BZT52C2V0-BZT52C75
Surface Mount Zener Diodes

Features

- Silicon epitaxial planar chip structure.
- Power Dissipation of 500mW
- High Stability and High Reliability
- Small package size for high density applications.
- Pb-Free package is available.

Zener Diode
2.0 to 75 Volts

Power Dissipation
500 Milliwatts

Appearance Image



Mechanical Data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Applications

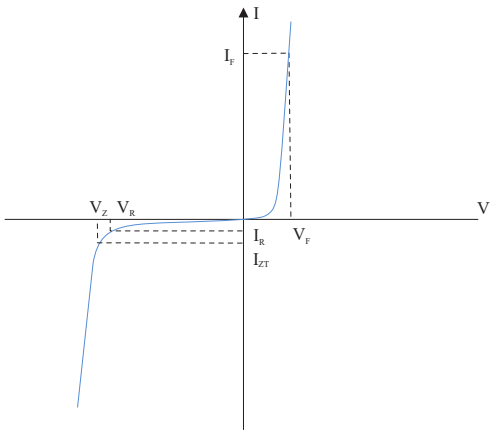
•Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.Pb-Free package is available

Maximum Ratings (Ta=25℃ 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}	℃	-55 ~+150
Junction Temperature	T_j	℃	-55 ~+150
Typical Thermal Resistance	$R_{\theta J-A}$	℃ /W	305

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℃ Unless otherwise noted)

Type Number	Marking	Nominal Zener Voltage				Zener Impedance			Leakage Current		Typical Temperature Coefficient @ I_{ZTC} (mV/℃)	
		Vz (V)			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	$I_R@V_R$			
		Min.	Nom.	Max.	(mA)	(Ω)		(mA)	I_R(μA)	V_R(V)	Min.	Max.
BZT52C2V0	WY	1.91	2.0	2.09	5	150	600	1.0	100	1.0	-3.5	0
BZT52C2V4	WX	2.2	2.4	2.6	5	100	600	1.0	50	1.0	-3.5	0
BZT52C2V7	W1	2.5	2.7	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZT52C3V0	W2	2.8	3.0	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZT52C3V3	W3	3.1	3.3	3.5	5	95	600	1.0	5	1.0	-3.5	0
BZT52C3V6	W4	3.4	3.6	3.8	5	90	600	1.0	5	1.0	-3.5	0
BZT52C3V9	W5	3.7	3.9	4.1	5	90	600	1.0	3	1.0	-3.5	0
BZT52C4V3	W6	4.0	4.3	4.6	5	90	600	1.0	3	1.0	-3.5	0
BZT52C4V7	W7	4.4	4.7	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
BZT52C5V1	W8	4.8	5.1	5.4	5	60	480	1.0	2	2.0	-2.7	1.2
BZT52C5V6	W9	5.2	5.6	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
BZT52C6V2	WA	5.8	6.2	6.6	5	10	150	1.0	3	4.0	0.4	3.7
BZT52C6V8	WB	6.4	6.8	7.2	5	15	80	1.0	2	4.0	1.2	4.5
BZT52C7V5	WC	7.0	7.5	7.9	5	15	80	1.0	1	5.0	2.5	5.3
BZT52C8V2	WD	7.7	8.2	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZT52C9V1	WE	8.5	9.1	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZT52C10	WF	9.4	10	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZT52C11	WG	10.4	11	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZT52C12	WH	11.4	12	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZT52C13	WI	12.4	13	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZT52C15	WJ	13.8	15	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZT52C16	WK	15.3	16	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZT52C18	WL	16.8	18	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZT52C20	WM	18.8	20	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZT52C22	WN	20.8	22	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZT52C24	WO	22.8	24	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZT52C27	WP	25.1	27	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZT52C30	WQ	28.0	30	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4
BZT52C33	WR	31.0	33	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4
BZT52C36	WS	34.0	36	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4
BZT52C39	WT	37.0	39	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2
BZT52C43	WU	40.0	43	46.0	5	100	700	1.0	0.1	32.0	10.0	12.0
BZT52C47	WV	44.0	47	50.0	5	100	750	1.0	0.1	35.0	10.0	12.0
BZT52C51	WW	48.0	51	54.0	5	100	750	1.0	0.1	38.0	10.0	12.0
BZT52C56	XW	52.0	56	60.0	5	135	700	1.0	0.1	39.0	10.0	12.0
BZT52C62	6E	58.0	62	66.0	5	200	1000	1.0	0.2	47.0	10.0	12.0
BZT52C68	6F	64.0	68	72.0	5	250	1000	1.0	0.2	52.0	10.0	12.0
BZT52C75	6H	70.0	75	79.0	5	300	1000	1.0	0.2	57.0	10.0	12.0

Typical Characteristics

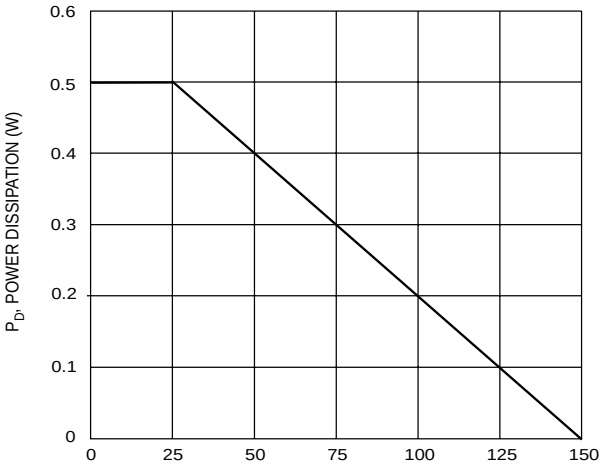


Fig. 1 Power Dissipation vs Ambient Temperature

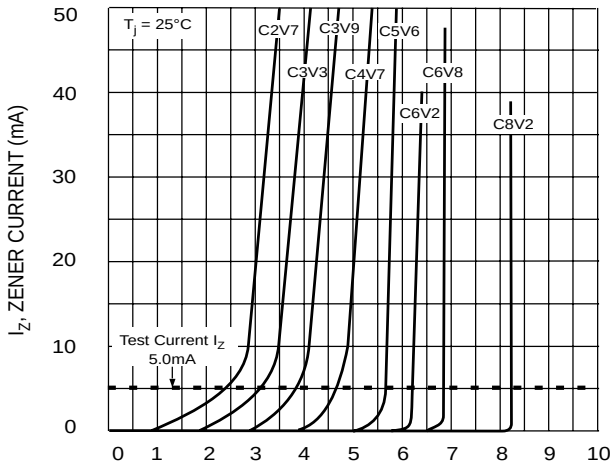


Fig. 2 Zener Breakdown Characteristics

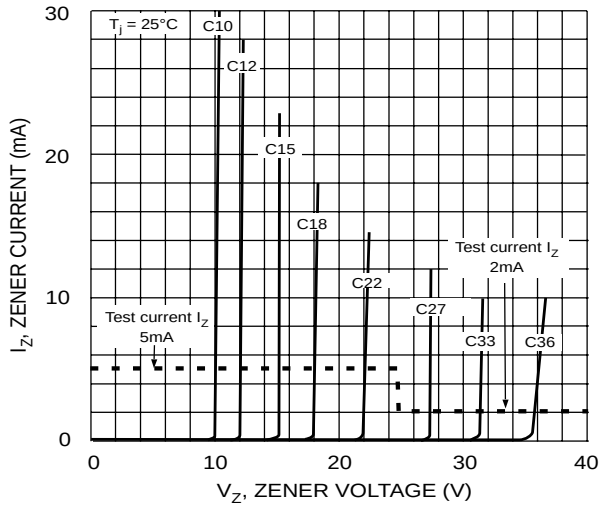


Fig. 3 Zener Breakdown Characteristics

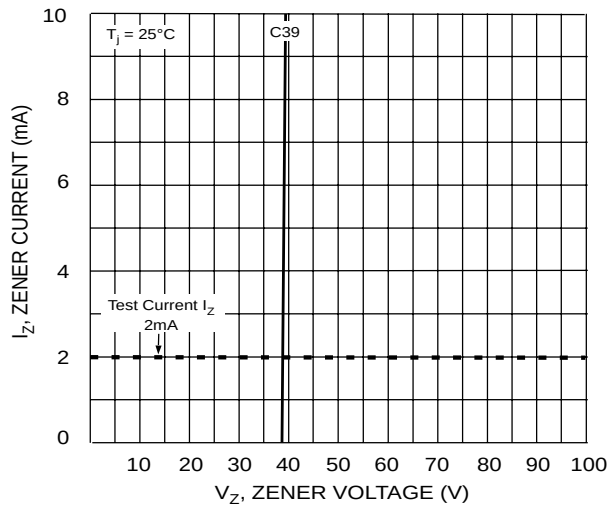


Fig. 4 Zener Breakdown Characteristics

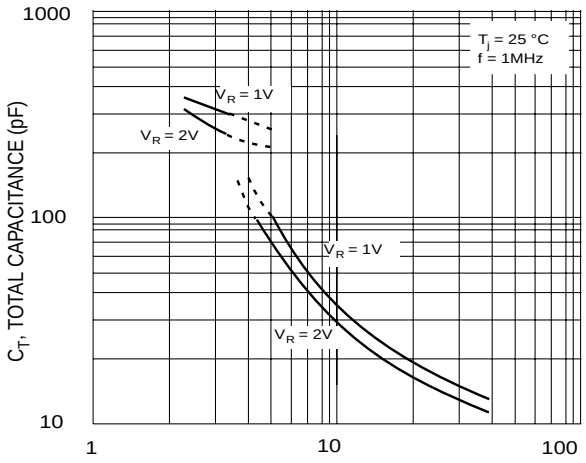
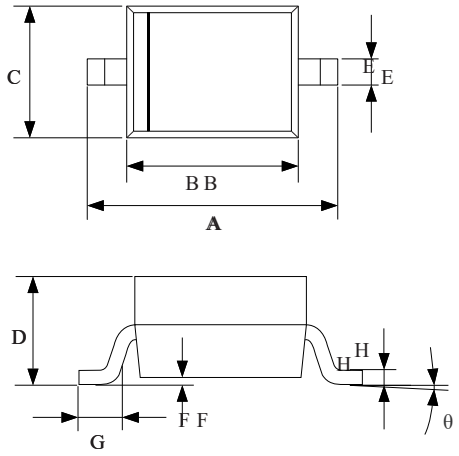


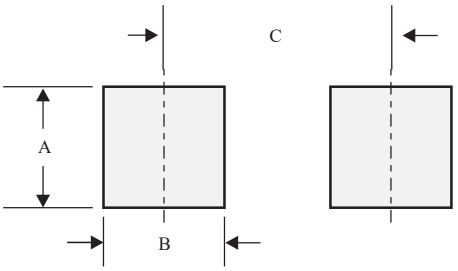
Fig. 5 Total Capacitance vs Nominal Zener Voltage

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 solder pad layout



PACKAGE	A	B	C
SOD-123	1.2-1.3	0.85-0.95	3.3-3.7

Dimensions in inches and (millimeters)

Ordering Information

Package	Reel Size	Reel(pcs)	Marking and Type No.
SOD-123	7"	3000	See Electrical Characteristics Table

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