

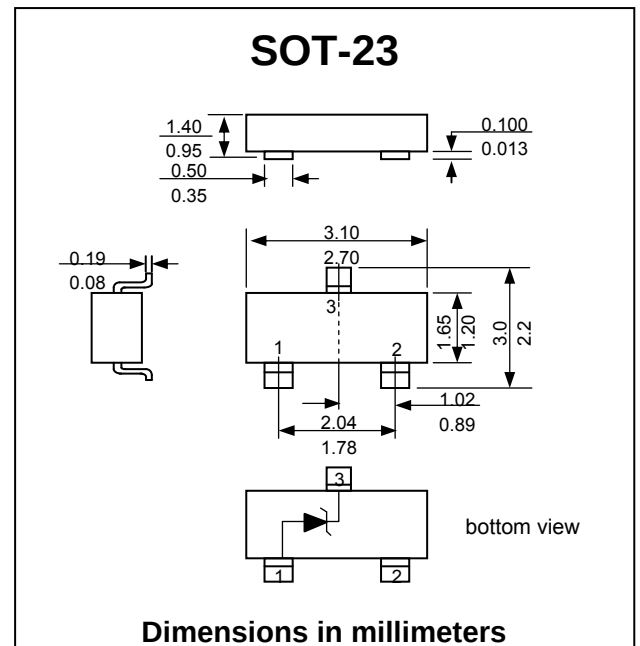
BZX84B Series

This series of Zener diodes is offered in the convenient, surface mount plastic SOT-23 package. These devices are designed to provide voltage regulation with minimum space requirement. They are well suited for applications such as cellular phones, hand held portables, and high density PC boards.

Features :

- * Zener Breakdown Voltage Range 2.4 V to 75 V
- * Package Designed for Optimal Automated Board Assembly
- * Small Package Size for High Density Applications
- * Pb / RoHS Free

ZENER VOLTAGE REGULATORS

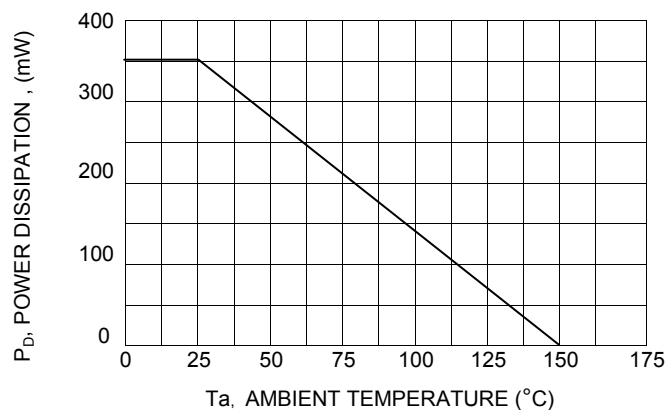


Absolute Maximum Ratings (Ta = 25 °C)

RATING	SYMBOL	VALUE	UNIT
Total Power Dissipation	P_D	350	mW
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	- 65 to + 150	°C

Note : (1) Alumina = 0.4 X 0.3 X 0.024 in, 99.5% alumina.

Fig. 1 POWER TEMPERATURE DERATING CURVE



ELECTRICAL CHARACTERISTICS

(Ta = 25 °C unless otherwise noted, V_F = 0.90 V Max. @ I_F = 10 mA)

TYPE NO.	Marking	V _{Z1} @ I _{ZT1} = 5 mA (Note 1)			Z _{1T1} @ I _{ZT1} = 5 mA	V _{Z2} @ I _{ZT2} = 1 mA (Note 1)		Z _{2T2} @ I _{ZT2} = 1 mA ⁽²⁾	V _{Z3} @ I _{ZT3} = 20 mA (Note 1)		Z _{3T3} @ I _{ZT3} = 20 mA	Max. Reverse Leakage Current		Θ _{VZ} (mV/k) @ I _{ZT1} = 5 mA		C (pF) @ V _R = 0 f = 1 MHz
		(V)			(Ω)	(V)		(Ω)	(V)		(Ω)	I _R @ V _R		Min Max		
		Min	Nom	Max		Min	Max		Min	Max		(μA)	(V)			
BZX84B2V4	CR	2.35	2.4	2.45	100	1.7	2.1	600	2.6	3.2	50	50	1.0	-3.5	0	450
BZX84B2V7	CX	2.64	2.7	2.76	100	1.9	2.4	600	3.0	3.6	50	20	1.0	-3.5	0	450
BZX84B3V0	CY	2.94	3.0	3.06	95	2.1	2.7	600	3.3	3.9	50	10	1.0	-3.5	0	450
BZX84B3V3	CZ	3.23	3.3	3.37	95	2.3	2.9	600	3.6	4.2	40	5	1.0	-3.5	0	450
BZX84B3V6	DA	3.52	3.6	3.68	90	2.7	3.3	600	3.9	4.5	40	5	1.0	-3.5	0	450
BZX84B3V9	DB	3.82	3.9	3.98	90	2.9	3.5	600	4.1	4.7	30	3	1.0	-3.5	-2.5	450
BZX84B4V3	DC	4.21	4.3	4.39	90	3.3	4.0	600	4.4	5.1	30	3	1.0	-3.5	0	450
BZX84B4V7	DD	4.60	4.7	4.8	80	3.7	4.7	500	4.5	5.4	15	3	2.0	-3.5	0.2	260
BZX84B5V1	DE	4.99	5.1	5.2	60	4.2	5.3	480	5.0	5.9	15	2	2.0	-2.7	1.2	225
BZX84B5V6	DF	5.49	5.6	5.71	40	4.8	6.0	400	5.2	6.3	10	1	2.0	-2.0	2.5	200
BZX84B6V2	DH	6.07	6.2	6.32	10	5.6	6.6	150	5.8	6.8	6	3	4.0	0.4	3.7	185
BZX84B6V8	DJ	6.66	6.8	6.94	15	6.3	7.2	80	6.4	7.4	6	2	4.0	1.2	4.5	155
BZX84B7V5	DK	7.35	7.5	7.65	15	6.9	7.9	80	7.0	8.0	6	1	5.0	2.5	5.3	140
BZX84B8V2	DM	8.04	8.2	8.36	15	7.6	8.7	80	7.7	8.8	6	0.7	5.0	3.2	6.2	135
BZX84B9V1	DN	8.92	9.1	9.28	15	8.4	9.6	100	8.5	9.7	8	0.5	6.0	3.8	7.0	130
BZX84B10	DP	9.80	10	10.2	20	9.3	10.6	150	9.4	10.7	10	0.2	7.0	4.5	8.0	130
BZX84B11	DR	10.8	11	11.2	20	10.2	11.6	150	10.4	11.8	10	0.1	8.0	5.4	9.0	130
BZX84B12	DX	11.8	12	12.2	25	11.2	12.7	150	11.4	12.9	10	0.1	8.0	6.0	10.0	130
BZX84B13	DY	12.7	13	13.3	30	12.3	14.0	170	12.5	14.2	15	0.1	8.0	7.0	11.0	120
BZX84B15	DZ	14.7	15	15.3	30	13.7	15.5	200	13.9	15.7	20	0.05	10.5	9.2	13.0	110
BZX84B16	EA	15.7	16	16.3	40	15.2	17.0	200	15.4	17.2	20	0.05	11.2	10.4	14.0	105
BZX84B18	EB	17.6	18	18.4	45	16.7	19.0	225	16.9	19.2	20	0.05	12.6	12.4	16.0	100
BZX84B20	EC	19.6	20	20.4	55	18.7	21.1	225	18.9	21.4	20	0.05	14.0	14.4	18.0	85
BZX84B22	ED	21.6	22	22.5	55	20.7	23.2	250	20.9	23.4	25	0.05	15.4	16.4	20.0	85
BZX84B24	EE	23.5	24	24.5	70	22.7	25.5	250	22.9	25.7	25	0.05	16.8	18.4	22.0	80
TYPE NO.	Marking	V _{Z1} Below @ I _{ZT1} = 2 mA (Note 1)			Z _{1T1} Below @ I _{ZT1} = 2 mA	V _{Z2} Below @ I _{ZT2} = 0.1 mA (Note 1)		Z _{2T2} Below @ I _{ZT4} = 0.5 mA	V _{Z3} Below @ I _{ZT3} = 10 mA (Note 1)		Z _{3T3} @ I _{ZT3} = 10 mA	Max. Reverse Leakage Current		Θ _{VZ} (mV/k) Below @ I _{ZT1} = 2 mA		C (pF) @ V _R = 0 f = 1 MHz
		(V)			(Ω)	(V)		(Ω)	(V)		(Ω)	I _R @ V _R		Min Max		
		Min	Nom	Max		Min	Max		Min	Max		(μA)	(V)			
BZX84B27	EF	26.4	27	27.6	80	25	28.9	300	25.2	29.3	45	0.05	18.9	21.4	25.3	70
BZX84B30	EH	29.4	30	30.6	80	27.8	32	300	28.1	32.4	50	0.05	21.0	24.4	29.4	70
BZX84B33	EJ	32.3	33	33.7	80	30.8	35	325	31.1	35.4	55	0.05	23.1	27.4	33.4	70
BZX84B36	EK	35.2	36	36.8	90	33.8	38	350	34.1	38.4	60	0.05	25.2	30.4	37.4	70
BZX84B39	EM	38.2	39	39.8	130	36.7	41	35	37.1	41.5	70	0.05	27.3	33.4	41.2	45
BZX84B43	EN	42.1	43	43.9	150	39.7	46	375	40.1	46.5	80	0.05	30.1	37.6	46.6	40
BZX84B47	EP	46.0	47	48	170	43.7	50	375	44.1	50.5	90	0.05	32.9	42.0	51.8	40

Note :
 (1) Tested with pulses tp = 20 ms.
 (1) The Zener impedance, Z_{2T2} for the 27 through 75 volt types is tested at 0.5 mA rather than the test current of 0.1mA used for V₂₂