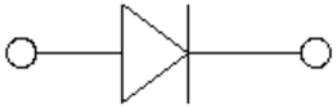
BZT52B2V4 THRU BZT52B75

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-123
- **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	1.0
Power dissipation	P_D	mW	500
Maximum regulator current	I_{ZM}	mA	P_D/ V_Z
Junction temperature	T_J	℃	-55 to +150
Storage temperature	T_{STG}	℃	-55 to +150

BZT52B2V4 THRU BZT52B75

■ 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/℃		Test current I_{ZTC}	Diode capacitance Cd (pF)	Non-repetitive peak reverse current Izsm (A)
		min	typ	max	I_{ZT}(mA)	max	I_{ZK}(mA)	max	max	V_R(V)	min	max	mA	max	max
BZT52B2V4	2WX	2.34	2.4	2.46	5	100	1.0	600	45	1.0	-3.5	0	5	450	6
BZT52B2V7	2W1	2.633	2.7	2.768	5	100	1.0	600	20	1.0	-3.5	0	5	450	6
BZT52B3V0	2W2	2.925	3.0	3.075	5	100	1.0	600	10	1.0	-3.5	0	5	450	6
BZT52B3V3	2W3	3.218	3.3	3.383	5	95	1.0	600	15	1.0	-3.5	0	5	450	6
BZT52B3V6	2W4	3.53	3.6	3.67	5	95	1.0	600	15	1.0	-3.5	0	5	450	4.5
BZT52B3V9	2W5	3.82	3.9	3.98	5	95	1.0	600	10	1.0	-3.5	0	5	450	4.5
BZT52B4V3	2W6	4.21	4.3	4.39	5	95	1.0	600	5	1.0	-3.5	0	5	450	3.5
BZT52B4V7	2W7	4.61	4.7	4.79	5	78	1.0	500	5	2.0	-3.5	0	5	300	3.5
BZT52B5V1	2W8	5.0	5.1	5.2	5	60	1.0	480	0.1	0.8	-2.7	1.2	5	300	3
BZT52B5V6	2W9	5.49	5.6	5.71	5	40	1.0	400	0.1	1.0	-2	2.5	5	200	3
BZT52B6V2	2WA	6.08	6.2	6.32	5	10	1.0	150	0.1	2.0	0.4	3.7	5	200	3
BZT52B6V8	2WB	6.66	6.8	6.94	5	8	1.0	80	0.1	3.0	1.2	4.5	5	200	2
BZT52B7V5	2WC	7.35	7.5	7.65	5	7	1.0	80	0.1	5.0	2.5	5.3	5	150	2
BZT52B8V2	2WD	8.04	8.2	8.36	5	7	1.0	80	0.1	6.0	3.2	6.2	5	150	2
BZT52B9V1	2WE	8.92	9.1	9.28	5	10	1.0	100	0.1	7.0	3.8	7.0	5	150	1.8
BZT52B10	2WF	9.8	10	10.2	5	15	1.0	150	0.1	7.5	4.5	8.0	5	90	1.8
BZT52B11	2WG	10.78	11	11.22	5	20	1.0	150	0.1	8.5	5.4	9.0	5	85	1.8
BZT52B12	2WH	11.76	12	12.24	5	20	1.0	150	0.1	9.0	6.0	10.0	5	85	1.8
BZT52B13	2WI	12.74	13	13.26	5	25	1.0	170	0.1	10.0	7.0	11.0	5	80	1
BZT52B14	WJ	13.7	14	14.3	5	30	1.0	170	0.1	10.5	8.1	12.0	5	80	1
BZT52B15	2WJ	14.7	15	15.3	5	30	1.0	200	0.1	11.0	9.2	13.0	5	75	1
BZT52B16	2WK	15.68	16	16.3	5	40	1.0	200	0.1	12	10.4	14.0	5	75	1
BZT52B18	2WL	17.64	18	18.36	5	50	1.0	225	0.1	14.0	12.4	16.0	5	70	1
BZT52B20	2WM	19.6	20	20.4	5	55	1.0	225	0.1	15.0	14.4	18.0	5	60	1
BZT52B22	2WN	21.56	22	22.44	5	55	1.0	250	0.1	17.0	16.4	20.0	5	60	0.6
BZT52B24	2WO	23.52	24	24.48	5	70	1.0	250	0.1	18.0	18.4	22.0	5	55	0.6

BZT52B2V4 THRU BZT52B75

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/℃		Test current I_{ZTC}	Diode capacitance Cd (pF)	Non-repetitive peak reverse current Izsm (A)
		min	typ	max	I_{ZT}(mA)	max	I_{ZK}(mA)	max	max	V_R(V)	min	max	mA	max	max
BZT52B27	2WP	26.46	27	27.54	5	80	1.0	300	0.1	20.0	21.4	25.3	2	50	0.6
BZT52B30	2WQ	29.4	30	30.6	5	80	1.0	300	0.1	22.5	24.4	29.4	2	50	0.6
BZT52B33	2WR	32.34	33	33.66	5	80	1.0	325	0.1	25.0	27.4	33.4	2	45	0.6
BZT52B36	2WS	35.28	36	36.72	5	90	1.0	350	0.1	27.0	30.4	37.4	2	45	0.6
BZT52B39	2WT	38.22	39	39.78	5	90	1.0	350	0.1	29.0	33.4	41.2	2	45	0.6
BZT52B43	2WU	42.14	43	43.86	5	100	1	375	0.1	32.0	37.6	46.6	2	40	0.6
BZT52B47	2WV	46.06	47	47.94	5	110	1	375	0.1	35.0	42.0	51.8	2	40	0.5
BZT52B51	2X1	50.0	51	52.0	2	180	0.5	400	0.05	35.7	46.6	57.2	2	40	0.4
BZT52B56	2X2	54.9	56	57.1	2	200	0.5	425	0.05	39.2	52.2	63.8	2	40	0.3
BZT52B62	X3	60.8	62	63.2	2	215	0.5	450	0.05	43.4	58.8	71.6	2	35	0.3
BZT52B68	X4	66.64	68	69.36	2	240	0.5	475	0.05	47.6	65.6	79.8	2	35	0.25
BZT52B75	X5	73.5	75	76.5	2	255	0.5	500	0.05	52.5	73.4	88.6	2	35	0.25

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J\text{-}A}$(1)	℃/W	250
Thermal resistance, junction-to-case	$R_{\theta J\text{-}C}$(1)	℃/W	200

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

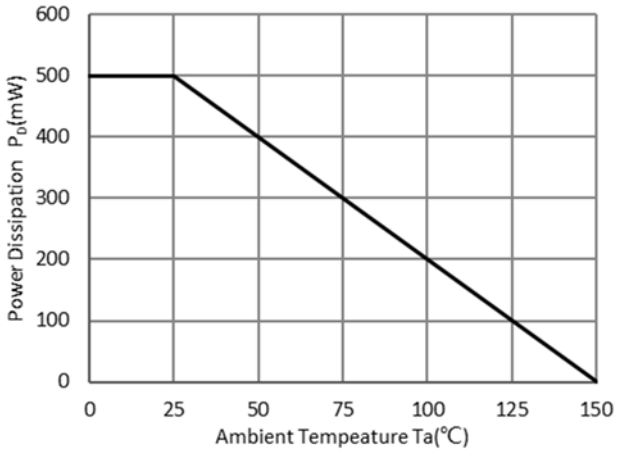


Fig 2：Zener Breakdown Characteristics

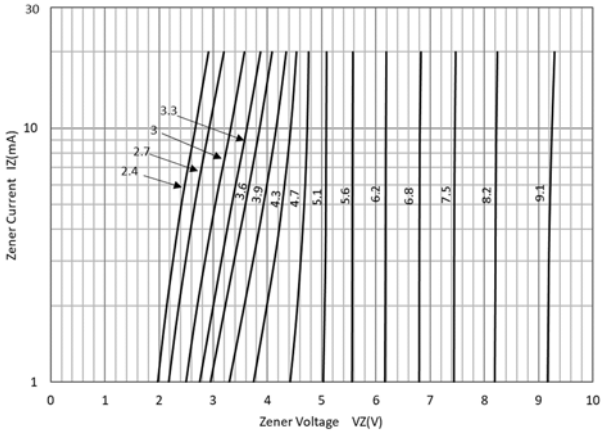


Fig 3：Zener Breakdown Characteristics

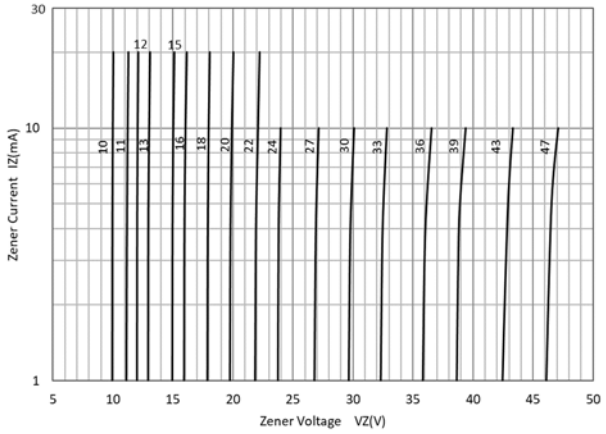


Fig 4：Zener Breakdown Characteristics

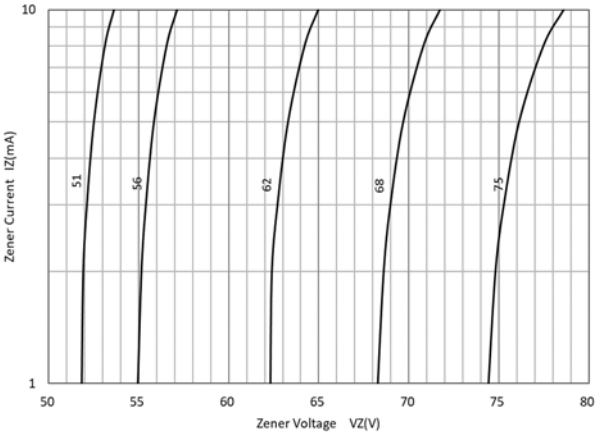


Fig 5：Typical Temperature Coeffient

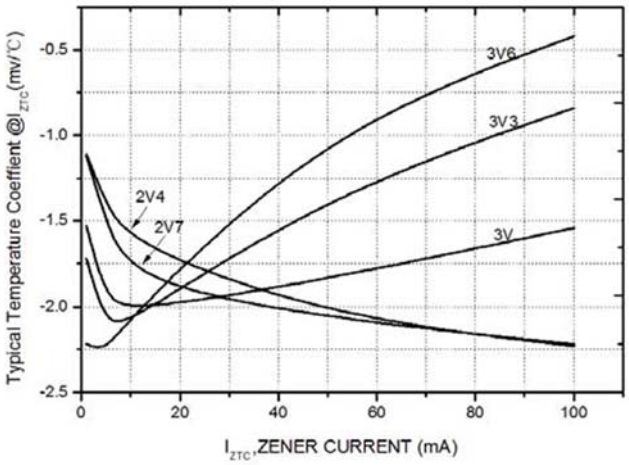


Fig 6：Typical Temperature Coeffient

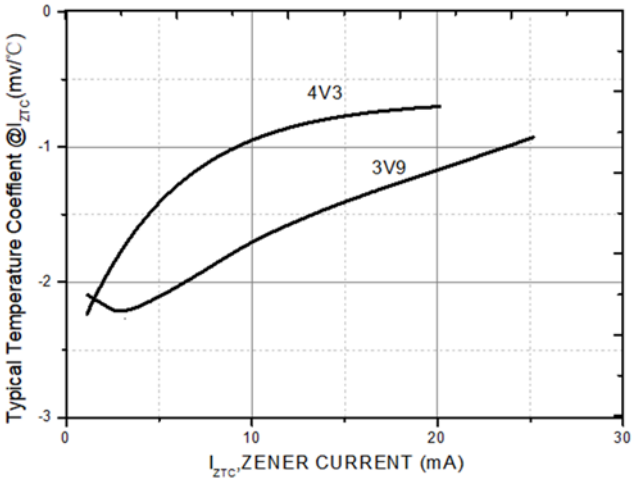


Fig 7：Typical Temperature Coeffient

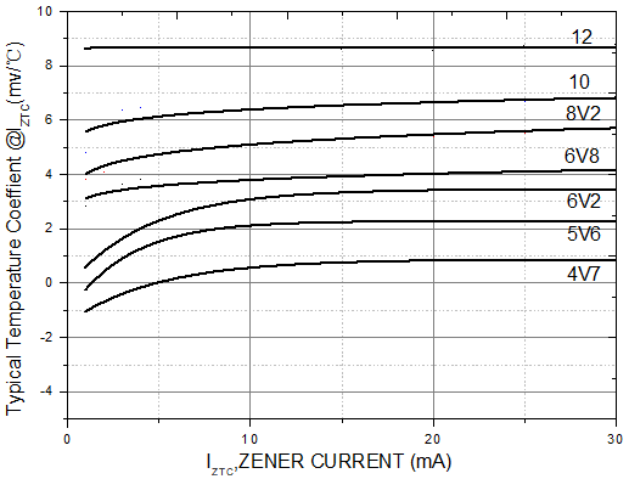


Fig 8：Typical Temperature Coeffient

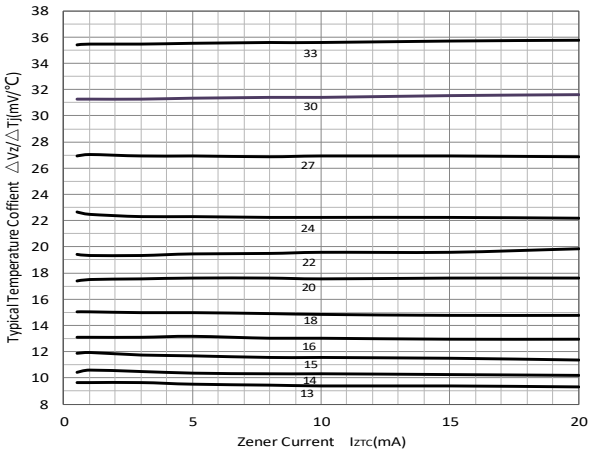


Fig 9：Typical Temperature Coeffient

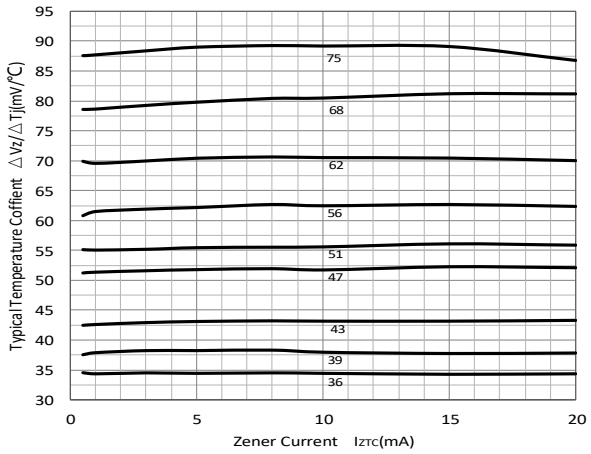


Fig 10：Typical Forward Voltage

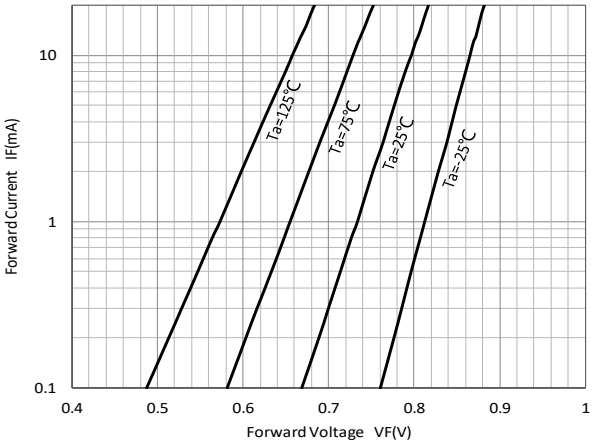


Fig 11：Typical Reverse Current

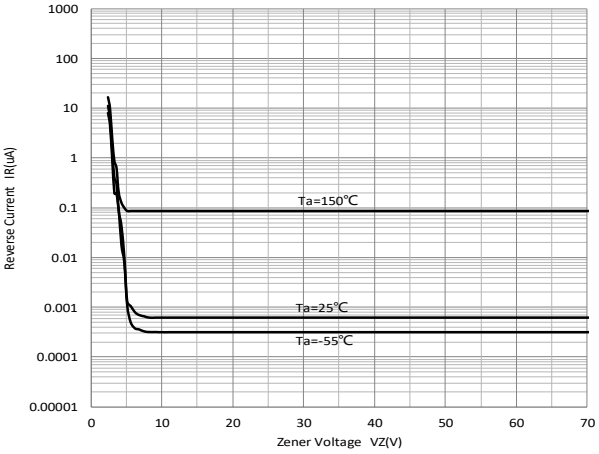
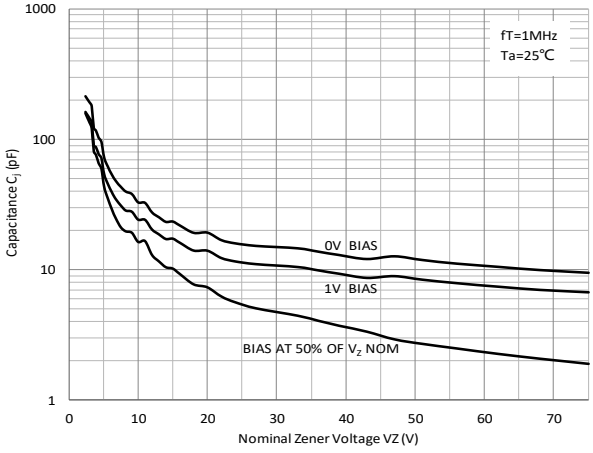


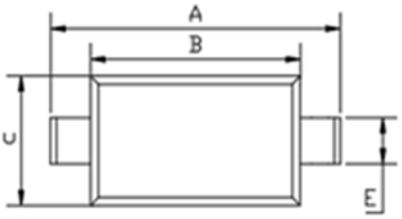
Fig 12：Typical Capacitance



■Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BZT52B2V4 THRU BZT52B75	F2	Approximate 0.011	3000	30000	120000	7” reel
BZT52B2V4 THRU BZT52B75	F3	Approximate 0.011	10000	/	210000	13” reel

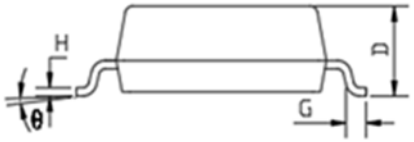
■ Outline Dimensions



TOP VIEW



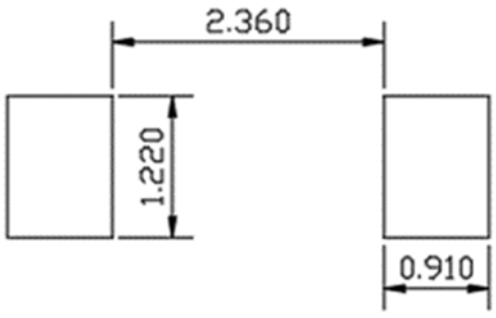
SIDE VIEW



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	MAX
A	0.140	0.152	3.550	3.850
B	0.100	0.112	2.550	2.850
C	0.055	0.071	1.400	1.800
D	0.037	0.053	0.950	1.350
E	0.020	0.028	0.510	0.710
G	0.006	0.018	0.150	0.450
H	0.003	0.010	0.080	0.250
J	0.000	0.006	0.000	0.150
θ	0	8°	0	8°

■ Suggested Pad Layout



UNIT: mm

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