



## Silicon Planar Zener Diodes: BZX84B Series

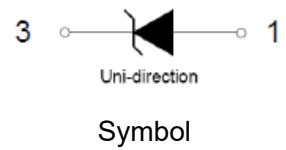
Rev.0.1

### FEATURE

- ✧ Total power dissipation: max 300mW.
- ✧ Low zener impedance.
- ✧ High reliability and high stability.
- ✧ Voltage range includes breakdown voltages from 5.1V to 43V with  $\pm 2\%$  for BZX84B series.



SOT-23



### DESCRIPTION

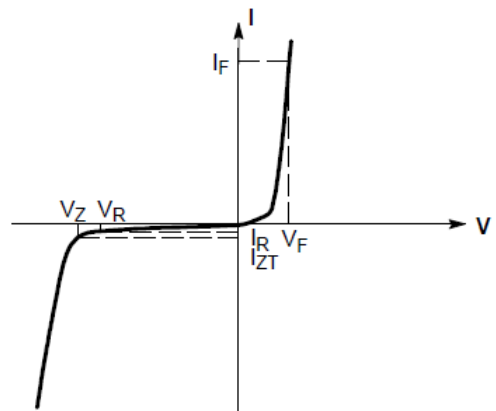
- ✧ SOT-23 small outline plastic package
- ✧ Color band denotes cathode end
- ✧ Epoxy UL: 94V-0
- ✧ Mounting position: any

### ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Total power dissipation @ $T_A=25^\circ\text{C}$	$P_D$	300	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction temperature range	$T_j$	-65 to +150	$^\circ\text{C}$
Storage temperature range	$T_s$	-65 to +150	$^\circ\text{C}$

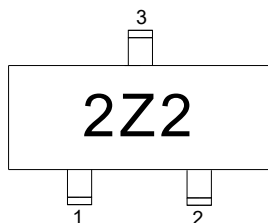
### ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ )

Symbol	Parameter
$V_Z$	Reverse zener voltage at $I_{ZT}$
$I_{ZT}$	Reverse current
$Z_{ZT}$	Maximum zener impedance at $I_{ZT}$
$I_R$	Reverse leakage current at $V_R$
$V_R$	Reverse voltage
$I_F$	Forward current
$V_F$	Forward voltage at $I_F$



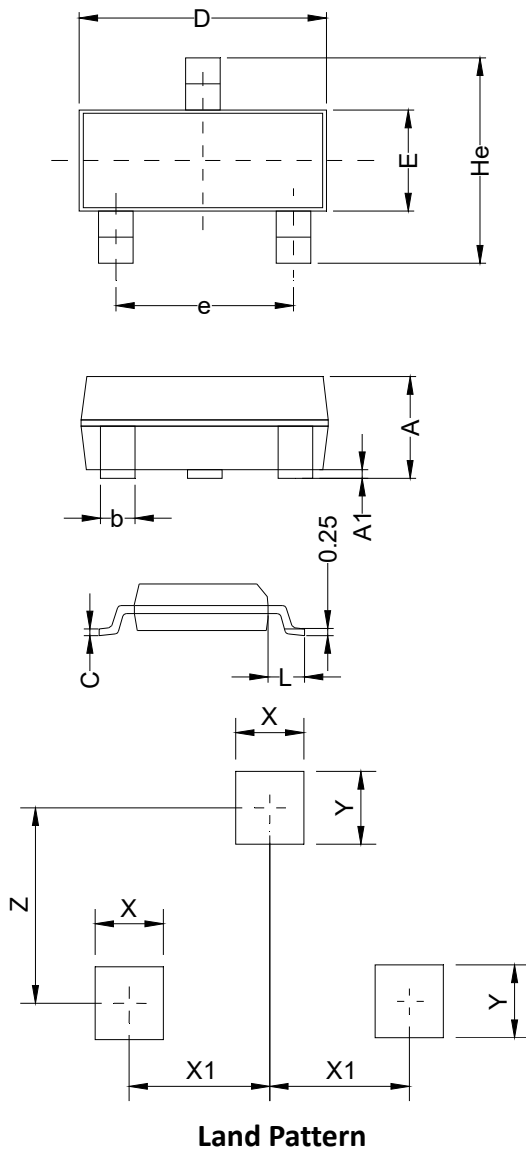
Zener voltage regulator

## MARKING

ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$  unless otherwise noted)Maximum  $V_F=0.9\text{V}$  at  $I_F=10\text{mA}$ 

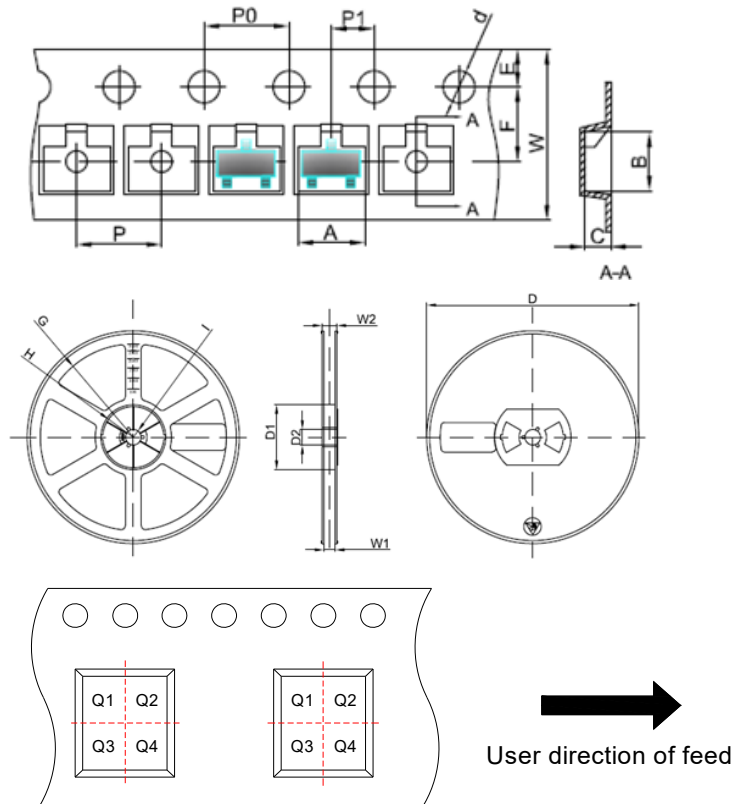
Type number	Zener voltage range at $I_{ZT}$				Maximum zener impedance			Maximum reverse leakage current		Marking
	Nom (Volts)	Min (Volts)	Max (Volts)	$I_{ZT}$ (mA)	$Z_{ZT}$ ( $\Omega$ )	$Z_{ZK}$ ( $\Omega$ )	$I_{ZK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	$V_R$ (Volts)	
BZX84B5V1	5.1	5.00	5.20	5	60	480	1.0	2	2.0	2Z2
BZX84B5V6	5.6	5.49	5.71	5	40	400	1.0	1	2.0	2Z3
BZX84B6V2	6.2	6.08	6.32	5	10	150	1.0	3	4.0	2Z4
BZX84B6V8	6.8	6.66	6.94	5	15	80	1.0	2	4.0	2Z5
BZX84B7V5	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2Z6
BZX84B8V2	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	2Z7
BZX84B9V1	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	2Z8
BZX84B10	10	9.80	10.20	5	20	150	1.0	0.2	7.0	2Z9
BZX84B11	11	10.78	11.22	5	20	150	1.0	0.1	8.0	2Y1 •
BZX84B12	12	11.76	12.24	5	25	150	1.0	0.1	8.0	2Y2 •
BZX84B13	13	12.74	13.26	5	30	170	1.0	0.1	8.0	2Y3
BZX84B15	15	14.70	15.30	5	30	200	1.0	0.1	10.5	2Y4
BZX84B16	16	15.68	16.32	5	40	200	1.0	0.1	11.2	2Y5
BZX84B18	18	17.64	18.36	5	45	225	1.0	0.1	12.6	2Y6 •
BZX84B20	20	19.60	20.40	5	55	225	1.0	0.1	14.0	2Y7
BZX84B22	22	21.56	22.44	5	55	250	1.0	0.1	15.4	2Y8
BZX84B24	24	23.52	24.48	5	70	250	1.0	0.1	16.8	2Y9
BZX84B27	27	26.46	27.54	2	80	300	0.5	0.1	18.9	2Y10
BZX84B30	30	29.40	30.60	2	80	300	0.5	0.1	21.0	2Y11 •
BZX84B33	33	32.34	33.66	2	80	325	0.5	0.1	23.1	2Y12
BZX84B36	36	35.28	36.72	2	90	350	0.5	0.1	25.2	2Y13
BZX84B39	39	38.22	39.78	2	130	350	0.5	0.1	27.3	2Y14
BZX84B43	43	42.14	43.86	2	100	700	1.0	0.1	32	2Y15

PACKAGE MECHANICAL DATA



Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.90	1.063	1.15	0.035	0.042	0.045
A1	0.00	0.075	0.14	0.000	0.003	0.006
b	0.30	0.40	0.50	0.012	0.016	0.020
C	0.07	0.10	0.15	0.003	0.004	0.006
D	2.80	2.90	3.00	0.110	0.114	0.118
e	1.80	1.90	2.00	0.071	0.075	0.079
E	1.20	1.30	1.40	0.047	0.051	0.055
L	0.55REF			0.022REF		
He	2.25	2.40	2.55	0.089	0.094	0.100
X	0.80			0.031		
X1	0.95			0.037		
Y	0.80			0.031		
Z	2.02			0.080		

**TAPE AND REEL SPECIFICATION-SOT-23**



Pin 1 quadrant: Q3

**Packaging Description:**

SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
A	3.15	0.124
B	2.77	0.109
C	1.22	0.048
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	4.00	0.157
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

**ORDERING INFORMATION**

Part Number	Package	Reel Size	Quantity Per Reel
BZX84B Series	SOT-23	7 Inch	3,000 pcs

**RATINGS AND CHARACTERISTICS CURVES** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

Fig.1 Power dissipation vs ambient temperature

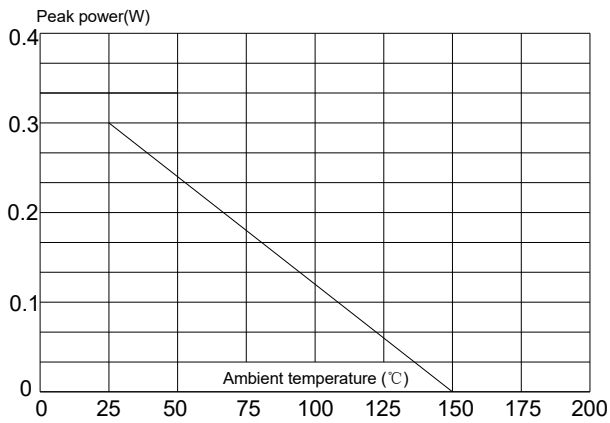


Fig.2 Zener breakdown characteristics

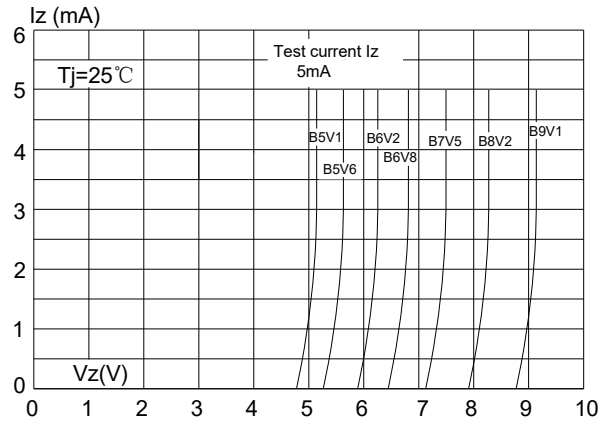


Fig.3 Zener breakdown characteristics

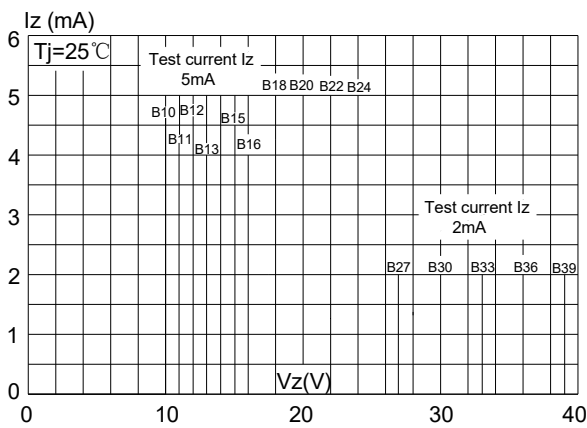
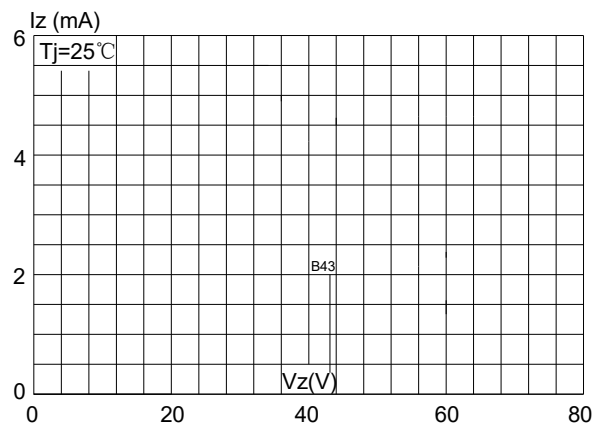


Fig.4 Zener breakdown characteristics




JieJie products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable JieJie product documentation. Warranties granted by JieJie shall be deemed void for products used for any purpose not expressly set forth in applicable JieJie documentation. JieJie shall not be liable for any claims or damages arising out of products used in applications not expressly intended by JieJie as set forth in applicable JieJie documentation. The sale and use of JieJie products is subject to JieJie terms and conditions of sale, unless otherwise agreed by JieJie.

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the 0.1st version which is made in 13-Mar.-2024. This document supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co., Ltd.

Copyright ©2024 Jiangsu JieJie Microelectronics Co., Ltd. Printed All rights reserved.