BZX84C Series

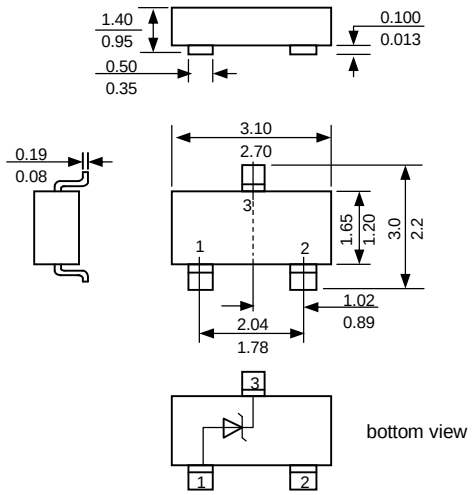
Zener Voltage Regulators

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

Features

- ✧ 225 mW Rating on FR-4 or FR-5 Board
- ✧ Zener Breakdown Voltage Range 2.4 V to 75 V
- ✧ Package Designed for Optimal Automated Board Assembly
- ✧ Small Package Size for High Density Applications
- ✧ ESD Rating of Class 3 (>16 KV) per Human Body Model
- ✧ Pb / RoHS Free

SOT-23



Dimensions in millimeters

Absolute Maximum Ratings (Ta = 25 °C)

RATING	SYMBOL	VALUE	UNIT
Total Power Dissipation on FR-5 Board,	P_D		
(Note 1) @ Ta = 25 °C		225	mW
Derated above 25 °C		1.8	mW/°C
Thermal Resistance (Jucntion to Ambient)	$R_{\Theta JA}$	556	°C/W
Total Power Dissipation on Alumina Substrate,	P_D		
(Note 2) @ Ta = 25 °C		300	mW
Derated above 25 °C		2.4	mW/°C
Thermal Resistance (Jucntion to Ambient)	$R_{\Theta JA}$	417	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	- 65 to + 150	°C

Notes :

(1) FR-5 =1 x 0.75 x 0.62 in.

(2) Alumina = 0.4 x 0.3 x 0.24 in, 99.5% alumina

BZX84C Series

Zener Voltage Regulators

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) (V)			Z_{ZT1} @ I_{ZT1} = 5 mA (Ω)	V_{Z2} @ I_{ZT2} = 1 mA (Note 1) (V)		Z_{ZT2} @ I_{ZT2} = 1 mA (Ω)	V_{Z3} @ I_{ZT1} = 20 mA (Note 1) (V)		Z_{ZT3} @ I_{ZT3} = 20 mA (Ω)	Max. Reverse Leakage Current I_R @ V_R		Θ_{VZ} (mV/k) @ I_{ZT1} = 5 mA		C (pF) @ V_R =0 f = 1 MHz
		Min	Nom	Max		Min	Max		Min	Max		(μA)	(V)	Min	Max	
BZX84C2V4	C8	2.2	2.4	2.6	100	1.7	2.1	600	2.6	3.2	50	50	1.0	-3.5	0	450
BZX84C2V7	D8	2.5	2.7	2.9	100	1.9	2.4	600	3.0	3.6	50	20	1.0	-3.5	0	450
BZX84C3V0	E8	2.8	3.0	3.2	95	2.1	2.7	600	3.3	3.9	50	10	1.0	-3.5	0	450
BZX84C3V3	F8	3.1	3.3	3.5	95	2.3	2.9	600	3.6	4.2	40	5	1.0	-3.5	0	450
BZX84C3V6	H8	3.4	3.6	3.8	90	2.7	3.3	600	3.9	4.5	40	5	1.0	-3.5	0	450
BZX84C3V9	J8	3.7	3.9	41	90	2.9	3.5	600	4.1	4.7	30	3	1.0	-3.5	-2.5	450
BZX84C4V3	K8	4.0	4.3	4.6	90	3.3	4.0	600	4.4	5.1	30	3	1.0	-3.5	0	450
BZX84C4V7	M8	4.4	4.7	5.0	80	3.7	4.7	500	4.5	5.4	15	3	2.0	-3.5	0.2	260
BZX84C5V1	N8	4.8	5.1	5.4	60	4.2	5.3	480	5.0	5.9	15	2	2.0	-2.7	1.2	225
BZX84C5V6	P8	5.2	5.6	6.0	40	4.8	6.0	400	5.2	6.3	10	1	2.0	-2.0	2.5	200
BZX84C6V2	R8	5.8	6.2	6.6	10	5.6	6.6	150	5.8	6.8	6	3	4.0	0.4	3.7	185
BZX84C6V8	X8	6.4	6.8	7.2	15	6.3	7.2	80	6.4	7.4	6	2	4.0	1.2	4.5	155
BZX84C7V5	Y8	7.0	7.5	7.9	15	6.9	7.9	80	7.0	8.0	6	1	5.0	2.5	5.3	140
BZX84C8V2	Z8	7.7	8.2	8.7	15	7.6	8.7	80	7.7	8.8	6	0.7	5.0	3.2	6.2	135
BZX84C9V1	A9	8.5	9.1	9.6	15	8.4	9.6	100	8.5	9.7	8	0.5	6.0	3.8	7.0	130
BZX84C10	B9	9.4	10	10.6	20	9.3	10.6	150	9.4	10.7	10	0.2	7.0	4.5	8.0	130
BZX84C11	C9	10.4	11	11.6	20	10.2	11.6	150	10.4	11.8	10	0.1	8.0	5.4	9.0	130
BZX84C12	D9	11.4	12	12.7	25	11.2	12.7	150	11.4	12.9	10	0.1	8.0	6.0	10.0	130
BZX84C13	E9	12.4	13	14.1	30	12.3	14.0	170	12.5	14.2	15	0.1	8.0	7.0	11.0	120
BZX84C15	F9	13.8	15	15.6	30	13.7	15.5	200	13.9	15.7	20	0.05	10.5	9.2	13.0	110
BZX84C16	H9	15.3	16	17.1	40	15.2	17.0	200	15.4	17.2	20	0.05	11.2	10.4	14.0	105
BZX84C18	J9	16.8	18	19.1	45	16.7	19.0	225	16.9	19.2	20	0.05	12.6	12.4	16.0	100
BZX84C20	K9	18.8	20	21.2	55	18.7	21.1	225	18.9	21.4	20	0.05	14.0	14.4	18.0	85
BZX84C22	M9	20.8	22	23.3	55	20.7	23.2	250	20.9	23.4	25	0.05	15.4	16.4	20.0	85
BZX84C24	N9	22.8	24	25.6	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) (V)			Z_{ZT1} Below @ I_{ZT1} = 2 mA (Ω)	V_{Z2} Below @ I_{ZT2} =0.1mA (Note 1) (V)		Z_{ZT2} Below @ I_{ZT4} = 0.5mA (Ω)	V_{Z3} Below @ I_{ZT1} = 10 mA (Note 1) (V)		Z_{ZT3} Below @ I_{ZT3} = 10 mA (Ω)	Max. Reverse Leakage Current I_R @ V_R		Θ_{VZ} (mV/k) Below @ I_{ZT1} = 2 mA		C (pF) @ V_R =0 f = 1 MHz
		Min	Nom	Max		Min	Max		Min	Max		(μA)	(V)	Min	Max	
BZX84C27	P9	25.1	27	28.9	80	25	28.9	300	25.2	29.3	45	0.05	18.9	21.4	25.3	70
BZX84C30	R9	28	30	32	80	27.8	32	300	28.1	32.4	50	0.05	21.0	24.4	29.4	70
BZX84C33	X9	31	33	35	80	30.8	35	325	31.1	35.4	55	0.05	23.1	27.4	33.4	70
BZX84C36	Y9	34	36	38	90	33.8	38	350	34.1	38.4	60	0.05	25.2	30.4	37.4	70
BZX84C39	Z9	37	39	41	130	36.7	41	35	37.1	41.5	70	0.05	27.3	33.4	41.2	45
BZX84C43	A0	40	43	46	150	39.7	46	375	40.1	46.5	80	0.05	30.1	37.6	46.6	40
BZX84C47	B0	44	47	50	170	43.7	50	375	44.1	50.5	90	0.05	32.9	42.0	51.8	40
BZX84C51	C0	48	51	54	180	47.6	54	400	48.1	54.6	100	0.05	35.7	46.6	57.2	40
BZX84C56	D0	52	56	60	200	51.5	60	425	52.1	60.8	110	0.05	39.2	52.2	63.8	40
BZX84C62	E0	58	62	66	215	57.4	66	450	58.2	67.0	120	0.05	43.4	58.8	71.6	35
BZX84C68	F0	64	68	72	240	63.4	72	475	64.2	73.2	130	0.05	47.6	65.6	79.8	35
BZX84C75	H0	70	75	79	255	69.4	79	500	70.3	80.2	140	0.05	52.5	73.4	88.6	35

Note :

(1) Zener voltage is measured with pulse test current IZ at an ambient temperature of 25 °C