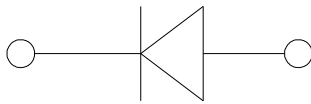
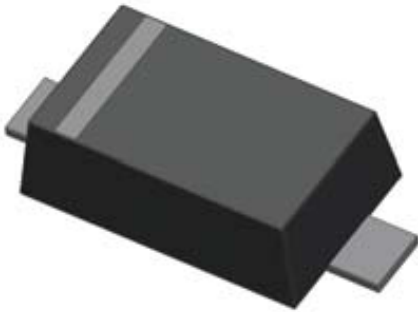


Zener Diodes



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 ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Forward voltage @ $I_F=10\text{mA}$	V_F	V	1
Power dissipation	P_D	mW	200
Maximum regulator current	I_{ZM}	mA	P_D / V_Z
Junction temperature	T_J	$^{\circ}\text{C}$	-55 to +150
Storage temperature	T_{STG}	$^{\circ}\text{C}$	-55 to +150



BZX584B2V4 THRU BZX584B75V

■ Electrical Characteristics (T_a=25°C 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/°C		Diode capacitance Cd (pF)	Non-repetitive peak reverse current I _{ZSM} (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



BZX584B2V4 THRU BZX584B75V

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/°C		Diode capacitance Cd (pF)	Non-repetitive peak reverse current I _{Zsm} (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 _{θJ-A} ⁽¹⁾	°C/W	625
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/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



BZX584B2V4 THRU BZX584B75V

■ Characteristics

Fig 1: P_D - T_a Curve

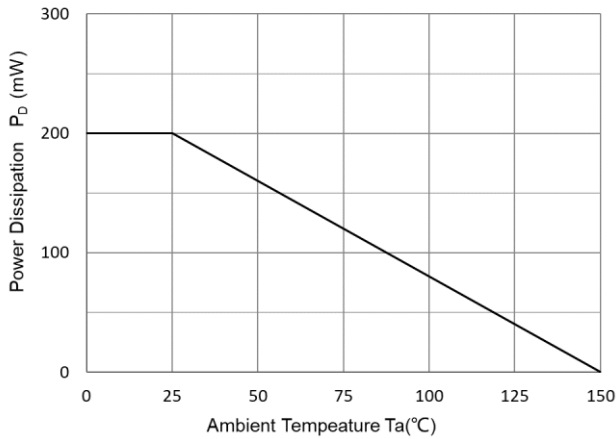


Fig 2: Zener Breakdown Characteristics

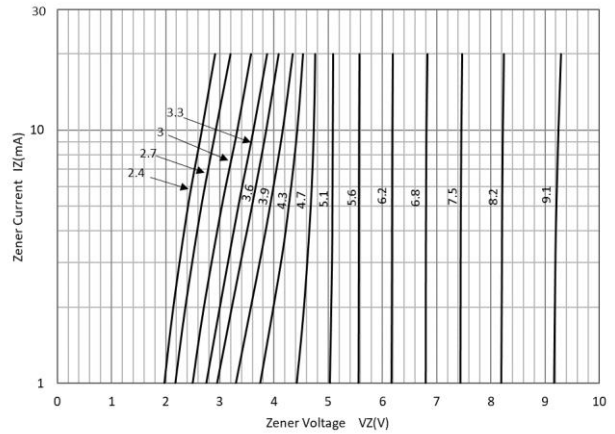


Fig 3: Zener Breakdown Characteristics

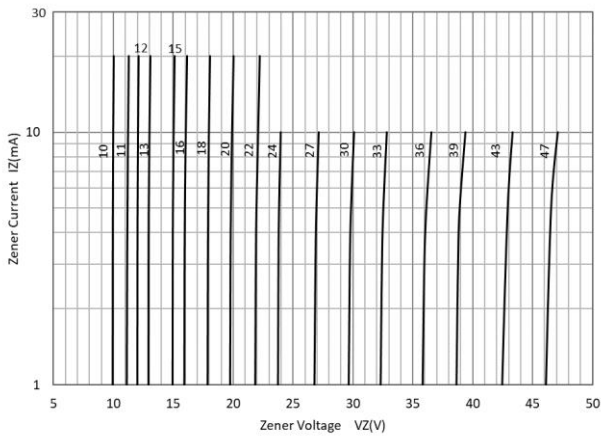


Fig 4: Zener Breakdown Characteristics

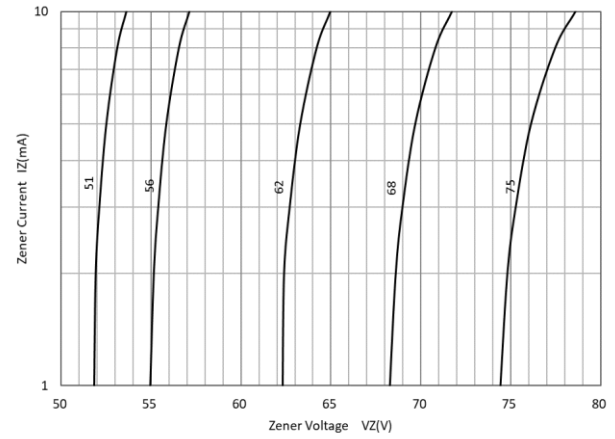


Fig 5: Typical Temperature Coefficient

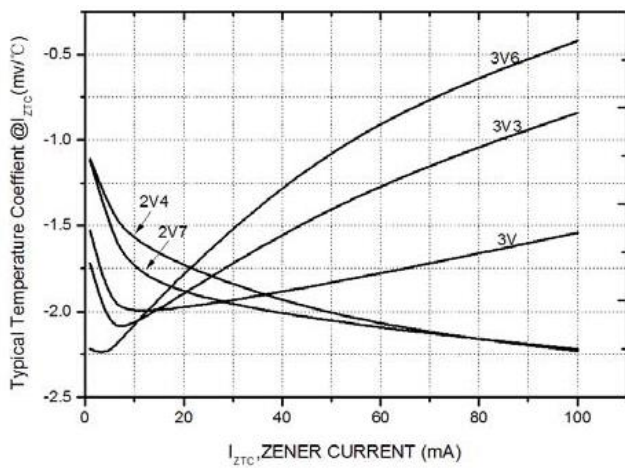
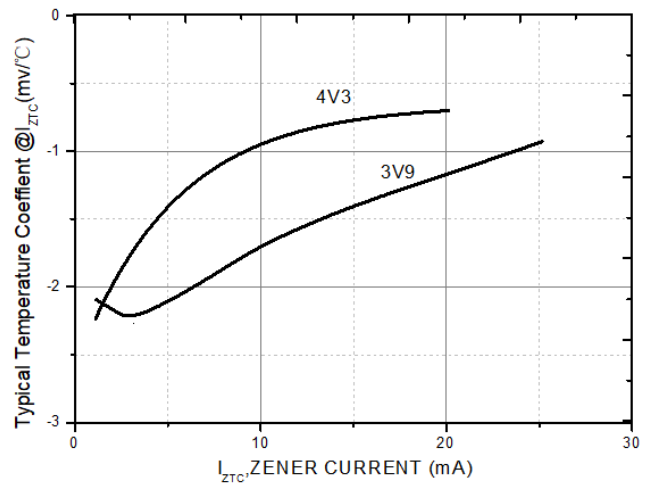


Fig 6: Typical Temperature Coefficient





BZX584B2V4 THRU BZX584B75V

Fig 7: Typical Temperature Coefficient

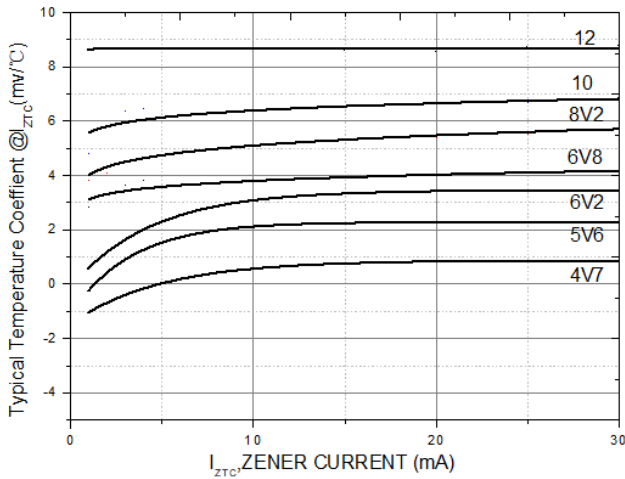


Fig 8: Typical Temperature Coefficient

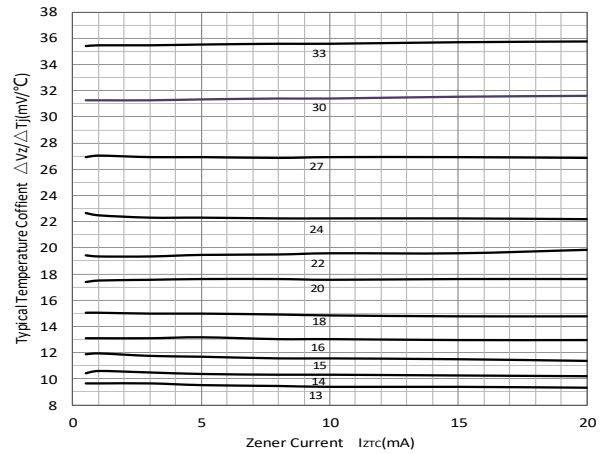


Fig 9: Typical Temperature Coefficient

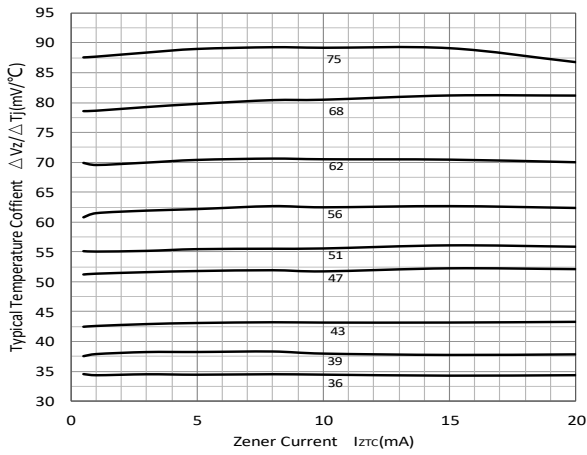


Fig 10: Typical Forward Voltage

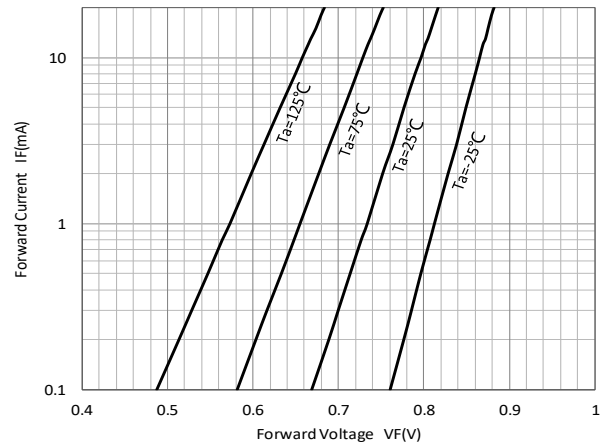


Fig 11: Typical Reverse Current

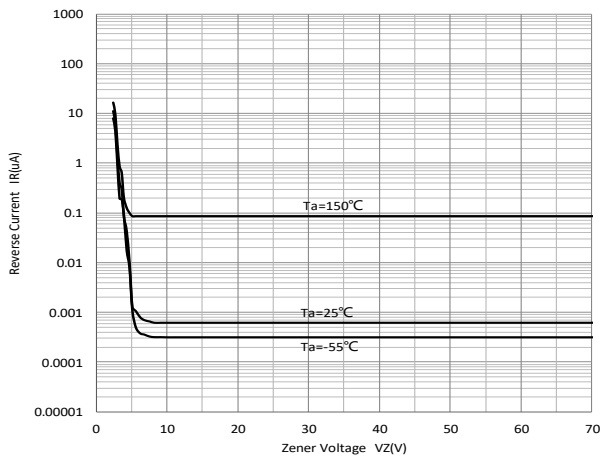
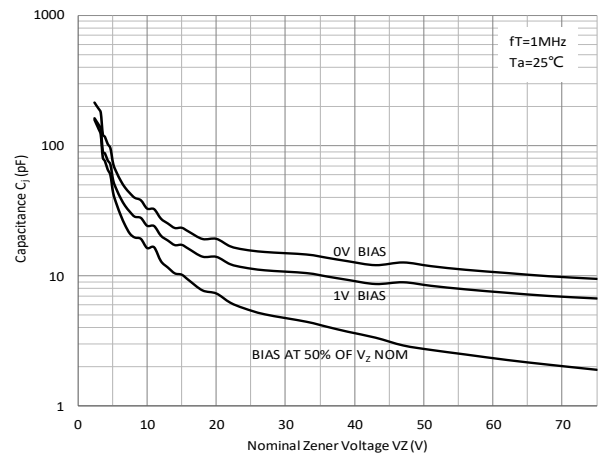


Fig 12: Typical Capacitance



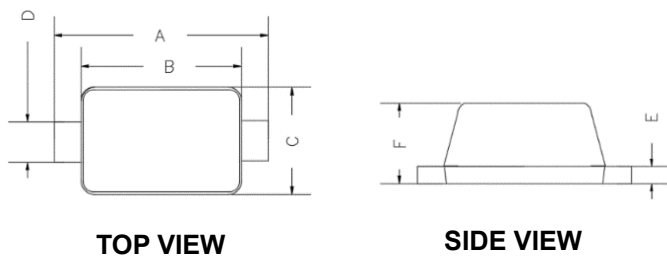


BZX584B2V4 THRU BZX584B75V

■ Ordering Information

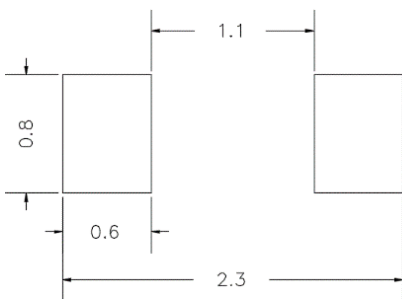
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BZX584B2V4 THRU BZX584B75V	F2	Approximate 0.002	8000	80000	320000	7" reel
BZX584B2V4 THRU BZX584B75V	F3	Approximate 0.002	3000	30000	120000	7" reel

■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	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



BZX584B2V4 THRU BZX584B75V

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function, or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.