



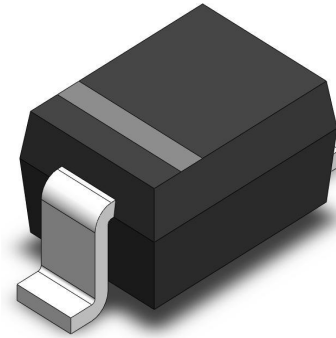
1.Features

Case:SOD-123

- Ideal for printed circuit board
- Planar die construction
- 500mW power dissipation on ceramic PCB
- General purpose,medium current
- Ideally suited for automated assembly processes
- Available in lead free version
- AEC-Q101 qualified available

2.Mechanical Data

- Case: Molded plastic, SOD-123.
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026 guaranteed.
- Polarity: as marked on case.
- Mounting Position: Any.
- Making: marked on body.



3.Maximum Ratings and Electrical Characteristics

Rating at 25°C Ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Power Dissipation(Note 1)	P_D	500	mW
Forward Voltage (Note 2) @ $I_F = 10\text{mA}$	V_F	0.9	V
Typical Thermal Resistance	$R_{\theta JA}$	357	°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Note:

- (1) Device mounted on ceramic PCB :7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
- (2) Short duration test pulse used to minimize self-heating effect.



BZT52C2V4Q THRU BZT52C75Q

Zener Diodes

4. Electrical Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Part Number	Type Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typ. Temperature Coefficient @I _{ZTC}		Test Current I _{ZTC}
		V _Z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	V _R			
		Nom.(V)	Min.	Max.	mA	Ω		mA	μ A	V	Min.	Max.	mA
BZT52C2V4Q	WX	2.4	2.28	2.52	5	100	600	1	50	1	-3.5	0	5
BZT52C2V7Q	W1	2.7	2.57	2.84	5	100	600	1	20	1	-3.5	0	5
BZT52C3V0Q	W2	3	2.85	3.15	5	95	600	1	10	1	-3.5	0	5
BZT52C3V3Q	W3	3.3	3.14	3.47	5	95	600	1	5	1	-3.5	0	5
BZT52C3V6Q	W4	3.6	3.42	3.78	5	90	600	1	5	1	-3.5	0	5
BZT52C3V9Q	W5	3.9	3.71	4.1	5	90	600	1	3	1	-3.5	0	5
BZT52C4V3Q	W6	4.3	4.09	4.52	5	90	600	1	3	1	-3.5	0	5
BZT52C4V7Q	W7	4.7	4.47	4.94	5	80	500	1	3	2	-3.5	0	5
BZT52C5V1Q	W8	5.1	4.85	5.36	5	60	480	1	2	2	-2.7	1.2	5
BZT52C5V6Q	W9	5.6	5.32	5.88	5	40	400	1	1	2	-2	2.5	5
BZT52C6V2Q	WA	6.2	5.8	6.6	5	10	150	1	3	4	0.4	3.7	5
BZT52C6V8Q	WB	6.8	6.4	7.2	5	15	80	1	2	4	1.2	4.5	5
BZT52C7V5Q	WC	7.5	7	7.9	5	15	80	1	1	5	2.5	5.3	5
BZT52C8V2Q	WD	8.2	7.7	8.7	5	15	80	1	0.7	5	3.2	6.2	5
BZT52C9V1Q	WE	9.1	8.5	9.6	5	15	100	1	0.5	6	3.8	7.0	5
BZT52C10Q	WF	10	9.4	10.6	5	20	150	1	0.2	7	4.5	8.0	5
BZT52C11Q	WG	11	10.4	11.6	5	20	150	1	0.1	8	5.4	9.0	5
BZT52C12Q	WH	12	11.4	12.7	5	25	150	1	0.1	8	6.0	10.0	5
BZT52C13Q	WI	13	12.4	14.1	5	30	170	1	0.1	8	7.0	11.0	5
BZT52C15Q	WJ	15	14.25	15.6	5	30	200	1	0.1	10.5	9.2	13.0	5
BZT52C16Q	WK	16	15.3	17.1	5	40	200	1	0.1	11.2	10.4	14.0	5
BZT52C18Q	WL	18	16.8	19.1	5	45	225	1	0.1	12.6	12.4	16.0	5
BZT52C20Q	WM	20	18.8	21.2	5	55	225	1	0.1	14	14.4	18.0	5
BZT52C22Q	WN	22	20.8	23.3	5	55	250	1	0.1	15.4	16.4	20.0	5
BZT52C24Q	WO	24	22.8	25.6	5	70	250	1	0.1	16.8	18.4	22.0	5
BZT52C27Q	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C30Q	WQ	30	28	32	2	80	300	0.5	0.1	21	24.4	29.4	2
BZT52C33Q	WR	33	31	35	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C36Q	WS	36	34	38	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52C39Q	WT	39	37	41	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C43Q	WU	43	40	46	5	100	750	1	0.1	32	37.6	46.6	2
BZT52C47Q	WV	47	44	50	5	100	750	1	0.1	35	42.0	51.8	2
BZT52C51Q	WW	51	48	54	2	180	400	0.5	0.05	35.7	46.6	57.2	2
BZT52C56Q	X1	56	53	59	2	200	1000	1	0.1	42	52.2	63.8	2
BZT52C62Q	5X2	62	58	66	2	215	450	0.5	0.05	43.4	58.8	71.6	2
BZT52C68Q	5X3	68	64	72	2	240	475	0.5	0.05	47.6	65.6	79.8	2
BZT52C75Q	5X4	75	70	79	2	255	500	0.5	0.05	52.5	73.4	88.6	2



5. Rating And Characteristic Curves

Fig.1 Power Derating Curve

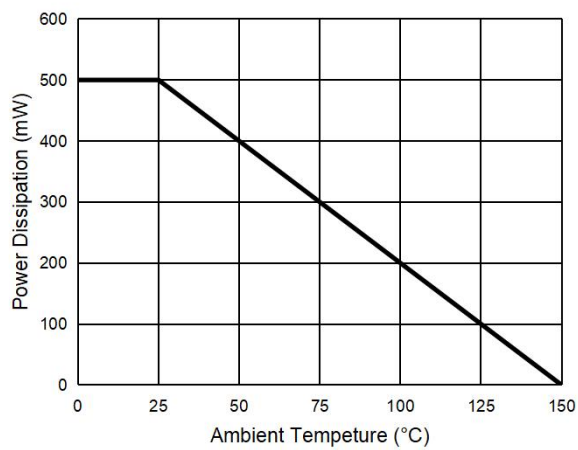


Fig.2 Zener Breakdown Characteristics

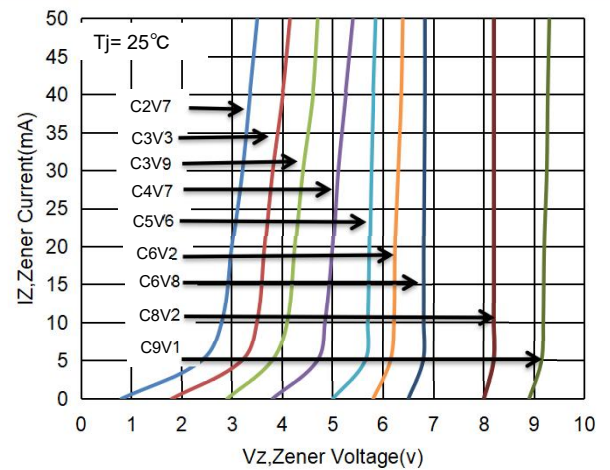


Fig.3 Zener Breakdown Characteristics

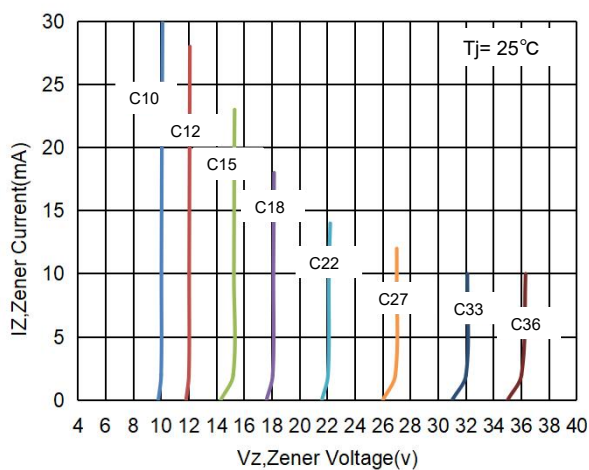


Fig.4 Zener Breakdown Characteristics

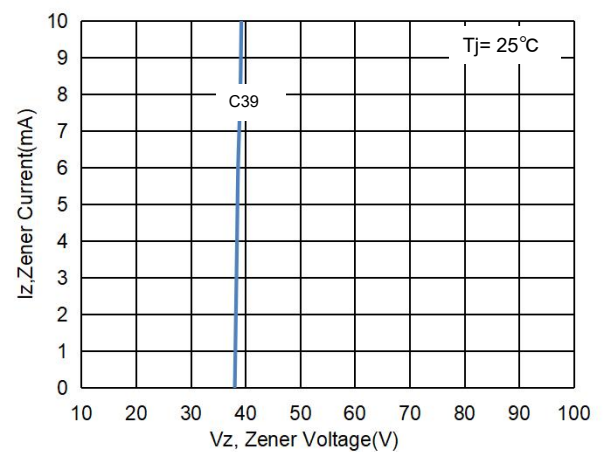
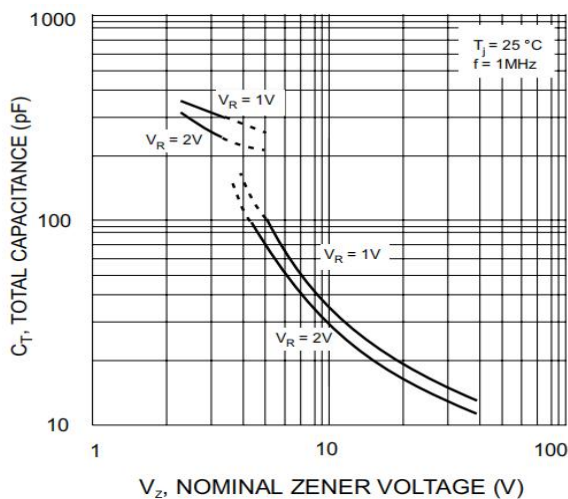
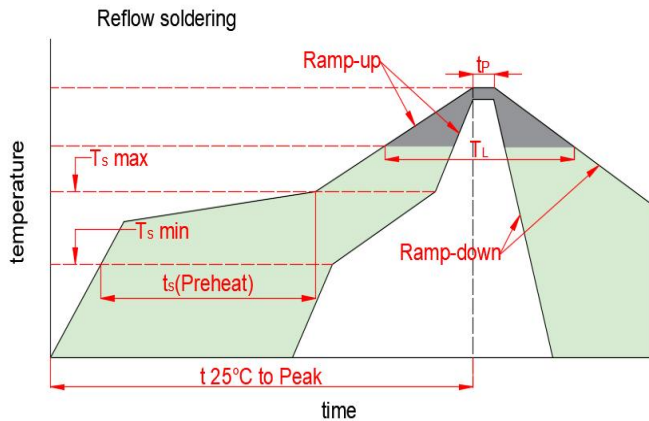


Fig.5 Typical Junction Capacitance



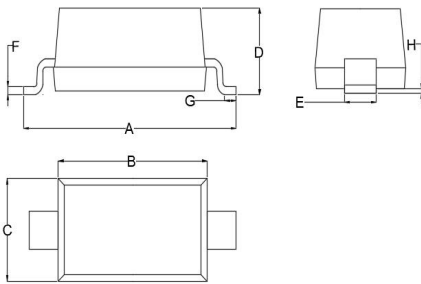


6. Soldering Parameters



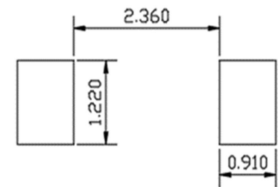
Reflow Condition		Lead-free
Pre Heat	Temperature min(Ts(min))	150°C
	Temperature max(Ts(max))	200°C
	Time(min to max)(ts)	60~120s
Average ramp up rate(Liquidus Temp)(TL)to peak		3°C/s max
TS(max) to TL-Ramp-up Rate		3°C/s max
Reflow	Temperature(TL)(Liquidus)	217°C
	Temperature(tL)(Liquidus)	60~150s
Peak Temperature(TP)		260 ^{+0/-5} °C
Time within actual peak Temperature(tp)		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Temperature(Tp)		8 minutes max
Do not exceed		260°C

7. Dimensions

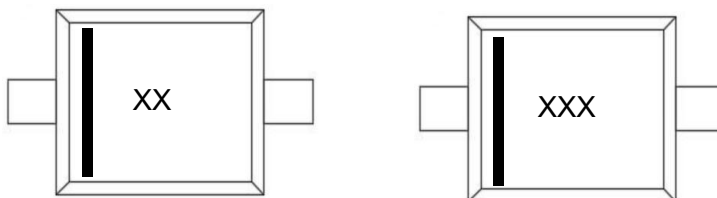


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.136	0.152	3.450	3.850
B	0.100	0.110	2.550	2.800
C	0.059	0.067	1.500	1.700
D	0.035	0.049	0.900	1.250
E	0.018	0.028	0.450	0.700
F	0.004	0.006	0.090	0.150
G	0.008	0.020	0.200	0.500
H	0.000	0.004	0.010	0.100

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Type	Tape Width (mm)	Quantity(pcs)
SOD-123	BZT52C2V4Q THRU BZT52C75Q	8	3000



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