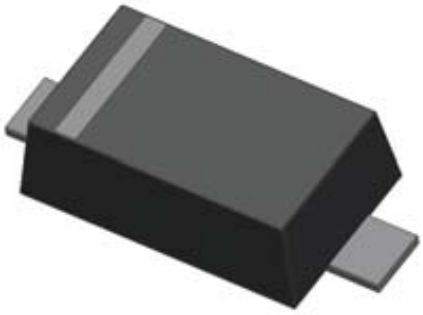
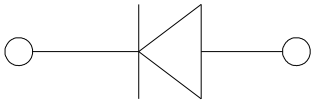
Zener Diodes





Features

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

Application

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

Mechanical data

- **Package**: SOD-523
- **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
Power dissipation	P_D	mW	200
Maximum regulator current	I_{ZM}	mA	P_D/ V_Z
Junction temperature	T_J	℃	-55 to +150
Storage temperature	T_{STG}	℃	-55 to +150

■ 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.	I_{ZK}(mA)	Max.	Max	V_R(V)	min	max	max	max
BZX584B2V4	05	2.34	2.4	2.46	5	100	1	600	45	1	-3.5	0	450	6
BZX584B2V7	15	2.633	2.7	2.768	5	100	1	600	20	1	-3.5	0	450	6
BZX584B3V0	25	2.925	3.0	3.075	5	100	1	600	10	1	-3.5	0	450	6
BZX584B3V3	35	3.218	3.3	3.383	5	95	1	600	15	1	-3.5	0	450	6
BZX584B3V6	45	3.53	3.6	3.67	5	90	1	564	4.5	1	-3.5	0	450	4.5
BZX584B3V9	+5	3.82	3.9	3.98	5	90	1	564	2.7	1	-3.5	0	450	4.5
BZX584B4V3	65	4.21	4.3	4.39	5	90	1	564	2.7	1	-3.5	0	450	3.5
BZX584B4V7	75	4.61	4.7	4.79	5	80	1	470	2.7	2	-3.5	0	300	3.5
BZX584B5V1	85	5	5.1	5.2	5	60	1	451	1.8	2	-2.7	1.2	300	3
BZX584B5V6	95	5.49	5.6	5.71	5	40	1	376	0.9	2	-2	2.5	200	3
BZX584B6V2	A5	6.08	6.2	6.32	5	10	1	141	2.7	4	0.4	3.7	200	3
BZX584B6V8	B5	6.66	6.8	6.94	5	15	1	75	1.8	4	1.2	4.5	200	2
BZX584B7V5	C5	7.35	7.5	7.65	5	15	1	75	0.9	5	2.5	5.3	150	2
BZX584B8V2	D5	8.04	8.2	8.36	5	15	1	75	0.63	5	3.2	6.2	150	2
BZX584B9V1	E5	8.92	9.1	9.28	5	15	1	94	0.45	6	3.8	7.0	150	1.8
BZX584B10V	F5	9.8	10	10.2	5	20	1	141	0.18	7	4.5	8.0	90	1.8
BZX584B11V	G5	10.78	11	11.22	5	20	1	141	0.09	8	5.4	9.0	85	1.8
BZX584B12V	H5	11.76	12	12.24	5	25	1	141	0.09	8	6.0	10.0	85	1.8
BZX584B13V	J5	12.74	13	13.26	5	30	1	160	0.09	8	7.0	11.0	80	1
BZX584B15V	K5	14.7	15	15.3	5	30	1	188	0.045	10.5	9.2	13.0	75	1
BZX584B16V	L5	15.68	16	16.32	5	40	1	188	0.045	11.2	10.4	14.0	75	1
BZX584B18V	M5	17.64	18	18.36	5	45	1	212	0.045	12.6	12.4	16.0	70	1
BZX584B20V	N5	19.6	20	20.4	5	55	1	212	0.045	14	14.4	18.0	60	1
BZX584B22V	P5	21.56	22	22.44	5	55	1	235	0.045	15.4	16.4	20.0	60	0.6

Type number	Device marking	V_Z @ I_{ZT} (V)			Z_{ZT}(Ω)		Z_{ZK}(Ω)		I_R(μA) @V_R		temperature coefficient @ I_{ZTC} mV/℃		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	max	max
BZX584B24V	R5	23.52	24	24.48	5	70	1	235	0.045	16.8	18.4	22.0	55	0.6
BZX584B27V	S5	26.46	27	27.54	2	80	0.5	282	0.045	18.9	21.4	25.3	50	0.6
BZX584B30V	T5	29.4	30	30.6	2	80	0.5	282	0.045	21	24.4	29.4	50	0.6
BZX584B33V	U5	32.34	33	33.66	2	80	0.5	306	0.045	23	27.4	33.4	45	0.6
BZX584B36V	V5	35.28	36	36.72	2	90	0.5	329	0.045	25.2	30.4	37.4	45	0.6
BZX584B39V	X5	38.22	39	39.78	2	130	0.5	329	0.045	27.3	33.4	41.2	45	0.6
BZX584B43V	Y5	42.14	43	43.86	2	150	0.5	353	0.045	30.1	37.6	46.6	40	0.6
BZX584B47V	16Y	46.06	47	47.94	5	110	1	375	0.1	35.0	42.0	51.8	40	0.5
BZX584B51V	17Y	50.0	51	52.0	2	180	0.5	400	0.05	35.7	46.6	57.2	40	0.4
BZX584B56V	18Y	54.9	56	57.1	2	200	0.5	425	0.05	39.2	52.2	63.8	40	0.3
BZX584B62V	19Y	60.8	62	63.2	2	215	0.5	450	0.05	43.4	58.8	71.6	35	0.3
BZX584B68V	20Y	66.64	68	69.36	2	240	0.5	475	0.05	47.6	65.6	79.8	35	0.25
BZX584B75V	21Y	73.5	75	76.5	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	625
Thermal resistance, junction-to-case	$R_{\theta J-C}$(1)	℃/W	500

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

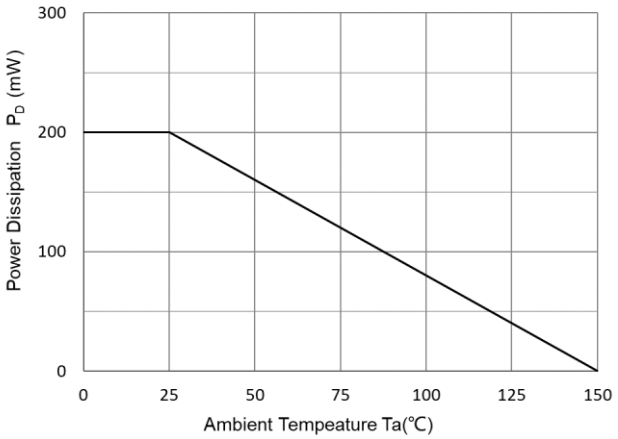


Fig 2：Zener Breakdown Characteristics

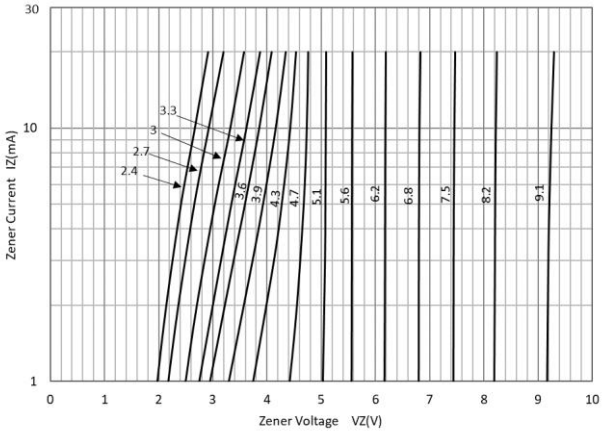


Fig 3：Zener Breakdown Characteristics

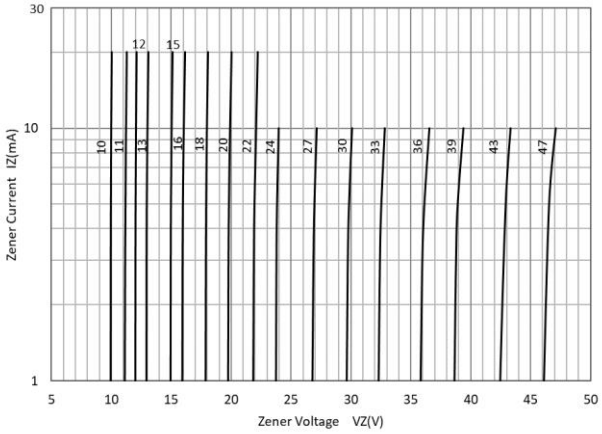


Fig 4：Zener Breakdown Characteristics

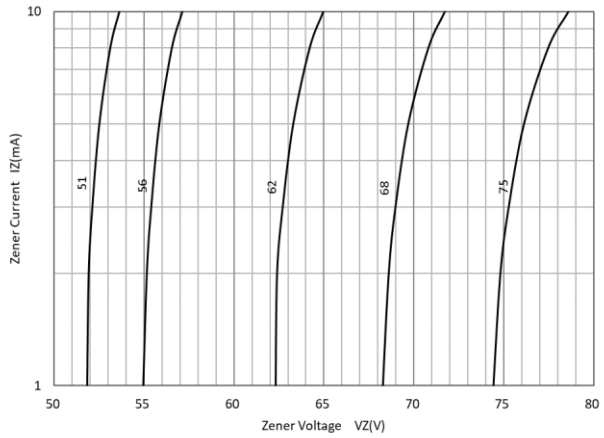


Fig 5：Typical Temperature Coeffient

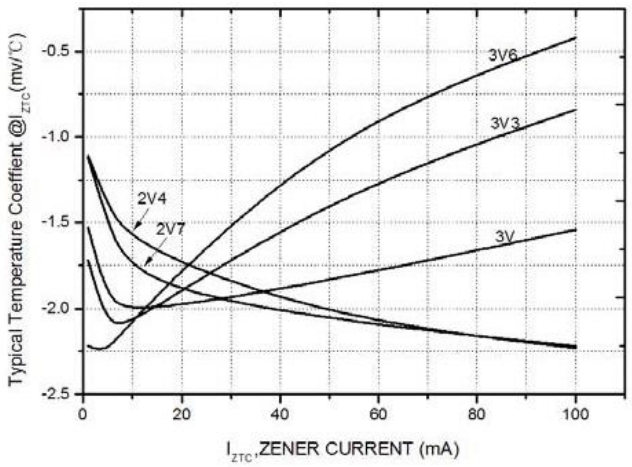


Fig 6：Typical Temperature Coeffient

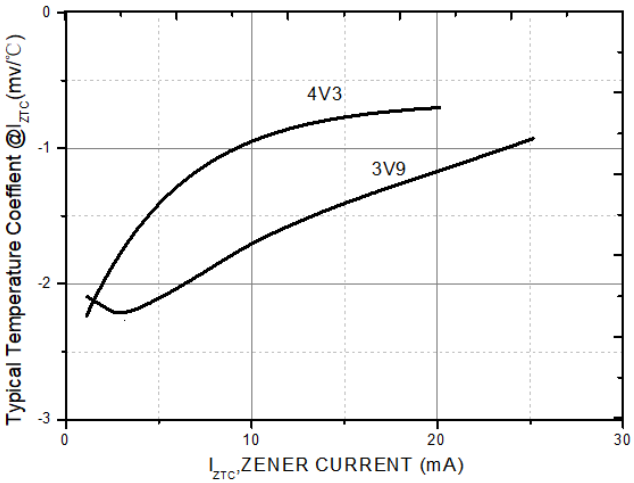


Fig 7：Typical Temperature Coeffient

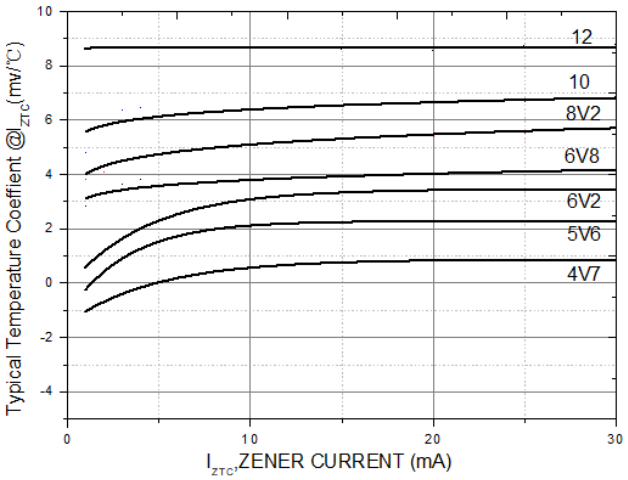


Fig 8：Typical Temperature Coeffient

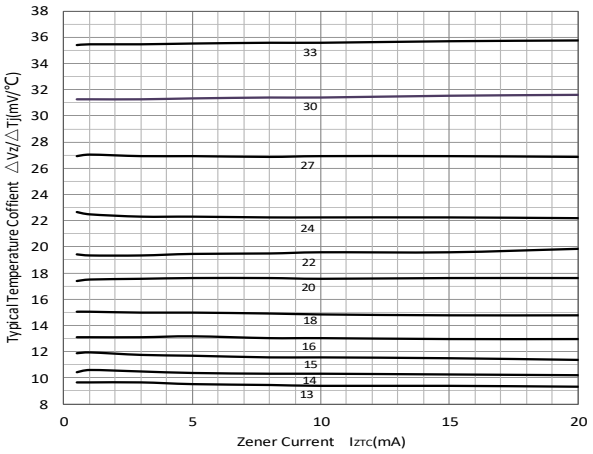


Fig 9：Typical Temperature Coeffient

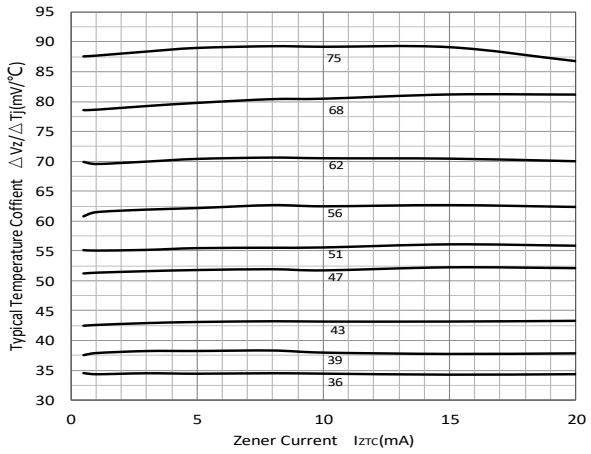


Fig 10：Typical Forward Voltage

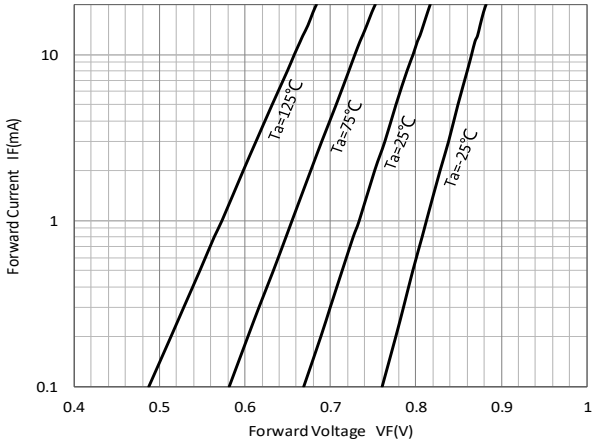


Fig 11：Typical Reverse Current

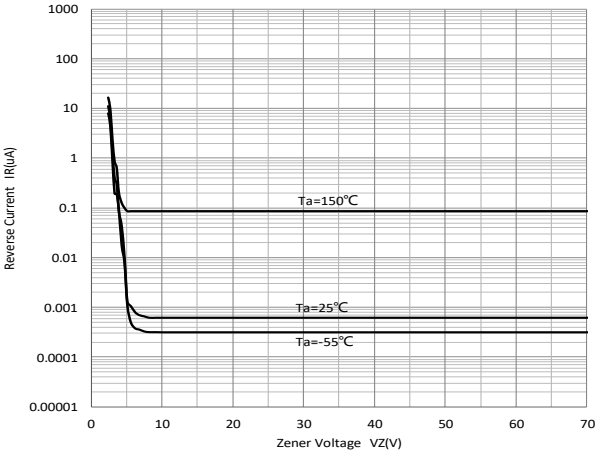
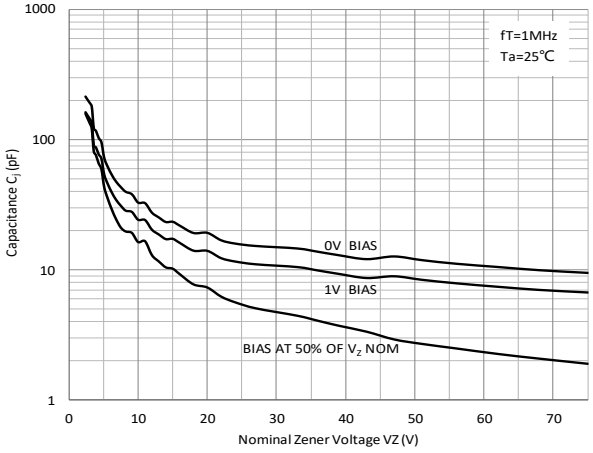


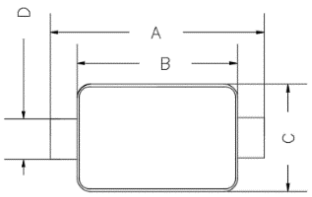
Fig 12：Typical Capacitance



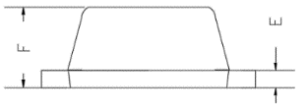
■Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BZX584B2V4 THRU BZX584B75V	F2	Approximate 0.002	8000	80000	320000	7” reel
BZX584B2V4 THRU BZX584B75V	F3	Approximate 0.002	3000	30000	120000	7” reel

■ Outline Dimensions



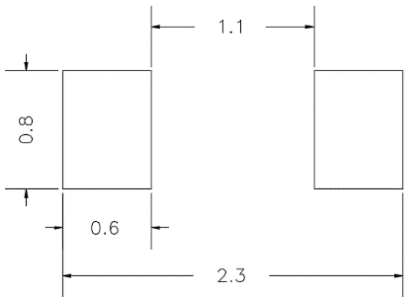
TOP VIEW



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	MAX
A	0.059	0.067	1.500	1.700
B	0.043	0.051	1.100	1.300
C	0.028	0.035	0.700	0.900
D	0.010	0.014	0.250	0.350
E	0.002	0.008	0.050	0.200
F	0.020	0.028	0.500	0.700

■ Suggested Pad Layout



UNIT: mm

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