

Silicon Planar Zener Diodes

FEATURES

- ◆ Case: SOD-123
- ◆ Epoxy meets UL-94 V-0 flammability rating and halogen free
- ◆ Moisture Sensitivity Level 1
- ◆ High temperature soldering guaranteed 260°C / 10 seconds at terminals
- ◆ Tolerance approximately ±2%.

APPLICATION

- ◆ Linear voltage regulator
- ◆ DC regulator
- ◆ Small-signal surge protection

Pinning

1.Cathode	2.Anode
  SOD-123	

Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbols	Value	Units
Forward voltage @ I _F =10mA	V _F	0.9	V
Power dissipation	P _D	500	mW
Thermal Resistance Junction to Ambient Air	R _{θJA}	250	°C/W
Junction temperature	T _J	-55~150	°C
Storage temperature range	T _{stg}	-55~150	°C

Note: 1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-side copper, tin-plated and standard footprint.

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ I _{ZTC} =mV/°C		Test Current I _{ZTC}
		V _Z @I _{ZT}			I _{ZT}	Z _{zt} @I _{ZT}	Z _{zk} @I _{Zk}	I _{zk}	I _R	V _R	Min	Max	
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	uA	V			mA
BZT52B2V4	2WX	2.4	2.35	2.45	5	100	600	1	50	1	-3.5	0	5
BZT52B2V7	2W1	2.7	2.65	2.75	5	100	600	1	20	1	-3.5	0	5
BZT52B3V0	2W2	3	2.94	3.06	5	95	600	1	10	1	-3.5	0	5
BZT52B3V3	2W3	3.3	3.23	3.37	5	95	600	1	15	1	-3.5	0	5
BZT52B3V6	2W4	3.6	3.53	3.67	5	90	600	1	15	1	-3.5	0	5
BZT52B3V9	2W5	3.9	3.82	3.98	5	90	600	1	10	1	-3.5	0	5
BZT52B4V3	2W6	4.3	4.21	4.39	5	90	600	1	5	1	-3.5	0	5
BZT52B4V7	2W7	4.7	4.61	4.79	5	80	500	1	5	2	-3.5	0.2	5
BZT52B5V1	2W8	5.1	5	5.2	5	60	480	1	2	2	-2.7	1.2	5
BZT52B5V6	2W9	5.6	5.49	5.71	5	40	400	1	1	2	-2	2.5	5
BZT52B6V2	2WA	6.2	6.08	6.32	5	10	150	1	3	4	0.4	3.7	5
BZT52B6V8	2WB	6.8	6.66	6.94	5	15	80	1	2	4	1.2	4.5	5
BZT52B7V5	2WC	7.5	7.35	7.65	5	15	80	1	1	5	2.5	5.3	5
BZT52B8V2	2WD	8.2	8.04	8.36	5	15	80	1	0.7	5	3.2	6.2	5
BZT52B9V1	2WE	9.1	8.92	9.28	5	15	100	1	0.5	6	3.8	7	5
BZT52B10	2WF	10	9.8	10.2	5	20	150	1	0.2	7	4.5	8	5
BZT52B11	2WG	11	10.78	11.22	5	20	150	1	0.1	8	5.4	9	5
BZT52B12	2WH	12	11.76	12.24	5	25	150	1	0.1	8	6	10	5
BZT52B13	2WI	13	12.74	13.26	5	30	170	1	0.1	8	7	11	5
BZT52B15	2WJ	15	14.7	15.3	5	30	200	1	0.1	10.5	9.2	13	5
BZT52B16	2WK	16	15.68	16.32	5	40	200	1	0.1	11.2	10.4	14	5
BZT52B18	2WL	18	17.64	18.36	5	45	225	1	0.1	12.6	12.4	16	5
BZT52B20	2WM	20	19.6	20.4	5	55	225	1	0.1	14	14.4	18	5
BZT52B22	2WN	22	21.56	22.44	5	55	250	1	0.1	15.4	16.4	20	5
BZT52B24	2WO	24	23.52	24.48	5	70	250	1	0.1	16.8	18.4	22	5
BZT52B27	2WP	27	26.46	27.54	2	80	300	1	0.1	18.9	21.4	25.3	2
BZT52B30	2WQ	30	29.4	30.6	2	80	300	1	0.1	21	24.4	29.4	2
BZT52B33	2WR	33	32.34	33.66	2	80	325	1	0.1	23.1	27.4	33.4	2
BZT52B36	2WS	36	35.28	36.72	2	90	350	1	0.1	25.2	30.4	37.4	2
BZT52B39	2WT	39	38.22	39.78	2	130	350	1	0.1	27.3	33.4	41.2	2
BZT52B43	2WU	43	41.16	43.84	2	100	700	1	0.1	32	10	12	5
BZT52B47	2WV	47	46.06	47.94	2	100	750	1	0.1	35	10	12	5
BZT52B51	2WW	51	49.98	52.02	2	100	750	0.5	0.1	38	10	12	5
BZT52B56	2XW	56	54.88	57.12	2	100	750	0.5	0.1	39	10	12	5
BZT52B62	26E	62	60.76	63.24	2	200	1000	0.5	0.2	47	10	12	5
BZT52B68	26F	68	66.64	69.36	2	250	1000	0.5	0.2	52	10	12	5
BZT52B75	26H	75	73.5	76.5	2	300	1000	0.5	0.2	57	10	12	5

Ratings And Characteristic Curves

Fig 1: P_D-T_a Curve

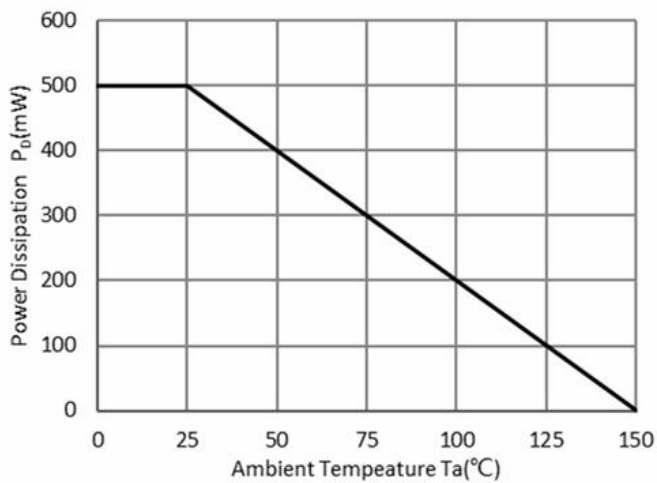


Fig 2: Zener Breakdown Characteristics

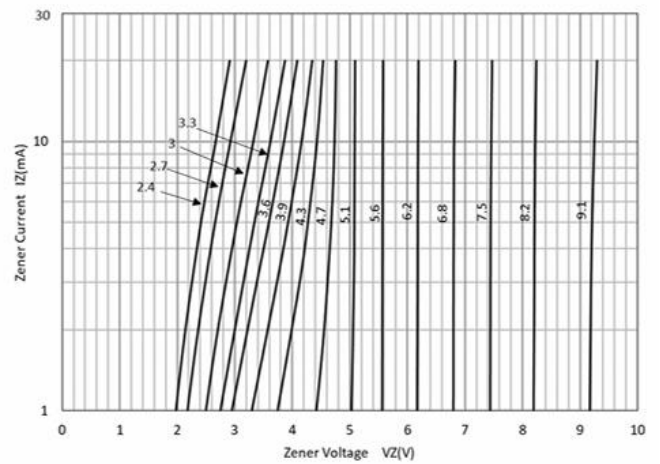


Fig 3: Zener Breakdown Characteristics

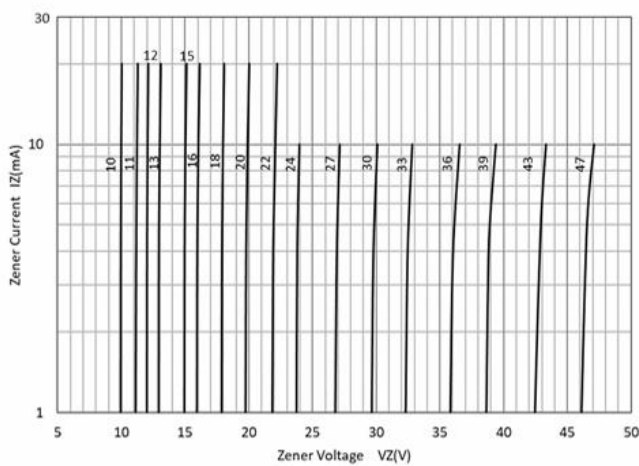
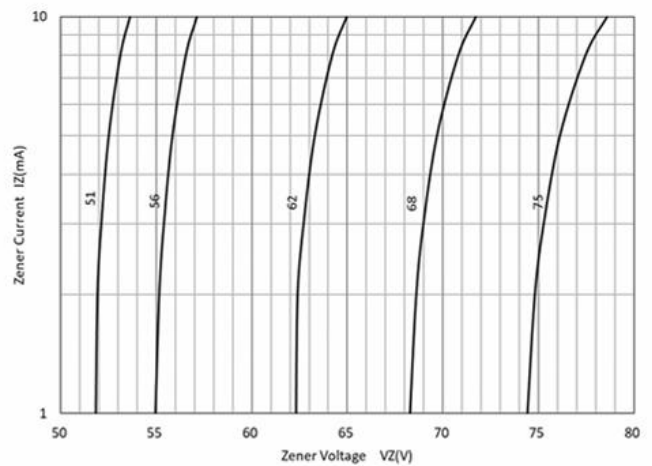


Fig 4: Zener Breakdown Characteristics



Ordering information

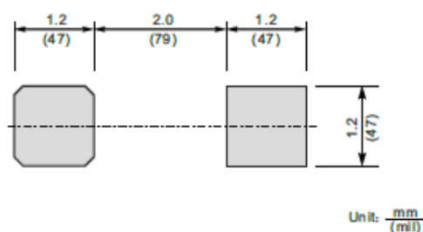
Package	Packing Description	Packing Quantity
SOD-123	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-123

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.3	35	51
C	0.09	0.22	3.5	8.7
D	1.5	1.8	59	71
E	2.5	2.8	98	110
E1	3.6	3.9	142	154
b	0.5	0.7	20	28
L1	0.25	0.45	10	18
A1	-	0.2	-	8
∠	9°			

The recommended mounting pad size



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