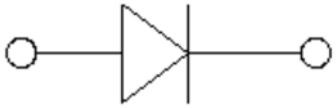
BZT52C2V4S THRU BZT52C75S

Zener Diodes





Features

- Moisture sensitivity level 1
- Zener voltage 2.4V~75V

Application

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

Mechanical data

- **Package**: SOD-323
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Forward voltage @ I_F=10mA	V_F	V	0.9
Power dissipation	P_D	mW	300
Maximum regulator current	I_{ZM}	mA	P_D/ V_Z
Junction temperature	T_J	℃	-55 to +150
Storage temperature	T_{STG}	℃	-55 to +150

BZT52C2V4S THRU BZT52C75S

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Type number	Device marking	V_Z@ I_{ZT} (V)			Z_{ZT}(Ω)		Z_{ZK}(Ω)		I_R(μA) @V_R		Typical temperature coefficient @ I_{ZTC} mV/℃		Diode capacitance Cd (pF)	Non-repetitive peak reverse current Izsm (A)
		Min.	Typ.	Max.	I_{ZT}(mA)	Max.	max	max	Max	V_R(V)	Min	Max	Max	Max
BZT52C2V4S	WX	2.28	2.4	2.52	5	100	1.0	600	50	1.0	-3.5	0	450	6
BZT52C2V7S	W1	2.57	2.7	2.84	5	100	1.0	600	20	1.0	-3.5	0	450	6
BZT52C3V0S	W2	2.85	3.0	3.15	5	95	1.0	600	10	1.0	-3.5	0	450	6
BZT52C3V3S	W3	3.14	3.3	3.47	5	95	1.0	600	5	1.0	-3.5	0	450	6
BZT52C3V6S	W4	3.42	3.6	3.78	5	90	1.0	600	5	1.0	-3.5	0	450	4.5
BZT52C3V9S	W5	3.71	3.9	4.1	5	90	1.0	600	3	1.0	-3.5	0	450	4.5
BZT52C4V3S	W6	4.09	4.3	4.52	5	90	1.0	600	3	1.0	-3.5	0	450	3.5
BZT52C4V7S	W7	4.47	4.7	4.94	5	80	1.0	500	3	2.0	-3.5	0.2	300	3.5
BZT52C5V1S	W8	4.85	5.1	5.36	5	60	1.0	480	2	2.0	-2.7	1.2	300	3
BZT52C5V6S	W9	5.32	5.6	5.88	5	40	1.0	400	1	2.0	-2.0	2.5	200	3
BZT52C6V2S	WA	5.8	6.2	6.6	5	10	1.0	150	3	4.0	0.4	3.7	200	3
BZT52C6V8S	WB	6.4	6.8	7.2	5	15	1.0	80	2	4.0	1.2	4.5	200	2
BZT52C7V5S	WC	7.0	7.5	7.9	5	15	1.0	80	1	5.0	2.5	5.3	150	2
BZT52C8V2S	WD	7.7	8.2	8.7	5	15	1.0	80	0.7	5.0	3.2	6.2	150	2
BZT52C9V1S	WE	8.5	9.1	9.6	5	15	1.0	100	0.5	6.0	3.8	7.0	150	1.8
BZT52C10S	WF	9.4	10	10.6	5	20	1.0	150	0.2	7.0	4.5	8.0	90	1.8
BZT52C11S	WG	10.4	11	11.6	5	20	1.0	150	0.1	8.0	5.4	9.0	85	1.8
BZT52C12S	WH	11.4	12	12.7	5	25	1.0	150	0.1	8.0	6.0	10.0	85	1.8
BZT52C13S	WI	12.4	13	14.1	5	30	1.0	170	0.1	8.0	7.0	11.0	80	1
BZT52C15S	WJ	14.25	15	15.6	5	30	1.0	200	0.1	10.5	9.2	13.0	75	1
BZT52C16S	WK	15.3	16	17.1	5	40	1.0	200	0.1	11.2	10.4	14.0	75	1
BZT52C18S	WL	16.8	18	19.1	5	45	1.0	225	0.1	12.6	12.4	16.0	70	1
BZT52C20S	WM	18.8	20	21.2	5	55	1.0	225	0.1	14.0	14.4	18.0	60	1
BZT52C22S	WN	20.8	22	23.3	5	55	1.0	250	0.1	15.4	16.4	20.0	60	0.6
BZT52C24S	WO	22.8	24	25.6	5	70	1.0	250	0.1	16.8	18.4	22.0	55	0.6
BZT52C27S	WP	25.1	27	28.9	2	80	0.5	300	0.1	18.9	21.4	25.3	50	0.6

BZT52C2V4S THRU BZT52C75S

Type number	Device marking	V_Z @ I_{ZT} (V)			Z_{ZT}(Ω)		Z_{ZK}(Ω)		I_R(μA) @V_R		Typical temperature coefficient @ I_{ZTC} mV/℃		Diode capacitance Cd (pF)	Non-repetitive peak reverse current Izsm (A)
		Min.	Typ.	Max.	I_{ZT}(mA)	Max.	max	max	Max	V_R(V)	Min	Max	Max	Max
BZT52C30S	WQ	28	30	32	2	80	0.5	300	0.1	21.0	24.4	29.4	50	0.6
BZT52C33S	WR	31	33	35	2	80	0.5	325	0.1	23.1	27.4	33.4	45	0.6
BZT52C36S	WS	34	36	38	2	90	0.5	350	0.1	25.2	30.4	37.4	45	0.6
BZT52C39S	WT	37	39	41	2	130	0.5	350	0.1	27.3	33.4	41.2	45	0.6
BZT52C43S	WU	40	43	46	5	100	1.0	750	0.1	32	37.6	46.6	40	0.6
BZT52C47S	WV	44	47	50	5	100	1.0	750	0.1	35	42.0	51.8	40	0.5
BZT52C51S	X1	48	51	54	2	180	0.5	400	0.05	35.7	46.6	57.2	40	0.4
BZT52C56S	X2	53	56	59	2	200	1	1000	0.1	42	52.2	63.8	40	0.3
BZT52C62S	X3	58	62	66	2	215	0.5	450	0.05	43.4	58.8	71.6	35	0.3
BZT52C68S	X4	64	68	72	2	240	0.5	475	0.05	47.6	65.6	79.8	35	0.25
BZT52C75S	X5	70	75	79	2	255	0.5	500	0.05	52.5	73.4	88.6	35	0.25

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}$(1)	℃/W	417
Thermal resistance, junction-to-case	$R_{\theta J-C}$(1)	℃/W	334

Note:

（1）Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm*9mm copper pad areas

■Characteristics

Fig 1：P_D-Ta Curve

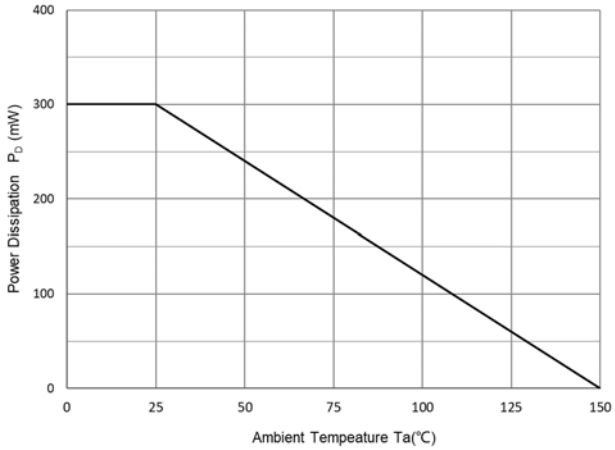


Fig 2：Zener Breakdown Characteristics

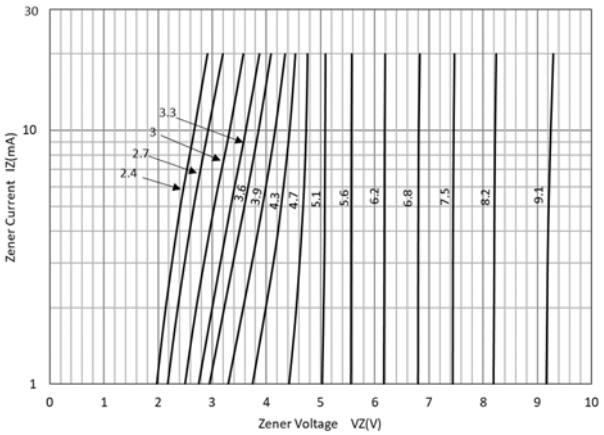


Fig 3：Zener Breakdown Characteristics

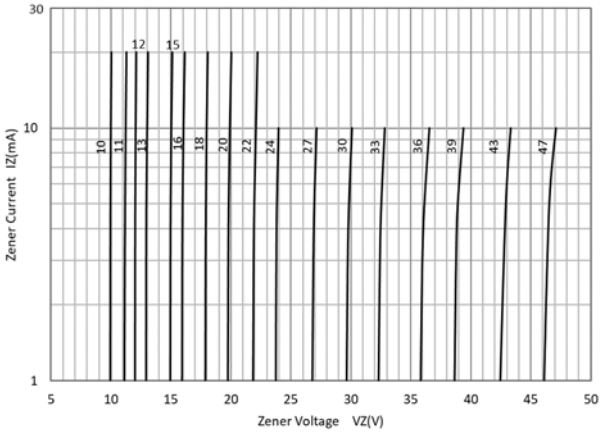


Fig 4：Zener Breakdown Characteristics

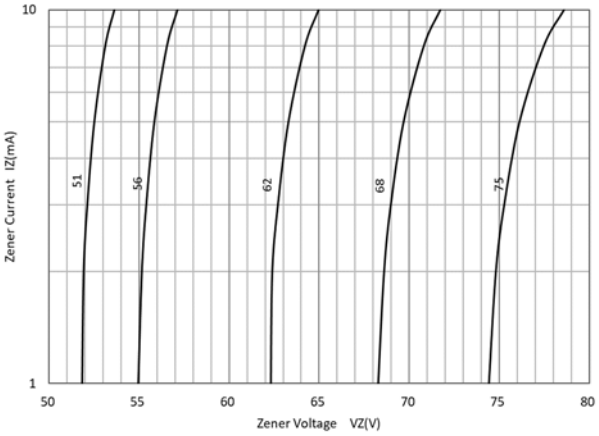


Fig 5：Typical Temperature Coeffient

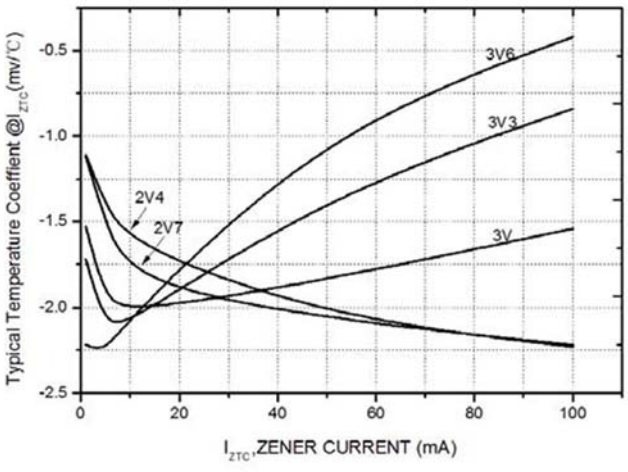


Fig 6：Typical Temperature Coeffient

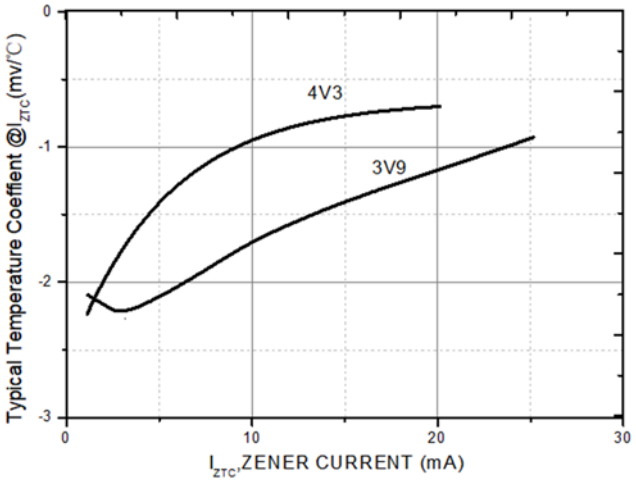


Fig 7：Typical Temperature Coeffient

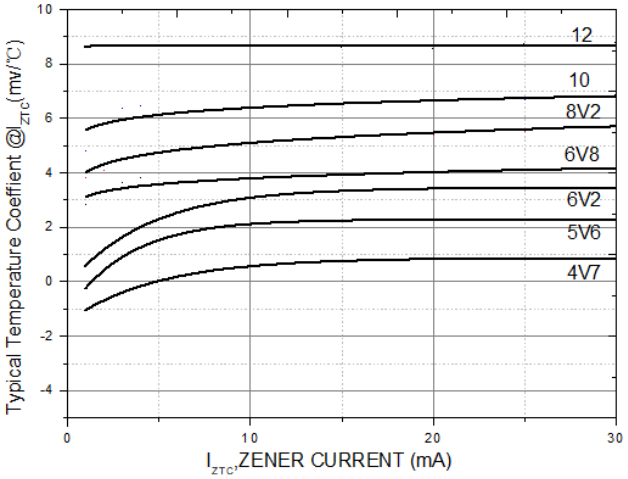


Fig 8：Typical Temperature Coeffient

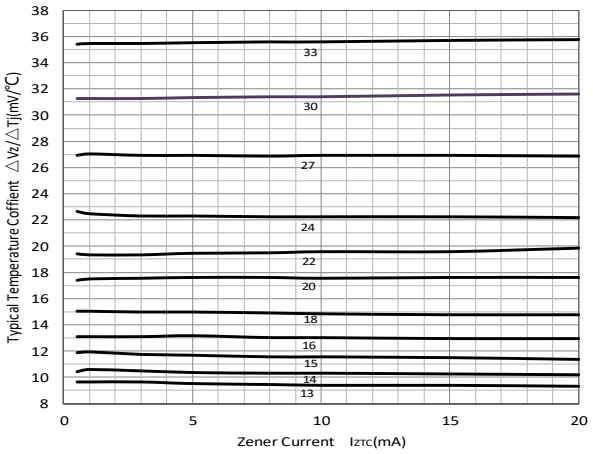


Fig 9：Typical Temperature Coeffient

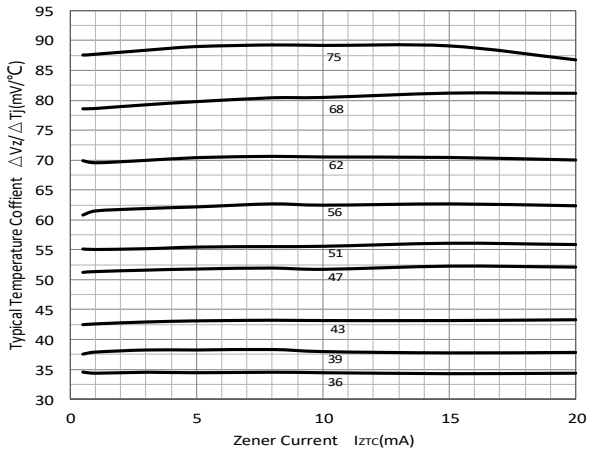


Fig 10：Typical Forward Voltage

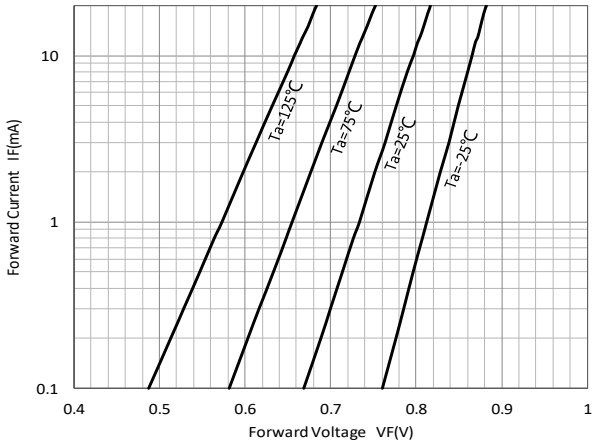


Fig 11：Typical Reverse Current

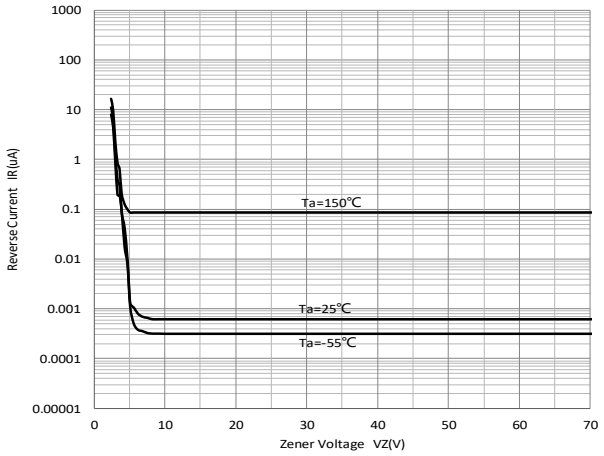
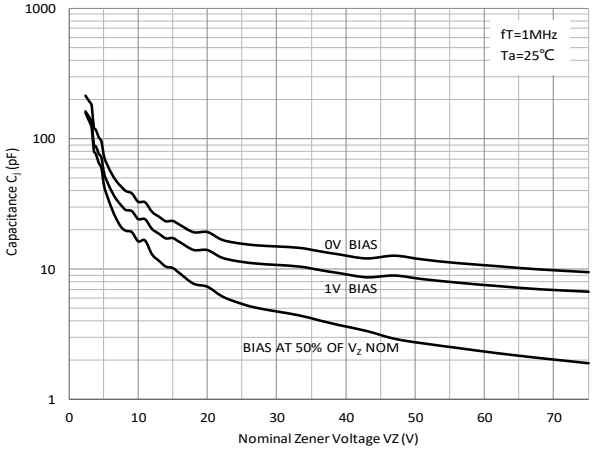


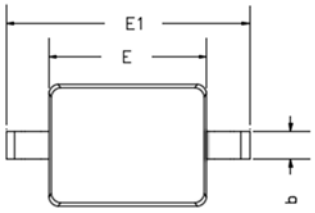
Fig 12：Typical Capacitance



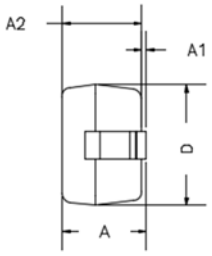
■Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BZT52C2V4S THRU BZT52C75S	F2	Approximate 0.0048	3000	30000	120000	7” reel
BZT52C2V4S THRU BZT52C75S	F3	Approximate 0.0048	10000	/	210000	13” reel

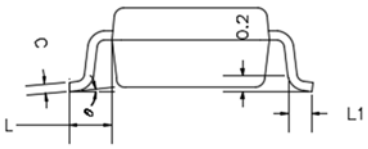
■ Outline Dimensions



TOP VIEW



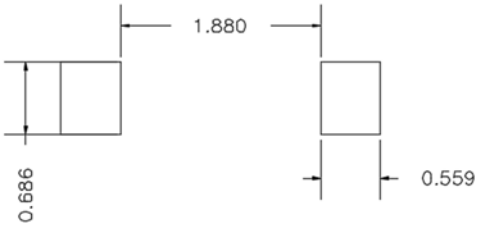
SIDE VIEW



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	MAX
A	---	0.0393	---	1.0000
A1	0.0000	0.0039	0.0000	0.1000
A2	0.0314	0.0354	0.8000	0.9000
b	0.0098	0.0157	0.2500	0.4000
c	0.0031	0.0059	0.0800	0.1500
D	0.0472	0.0551	1.2000	1.4000
E	0.0629	0.0709	1.6000	1.8000
E1	0.0984	0.1063	2.5000	2.7000
L	0.0187TYP		0.475TYP	
L1	0.0098	0.0157	0.250	0.400
θ	0°	8°	0°	8°

■ Suggested Pad Layout



UNIT: mm

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