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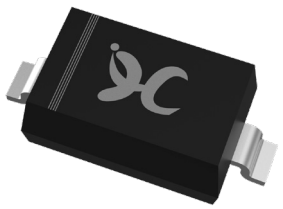
BZT52C2V4 THRU BZT52C51

SURFACE MOUNT ZENER DIODES

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

SOD-123

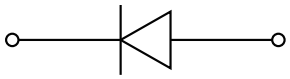


Applications

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

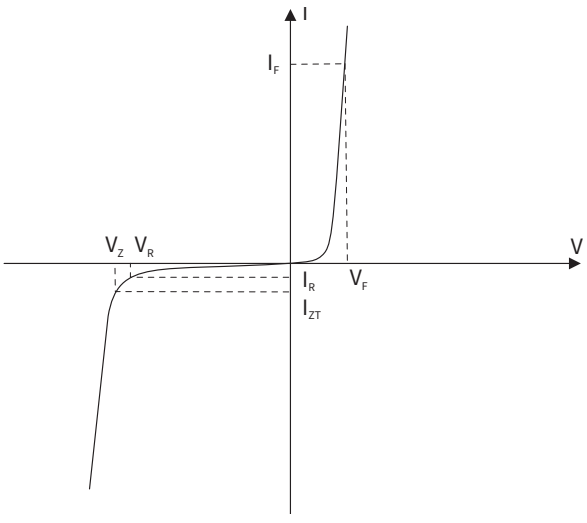


Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	P_D	mW	500
Forward Voltage @ I_F=10mA	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



Zhuhai Hongjiacheng Technology co., Ltd

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

Type Number	Marking	Zener Voltage Range			Maximum Zener Impedance				Maximum Reverse Current		Typical Temperature coefficent @ I_{ZTC}(mV/°C)		Test Current I_{ZTC}
		V_Z@I_{ZT} (V)			Z_{ZT}@I_{ZT}		Z_{ZK}@I_{ZK}		I_R@V_R				
		Min.	Nom.	Max.	Z_{ZT} (Ω)	I_{ZT} (mA)	Z_{ZK} (Ω)	I_{ZK} (mA)	I_R (μA)	V_R(V)	Min.	Max.	mA
BZT52C2V4	WX	2.28	2.4	2.52	100	5	600	1.0	50	1.0	-3.5	0	5
BZT52C2V7	W1	2.57	2.7	2.84	100	5	600	1.0	20	1.0	-3.5	0	5
BZT52C3V0	W2	2.85	3.0	3.15	95	5	600	1.0	10	1.0	-3.5	0	5
BZT52C3V3	W3	3.14	3.3	3.47	95	5	600	1.0	5	1.0	-3.5	0	5
BZT52C3V6	W4	3.42	3.6	3.78	90	5	600	1.0	5	1.0	-3.5	0	5
BZT52C3V9	W5	3.71	3.9	4.10	90	5	600	1.0	3	1.0	-3.5	0	5
BZT52C4V3	W6	4.09	4.3	4.52	90	5	600	1.0	3	1.0	-3.5	0	5
BZT52C4V7	W7	4.47	4.7	4.94	80	5	500	1.0	3	2.0	-3.5	0.2	5
BZT52C5V1	W8	4.85	5.1	5.36	60	5	480	1.0	2	2.0	-2.7	1.2	5
BZT52C5V6	W9	5.32	5.6	5.88	40	5	400	1.0	1	2.0	-2.0	2.5	5
BZT52C6V2	WA	5.89	6.2	6.51	10	5	150	1.0	3	4.0	0.4	3.7	5
BZT52C6V8	WB	6.46	6.8	7.14	15	5	80	1.0	2	4.0	1.2	4.5	5
BZT52C7V5	WC	7.13	7.5	7.88	15	5	80	1.0	1	5.0	2.5	5.3	5
BZT52C8V2	WD	7.79	8.2	8.61	15	5	80	1.0	0.7	5.0	3.2	6.2	5
BZT52C9V1	WE	8.65	9.1	9.56	15	5	100	1.0	0.5	6.0	3.8	7.0	5
BZT52C10	WF	9.50	10	10.50	20	5	150	1.0	0.2	7.0	4.5	8.0	5
BZT52C11	WG	10.45	11	11.55	20	5	150	1.0	0.1	8.0	5.4	9.0	5
BZT52C12	WH	11.40	12	12.60	25	5	150	1.0	0.1	8.0	6.0	10.0	5
BZT52C13	WI	12.35	13	13.65	30	5	170	1.0	0.1	8.0	7.0	11.0	5
BZT52C15	WJ	14.25	15	15.75	30	5	200	1.0	0.1	10.5	9.2	13.0	5
BZT52C16	WK	15.20	16	16.80	40	5	200	1.0	0.1	11.2	10.4	14.0	5
BZT52C18	WL	17.10	18	18.90	45	5	225	1.0	0.1	12.6	12.4	16.0	5
BZT52C20	WM	19.00	20	21.00	55	5	225	1.0	0.1	14.0	14.4	18.0	5
BZT52C22	WN	20.90	22	23.10	55	5	250	1.0	0.1	15.4	16.4	20.0	5
BZT52C24	WO	22.80	24	25.20	70	5	250	1.0	0.1	16.8	18.4	22.0	5
BZT52C27	WP	25.65	27	28.35	80	2	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C30	WQ	28.50	30	31.50	80	2	300	0.5	0.1	21.0	24.4	29.4	2
BZT52C33	WR	31.35	33	34.65	80	2	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C36	WS	34.20	36	37.80	90	2	350	0.5	0.1	25.2	30.4	37.4	2
BZT52C39	WT	37.05	39	40.95	130	2	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C43	WU	40.85	43	45.15	100	2	700	1.0	0.1	32.0	10.0	12.0	5
BZT52C47	WV	44.65	47	49.35	100	2	750	1.0	0.1	35.0	10.0	12.0	5
BZT52C51	WW	48.45	51	53.55	100	2	750	1.0	0.1	38.0	10.0	12.0	5

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

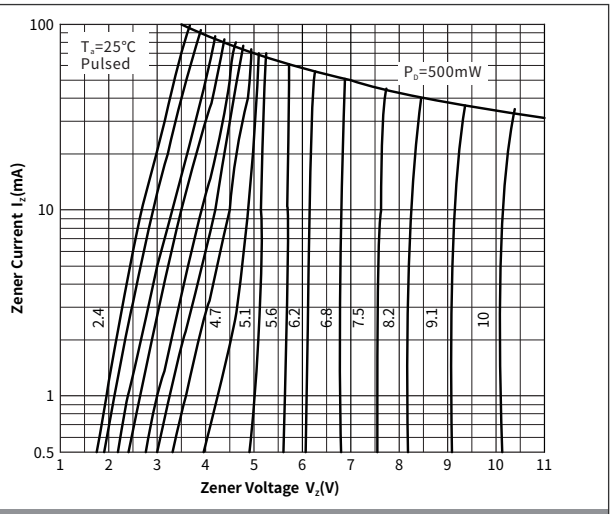


Fig. 1 Zener Characteristics(Vz Up to 10V)

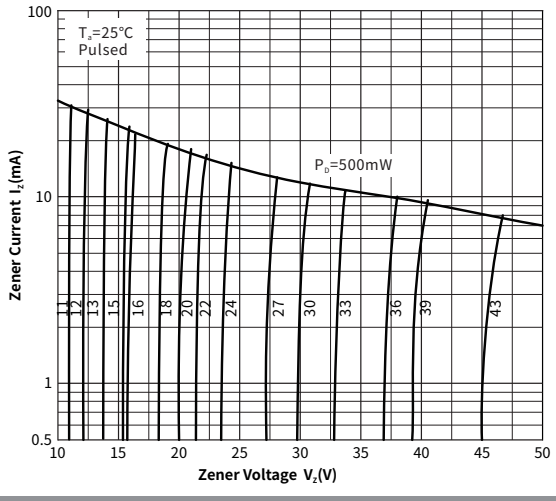


Fig.2 Zener Characteristics(11V to 43V)

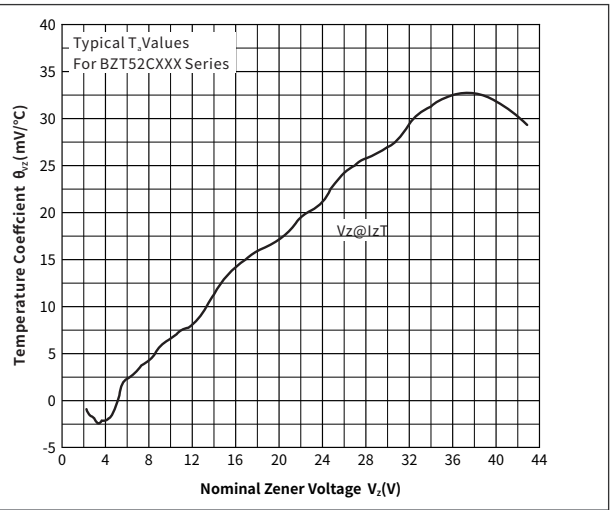


Fig.3 Temperature Coefficients

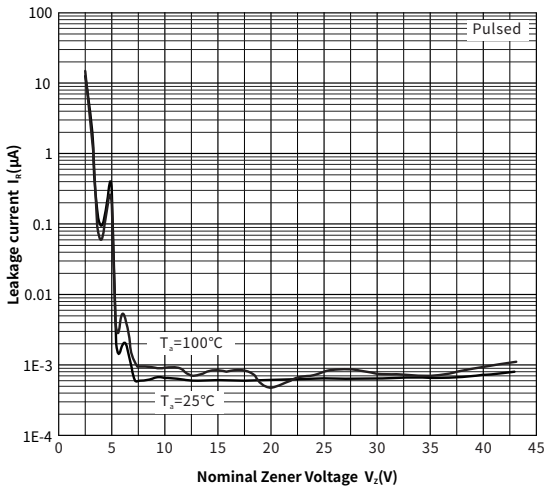


Fig.4 Typical Leakage Current

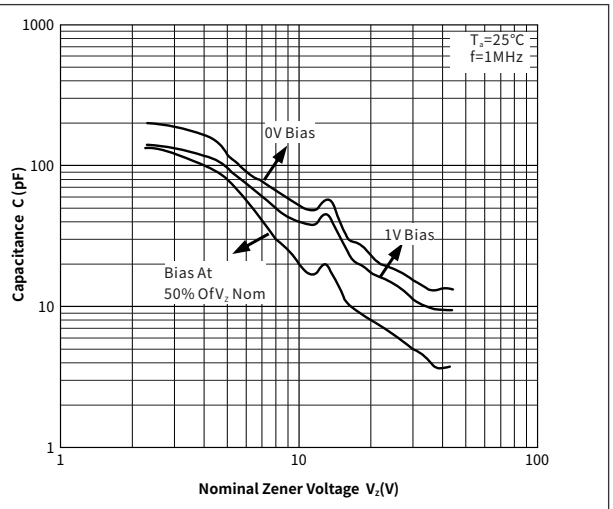


Fig.5 Typical Capacitance

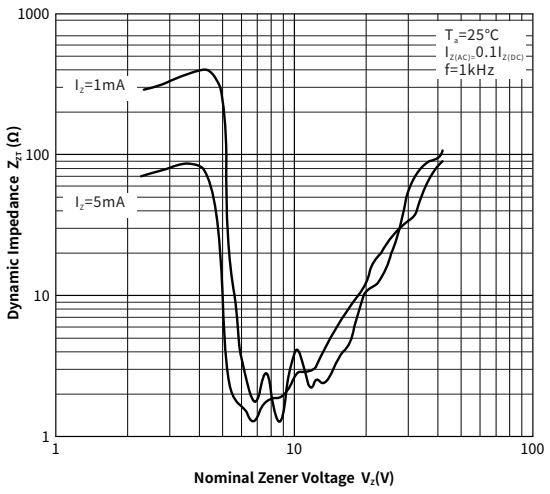


Fig.6 Effect of Zener Voltage on Zener Impedance

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

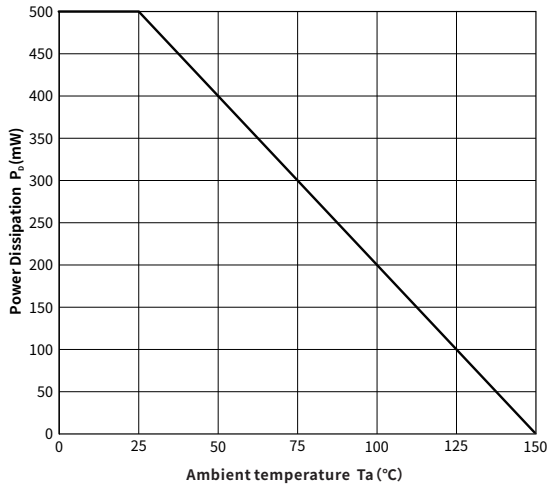
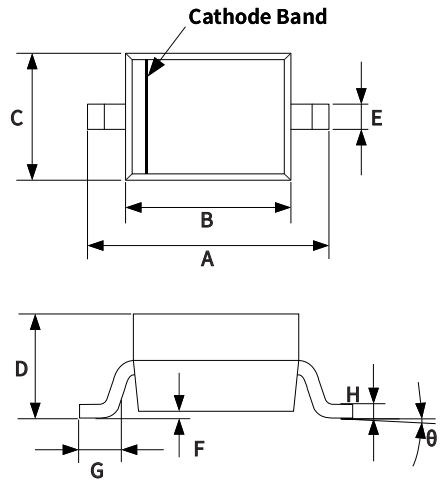


Fig. 7 Power Derating Curve

Ordering Information

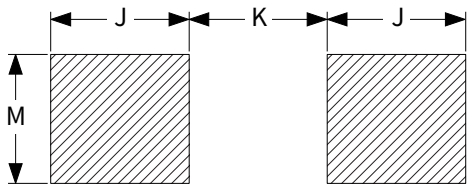
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-123	R1	0.012	3000	30000	120000	7''

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	-

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