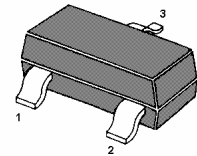
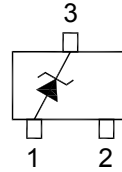


BZX84B...Series

SILICON PLANAR ZENER DIODES

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.



1. Anode 3. Cathode
SOT-23 Plastic Package

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

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	350	mW
Thermal Resistance, Junction to Ambient ¹⁾	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature Range	T_j, T_s	- 65 to + 150	$^\circ\text{C}$

¹⁾ Alumina = 0.4 X 0.3 X 0.024 in, 99.5% alumina



BZX84B...Series

Electrical Characteristics ($T_a = 25\text{ }^\circ\text{C}$ unless otherwise noted, $V_F < 0.9\text{ V}$ at $I_F = 10\text{ mA}$)

Type	Marking Code	$V_{Z1}\text{ (V)}$ @ $I_{ZT1} = 5\text{ mA}$ ¹⁾			$Z_{ZT1}\text{ (}\Omega\text{)}$ @ $I_{ZT1} = 5\text{ mA}$	$V_{Z2}\text{ (V)}$ @ $I_{ZT2} = 1\text{ mA}$ ¹⁾		$Z_{ZT2}\text{ (}\Omega\text{)}$ @ $I_{ZT2} = 1\text{ mA}$ ²⁾	$V_{Z3}\text{ (V)}$ @ $I_{ZT3} = 20\text{ mA}$ ¹⁾		$Z_{ZT3}\text{ (}\Omega\text{)}$ @ $I_{ZT3} = 20\text{ mA}$	Maximum Reverse Leakage Current	
		Min.	Nom.	Max.		Min.	Max.		Min.	Max.		I_R μA	V_R V
BZX84B2V4	CR	2.35	2.4	2.45	100	1.7	2.1	600	2.6	3.2	50	50	1
BZX84B2V7	CX	2.64	2.7	2.76	100	1.9	2.4	600	3	3.6	50	20	1
BZX84B3V0	CY	2.94	3	3.06	95	2.1	2.7	600	3.3	3.9	50	10	1
BZX84B3V3	CZ	3.23	3.3	3.37	95	2.3	2.9	600	3.6	4.2	40	5	1
BZX84B3V6	DA	3.52	3.6	3.68	90	2.7	3.3	600	3.9	4.5	40	5	1
BZX84B3V9	DB	3.82	3.9	3.98	90	2.9	3.5	600	4.1	4.7	30	3	1
BZX84B4V3	DC	4.21	4.3	4.39	90	3.3	4	600	4.4	5.1	30	3	1
BZX84B4V7	DD	4.6	4.7	4.8	80	3.7	4.7	500	4.5	5.4	15	3	2
BZX84B5V1	DE	4.99	5.1	5.2	60	4.2	5.3	480	5	5.9	15	2	2
BZX84B5V6	DF	5.49	5.6	5.71	40	4.8	6	400	5.2	6.3	10	1	2
BZX84B6V2	DH	6.07	6.2	6.32	10	5.6	6.6	150	5.8	6.8	6	3	4
BZX84B6V8	DJ	6.66	6.8	6.94	15	6.3	7.2	80	6.4	7.4	6	2	4
BZX84B7V5	DK	7.35	7.5	7.65	15	6.9	7.9	80	7	8	6	1	5
BZX84B8V2	DM	8.04	8.2	8.36	15	7.6	8.7	80	7.7	8.8	6	0.7	5
BZX84B9V1	DN	8.92	9.1	9.28	15	8.4	9.6	100	8.5	9.7	8	0.5	6
BZX84B10	DP	9.8	10	10.2	20	9.3	10.6	150	9.4	10.7	10	0.2	7
BZX84B11	DR	10.8	11	11.2	20	10.2	11.6	150	10.4	11.8	10	0.1	8
BZX84B12	DX	11.8	12	12.2	25	11.2	12.7	150	11.4	12.9	10	0.1	8
BZX84B13	DY	12.7	13	13.3	30	12.3	14	170	12.5	14.2	15	0.1	8
BZX84B15	DZ	14.7	15	15.3	30	13.7	15.5	200	13.9	15.7	20	0.05	10.5
BZX84B16	EA	15.7	16	16.3	40	15.2	17	200	15.4	17.2	20	0.05	11.2
BZX84B18	EB	17.6	18	18.4	45	16.7	19	225	16.9	19.2	20	0.05	12.6
BZX84B20	EC	19.6	20	20.4	55	18.7	21.1	225	18.9	21.4	20	0.05	14
BZX84B22	ED	21.6	22	22.5	55	20.7	23.2	250	20.9	23.4	25	0.05	15.4
BZX84B24	EE	23.5	24	24.5	70	22.7	25.5	250	22.9	25.7	25	0.05	16.8
Type	Marking Code	$V_{Z1}\text{ Below}$ @ $I_{ZT1} = 2\text{ mA}$			$Z_{ZT1}\text{ Below}$ @ $I_{ZT1} = 2\text{ mA}$	$V_{Z2}\text{ Below}$ @ $I_{ZT2} = 0.1\text{ mA}$		$Z_{ZT2}\text{ Below}$ @ $I_{ZT4} = 0.5\text{ mA}$ ²⁾	$V_{Z3}\text{ Below}$ @ $I_{ZT3} = 10\text{ mA}$		$Z_{ZT3}\text{ Below}$ @ $I_{ZT3} = 10\text{ mA}$	Maximum Reverse Leakage Current	
		Min.	Nom.	Max.		Min.	Max.		Min.	Max.		I_R μA	V_R V
BZX84B27	EF	26.4	27	27.6	80	25	28.9	300	25.2	29.3	45	0.05	18.9
BZX84B30	EH	29.4	30	30.6	80	27.8	32	300	28.1	32.4	50	0.05	21
BZX84B33	EJ	32.3	33	33.7	80	30.8	35	325	31.1	35.4	55	0.05	23.1
BZX84B36	EK	35.2	36	36.8	90	33.8	38	350	34.1	38.4	60	0.05	25.2
BZX84B39	EM	38.2	39	39.8	130	36.7	41	350	37.1	41.5	70	0.05	27.3
BZX84B43	EN	42.1	43	43.9	150	39.7	46	375	40.1	46.5	80	0.05	30.1
BZX84B47	EP	46	47	48	170	43.7	50	375	44.1	50.5	90	0.05	32.9
BZX84B51	ER	49.9	51	52.1	180	47.6	54	400	48.1	54.6	100	0.05	35.7
BZX84B56	EX	54.8	56	57.2	200	51.5	60	425	52.1	60.8	110	0.05	39.2
BZX84B62	EY	60.7	62	63.3	215	57.4	66	450	58.2	67	120	0.05	43.4
BZX84B68	EZ	66.6	68	69.4	240	63.4	72	475	64.2	73.2	130	0.05	47.6
BZX84B75	FA	73.5	75	76.5	255	69.4	79	500	70.3	80.2	140	0.05	52.5

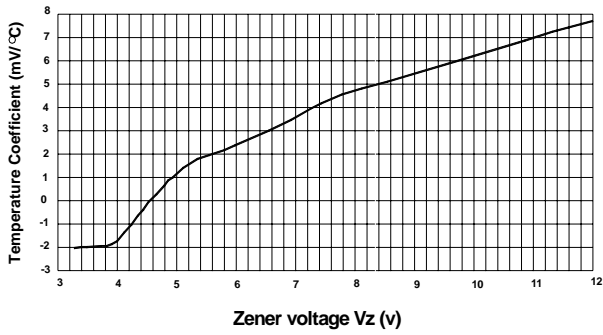
¹⁾ Tested with pulses $t_p = 20\text{ ms}$.

²⁾ The Zener impedance, Z_{ZT2} , for the 27 through 75 volt types is tested at 0.5 mA rather than the test current of 0.1 mA used for V_{Z2}

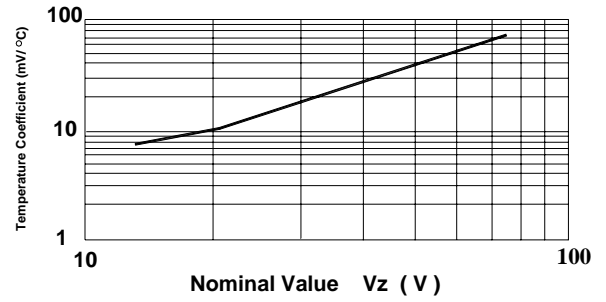


BZX84B...Series

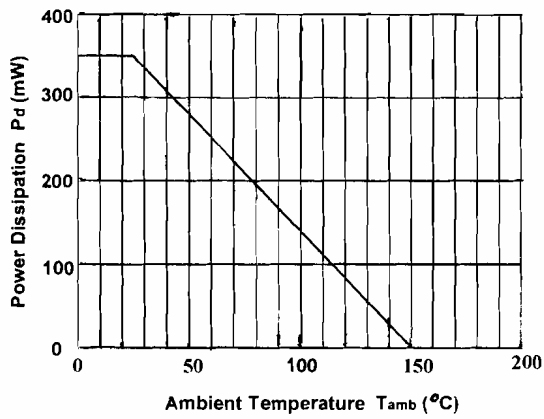
Temperature Coefficient



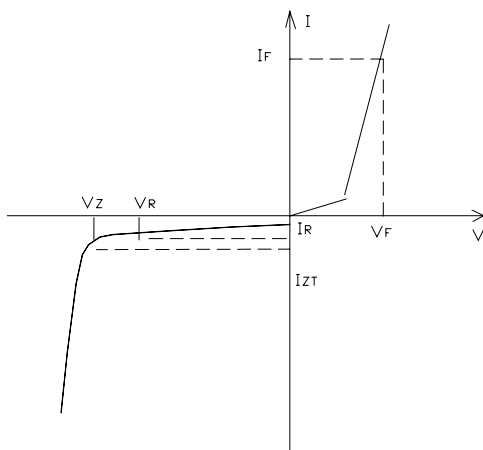
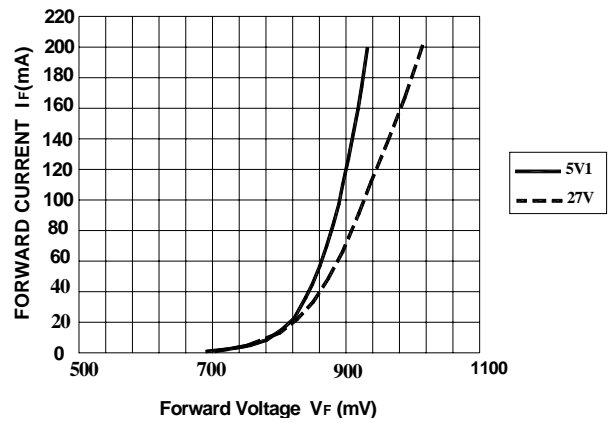
Temperature Coefficient



Power Derating Curve



Typical Forward Voltage



Zener Voltage Regulator

