

Features

- Low Zener Impedance
- Power Dissipation of 500mW
- High Stability and High Reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

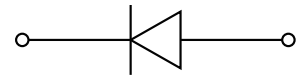
Applications

Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.

Mechanical Data

- Case: SOD-123
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

SOD-123

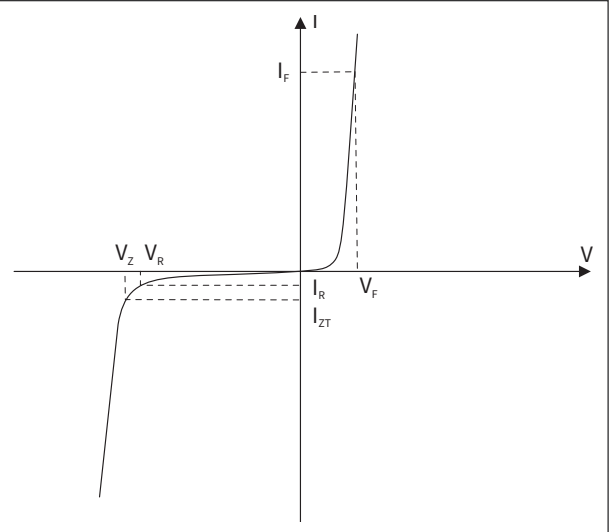


Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	P_D	mW	500
Forward Voltage @ $I_F=10\text{mA}$	V_F	V	0.9
Storage Temperature	T_{stg}	°C	-65 ~ +150
Junction Temperature	T_j	°C	-55 ~ +150
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	357

Electrical Parameter

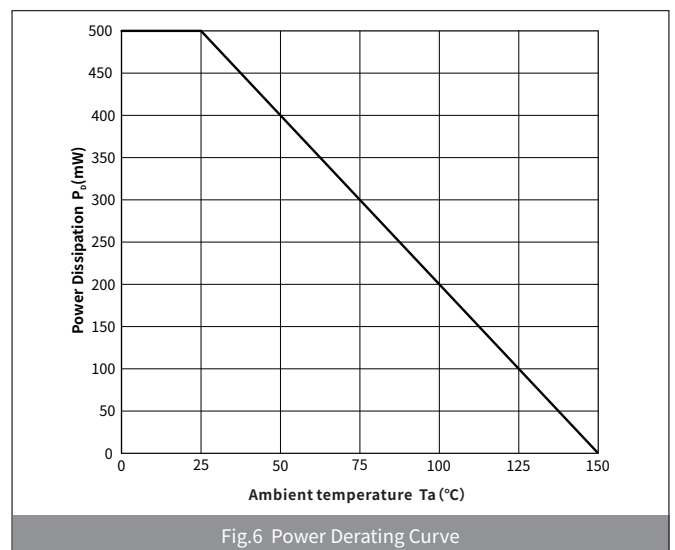
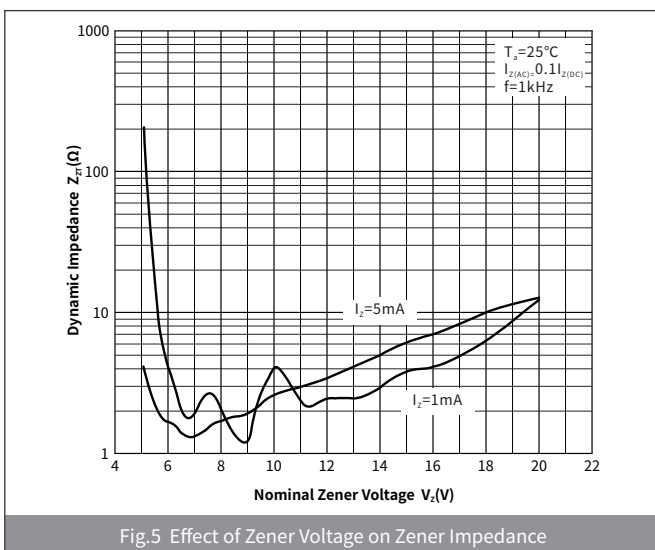
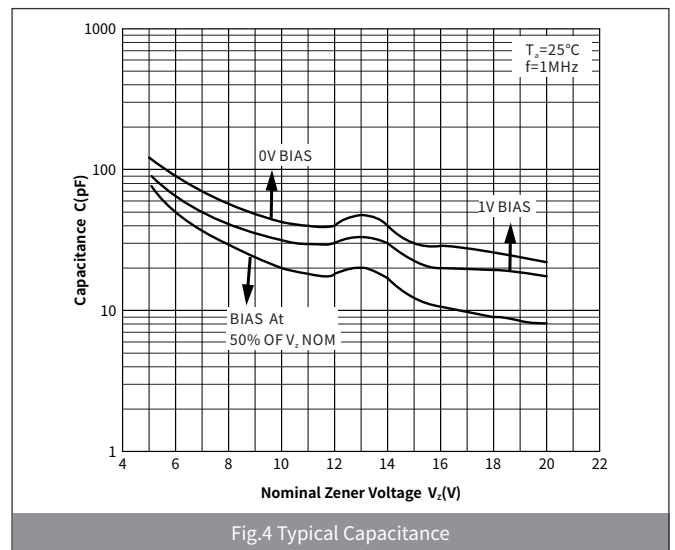
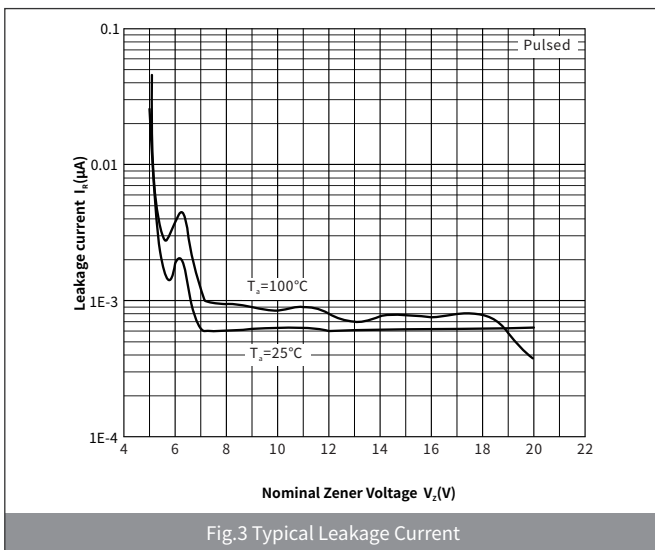
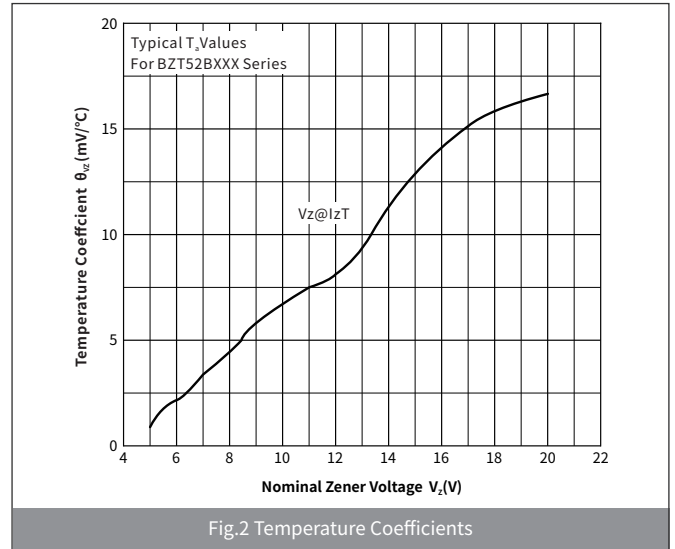
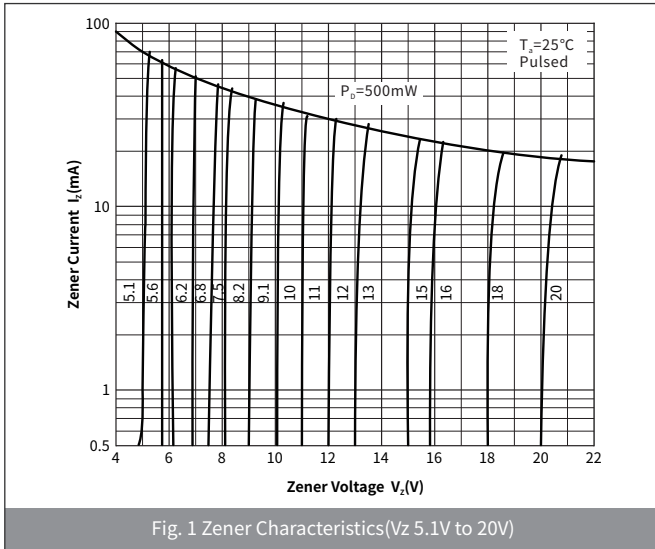
SYMBOL	PARAMETER
V_Z	Reverse zener voltage @ I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse leakage current @ V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage @ I_F



► Electrical Characteristics (Ta=25°C Unless otherwise specified)

Type Number	Marking	Zener Voltage Range			Maximum Zener Impedance				Maximum Reverse Current		Typical Temperature coefficient @ I _{ZTC} (mV/°C)		Test Current I _{ZTC} mA
		V _Z @I _{ZT} (V)			Z _{ZT} @I _{ZT}		Z _{ZK} @I _{ZK}		I _R @V _R		Min.	Max.	
		Min.	Nom.	Max.	Z _{ZT} (Ω)	I _{ZT} (mA)	Z _{ZK} (Ω)	I _{ZK} (mA)	I _R (μA)	V _R (V)			
BZT52B2V4	2WX	2.35	2.4	2.45	100	5	600	1.0	50	1.0	-3.5	0	5
BZT52B2V7	2W1	2.65	2.7	2.75	100	5	600	1.0	20	1.0	-3.5	0	5
BZT52B3V0	2W2	2.94	3.0	3.06	95	5	600	1.0	10	1.0	-3.5	0	5
BZT52B3V3	2W3	3.23	3.3	3.37	95	5	600	1.0	5	1.0	-3.5	0	5
BZT52B3V6	2W4	3.53	3.6	3.67	90	5	600	1.0	5	1.0	-3.5	0	5
BZT52B3V9	2W5	3.82	3.9	3.98	90	5	600	1.0	3	1.0	-3.5	0	5
BZT52B4V3	2W6	4.21	4.3	4.39	90	5	600	1.0	3	1.0	-3.5	0	5
BZT52B4V7	2W7	4.61	4.7	4.79	80	5	500	1.0	3	2.0	-3.5	0.2	5
BZT52B5V1	2W8	5.0	5.1	5.2	60	5	480	1.0	2	2.0	-2.7	1.2	5
BZT52B5V6	2W9	5.49	5.6	5.71	40	5	400	1.0	1	2.0	-2.0	2.5	5
BZT52B6V2	2WA	6.08	6.2	6.32	10	5	150	1.0	3	4.0	0.4	3.7	5
BZT52B6V8	2WB	6.66	6.8	6.94	15	5	80	1.0	2	4.0	1.2	4.5	5
BZT52B7V5	2WC	7.35	7.5	7.65	15	5	80	1.0	1	5.0	2.5	5.3	5
BZT52B8V2	2WD	8.04	8.2	8.36	15	5	80	1.0	0.7	5.0	3.2	6.2	5
BZT52B9V1	2WE	8.92	9.1	9.28	15	5	100	1.0	0.5	6.0	3.8	7.0	5
BZT52B10	2WF	9.8	10	10.2	20	5	150	1.0	0.2	7.0	4.5	8.0	5
BZT52B11	2WG	10.78	11	11.22	20	5	150	1.0	0.1	8.0	5.4	9.0	5
BZT52B12	2WH	11.76	12	12.24	25	5	150	1.0	0.1	8.0	6.0	10	5
BZT52B13	2WI	12.74	13	13.26	30	5	170	1.0	0.1	8.0	7.0	11	5
BZT52B15	2WJ	14.7	15	15.3	30	5	200	1.0	0.1	10.5	9.2	13	5
BZT52B16	2WK	15.68	16	16.32	40	5	200	1.0	0.1	11.2	10.4	14	5
BZT52B18	2WL	17.64	18	18.36	45	5	225	1.0	0.1	12.6	12.4	16	5
BZT52B20	2WM	19.6	20	20.4	55	5	225	1.0	0.1	14.0	14.4	18	5
BZT52B22	2WN	21.56	22	22.44	55	5	250	1.0	0.1	15.4	16.4	20	5
BZT52B24	2WO	23.52	24	24.48	70	5	250	1.0	0.1	16.8	18.4	22	5
BZT52B27	2WP	26.46	27	27.54	80	2	250	1.0	0.1	18.9	21.4	25	2
BZT52B30	2WQ	29.4	30	30.6	80	2	300	1.0	0.1	21	24.4	29.4	2
BZT52B33	2WR	32.34	33	33.66	80	2	325	1.0	0.1	23.1	27.4	33.4	2
BZT52B36	2WS	35.28	36	36.72	90	2	350	1.0	0.1	25.2	30.4	37.4	2
BZT52B39	2WT	38.22	39	39.78	130	2	350	1.0	0.1	27.3	33.4	41.2	2
BZT52B43	2WU	41.16	43	43.84	100	2	700	1.0	0.1	32	10.0	12	5
BZT52B47	2WV	46.06	47	47.94	100	2	750	1.0	0.1	35	10.0	12	5
BZT52B51	2WW	49.98	51	52.02	100	2	750	1.0	0.1	38	10.0	12	5

► Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-123	R1	0.012	3000	30000	120000	7"

Package Outline Dimensions (SOD-123)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.55	3.85	0.140	0.152
B	2.55	2.85	0.100	0.112
C	1.40	1.80	0.055	0.071
D	0.95	1.35	0.140	0.152
E	0.51	0.71	0.037	0.053
F	-	0.15	-	0.006
G	0.15	0.45	0.006	0.008
H	0.08	0.25	0.003	0.010
θ	-	8°	-	8°

Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.91	-	0.036	-
K	-	2.36	-	0.092
M	1.22	-	0.048	-