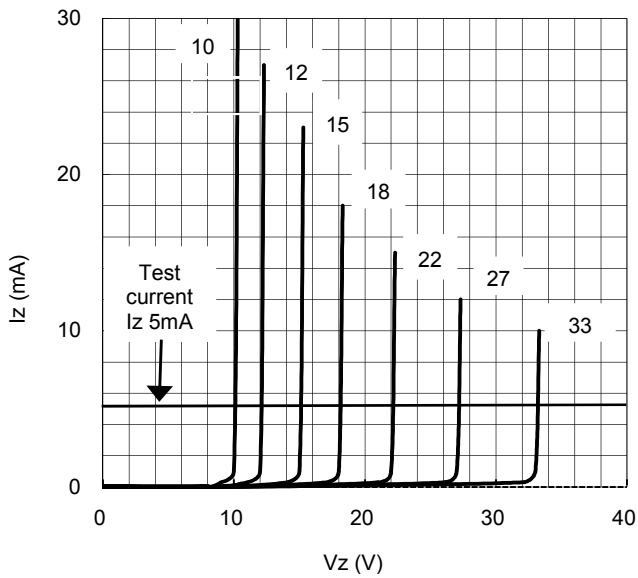
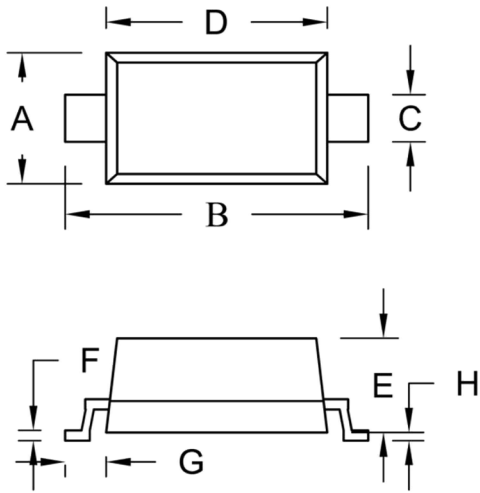


Fig.3 Zener Breakdown Characteristics



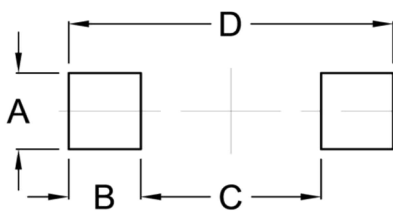
PACKAGE OUTLINE DIMENSION

SOD-123



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.40	1.80	0.055	0.071
B	3.55	3.85	0.140	0.152
C	0.45	0.70	0.018	0.028
D	2.55	2.85	0.100	0.112
E	0.95	1.35	0.037	0.053
F	0.05	0.15	0.002	0.006
G	0.50 (REF)		0.020 (REF)	
H	-	0.10	-	0.004

SUGGEST PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	0.95	0.037
B	0.90	0.035
C	2.25	0.089
D	4.05	0.159

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.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Zener Diodes](#) category:

Click to view products by [Taiwan Semiconductor](#) manufacturer:

Other Similar products are found below :

[MMSZ5245BS-7-F](#) [RKZ13B2KG#P1](#) [RKZ5.6B2KJ#R1](#) [EDZTE6113B](#) [EDZTE6116B](#) [EDZTE616.8B](#) [1N747A](#) [1N966B](#) [NTE5116A](#)
[NTE5121A](#) [NTE5139A](#) [NTE5147A](#) [NTE5152A](#) [NTE5155A](#) [NTE5156A](#) [NTE5164A](#) [JANS1N4974US](#) [SMAJ4764A-TP](#) [RKZ5.1BKU#P6](#)
[3SMAJ5946B-TP](#) [3SMAJ5950B-TP](#) [3SMBJ5920B-TP](#) [3SMBJ5925B-TP](#) [TDZTR24](#) [441774C](#) [MMSZ4678-TP](#) [MMSZ5232BQ-13-F](#)
[BZG04-36](#) [BZG05C9V1-HE3-TR](#) [HZM30NBTR-E](#) [UDZTE-175.1B](#) [3SMAJ5945B-TP](#) [3SMAJ5947B-TP](#) [3SMBJ5941B-TP](#) [DL4746A-TP](#)
[RKZ18B2KK#R1](#) [RKZ10B2KL#R1](#) [RKZ6.8B2KL#R1](#) [RKZ8.2B2KL#R1](#) [DZ2S240M0L](#) [SMAZ27-TP](#) [SMBZ5920B-E3/52](#) [ZMM3.0](#)
[RD16UM-T1-A](#) [RD39S-T1-A](#) [RD9.1S-T1-A](#) [RD10S-T1-A](#) [RD20S-T1-A](#) [RD2.2S-T1-A](#) [RD2.7UM-T1-A](#)