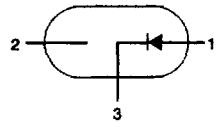
SILICON PLANAR VOLTAGE REGULATOR DIODES

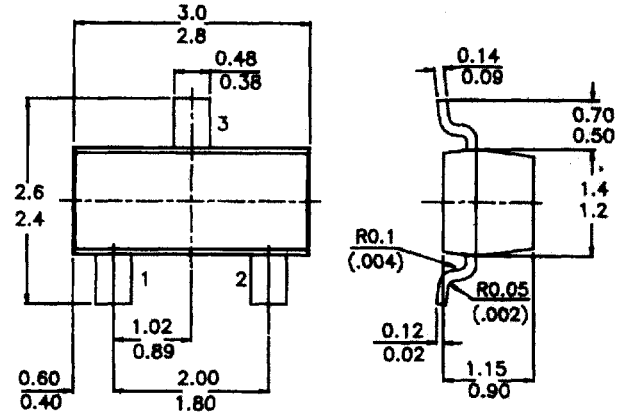
Low power general purpose voltage regulator diodes

Pin configuration

1 = ANODE
2 = NC
3 = CATHODE



PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm



Marking

BZX84-C3V3 = Z14	BZX84-C7V5 = Z6	BZX84-C18 = Y6	BZX84-C43 = Y15
C3V6 = Z15	C8V2 = Z7	C20 = Y7	C47 = Y16
C3V9 = Z16	C9V1 = Z8	C22 = Y8	
C4V3 = Z17	C10 = Z9	C24 = Y9	
C4V7 = Z1	C11 = Y1	C27 = Y10	
C5V1 = Z2	C12 = Y2	C30 = Y11	
C5V6 = Z3	C13 = Y3	C33 = Y12	
C6V2 = Z4	C15 = Y4	C36 = Y13	
C6V8 = Z5	C16 = Y5	C39 = Y14	

ABSOLUTE MAXIMUM RATINGS

Working voltage range	V_Z	nom.	3.3 to 47 V
Working voltage tolerance			±5 %
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	max.	300 mW
Junction temperature	T_j	max.	150 °C

RATINGS (at T_A = 25°C unless otherwise specified)

Limiting values				
Repetitive peak forward current	IFR_M	max.	250	mA
Repetitive peak working current	IZRM	max.	250	mA
Total power dissipation up to T_{amb} = 25 °C*	P_{tot}	max.	300	mW
Total power dissipation up to T_{amb} = 25 °C**	P_{tot}	max.	250	mW
Storage temperature	T_{stg}	-55 to +150		°C
Junction temperature	T_j	max.	150	°C

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$		430	K/W
From junction to ambient	$R_{th\ j-a}$		500	K/W

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

Forward voltage					
I_F = 10 mA		V_F	<	0.9	V
Reverse current					
BZX84-3V3	V_R = 1 V	I_R	<	5	µA
3V6	V_R = 1 V	I_R	<	5	µA
3V9	V_R = 1 V	I_R	<	3	µA
4V3	V_R = 1 V	IR	<	3	µA
4V7	V_R = 2 V	I_R	<	3	µA
5V1	V_R = 2 V	I_R	<	2	µA
5V6	V_R = 2 V	I_R	<	1	µA
6V2	V_R = 4V	I_R	<	3	µA
6V8	V_R = 4V	I_R	<	2	µA
7V5	V_R = 5 V	I_R	<	1	µA
8V2	V_R = 5 V	I_R	<	700	nA
9V1	V_R = 6 V	I_R	<	500	nA
10	V_R = 7 V	I_R	<	200	nA
11	V_R = 8V	I_R	<	100	nA
12	V_R = 8V	I_R	<	100	nA
13	V_R = 8V	I_R	<	100	nA
15 to 47	V_R = 0.7 VZ_{nom}	I_R	<	50	nA

.. = C for 5%

T_j = 25 ° C
±5% tolerance range

* Device mounted on a ceramic alumna
** Device mounted on an FR5 printed-circuit board

T_j = 25 ° C
±5% tolerance range

BZX84	working voltage VZ (V)* at I_{Ztest} = 5 mA		differential resistance rdiff (Ω) at I_{Ztest} = 5 mA		temperature coefficient S_Z (mV/K) at I_{Ztest} = 5 mA			differential resistance rdiff (Ω) at I_Z = 1 mA	
	min.	max.	typ.	max.	min.	typ.	max.	typ.	max.
BZX84-C3V3	3.10	3.50	85	95	-3.5	-2.4	0	350	600
C3V6	3.40	3.80	85	90	-3.5	-2.4	0	375	600
C3V9	3.70	4.10	85	90	-3.5	-2.5	0	400	600
C4V3	4.00	4.60	80	90	-3.5	-2.5	0	410	600
C4V7	4.40	5.00	50	80	-3.5	-1.4	0.2	425	500
C5V1	4.80	5.40	40	60	-2.7	-0.8	1.2	400	480
C5V6	5.20	6.00	15	40	-2.0	1.2	2.5	80	400
C6V2	5.80	6.60	6	10	0.4	2.3	3.7	40	150
C6V8	6.40	7.20	6	15	1.2	3.0	4.5	30	80
C7V5	7.00	7.90	6	15	2.5	4.0	5.3	30	80
C8V2	7.70	8.70	6	15	3.2	4.6	6.2	40	80
C9V1	8.50	9.60	6	15	3.8	5.5	7.0	40	100
C10	9.40	10.60	8	20	4.5	6.4	8.0	50	150
C11	10.40	11.60	10	20	5.4	7.4	9.0	50	150
C12	11.40	12.70	10	25	6.0	8.4	10.0	50	150
C13	12.40	14.10	10	30	7.0	9.4	11.0	50	170
C15	13.80	15.60	10	30	9.2	11.4	13.0	50	200
C16	15.30	17.10	10	40	10.4	12.4	14.0	50	200
C18	16.80	19.10	10	45	12.4	14.4	16.0	50	225
C20	18.80	21.20	15	55	14.4	16.4	18.0	60	225
C22	20.80	23.30	20	55	16.4	18.4	20.0	60	250
C24	22.80	25.60	25	70	18.4	20.4	22.0	60	250
	at I_{Ztest} = 2 mA		at I_{Ztest} = 2 mA		at I_{Ztest} = 2 mA			at I_Z = 0.5 mA	
BZX84-C27	25.10	28.90	25	80	21.4	23.4	25.3	65	300
C30	28.00	32.00	30	80	24.4	26.6	29.4	70	300
C33	31.00	35.00	35	80	27.4	29.7	33.4	75	325
C36	34.00	38.00	35	90	30.4	33.0	37.4	80	350
C39	37.00	41.00	40	130	33.4	36.4	41.2	80	350
C43	40.00	46.00	45	150	37.6	41.2	46.6	85	375
C47	44.00	50.00	50	170	42.0	46.1	51.8	85	375

* Pulse test 20 ms ≤ tp ≤ 50 ms