

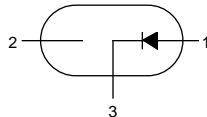


BZX84C series

SILICON PLANAR VOLTAGE REGULATOR DIODES

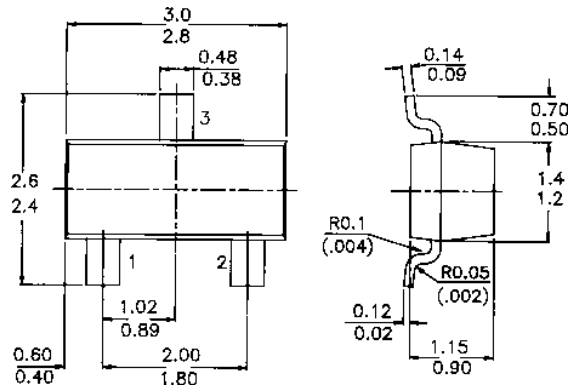
Pin configuration

- 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 $T_{amb} = 25\text{ °C}$	P_{tot}	max. 300 mW
Junction temperature	T_j	max. 150 °C

BZX84C series

RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

Repetitive peak forward current	I_{FRM}	max.	250 mA
Repetitive peak working current	I_{ZRM}	max.	250 mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}^*$	P_{tot}	max.	300 mW
Total power dissipation up to $T_{amb} = 25^\circ\text{C}^{**}$	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_{thj-a}	430	K/W
From junction to ambient	R_{thj-a}	500	K/W

CHARACTERISTICS

$T_j = 25^\circ\text{C}$ unless otherwise specified

Forward voltage

$I_F = 10\text{ mA}$	V_F	<	0.9 V
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Reverse current

BZX84-3V3	$V_R = 1\text{ V}$	I_R	<	5 μA
3V6	$V_R = 1\text{ V}$	I_R	<	5 μA
3V9	$V_R = 1\text{ V}$	I_R	<	3 μA
4V3	$V_R = 1\text{ V}$	I_R	<	3 μA
4V7	$V_R = 2\text{ V}$	I_R	<	3 μA
5V1	$V_R = 2\text{ V}$	I_R	<	2 μA
5V6	$V_R = 2\text{ V}$	I_R	<	1 μA
6V2	$V_R = 4\text{ V}$	I_R	<	3 μA
6V8	$V_R = 4\text{ V}$	I_R	<	2 μA
7V5	$V_R = 5\text{ V}$	I_R	<	1 μA
8V2	$V_R = 5\text{ V}$	I_R	<	700 nA
9V1	$V_R = 6\text{ V}$	I_R	<	500 nA
10	$V_R = 7\text{ V}$	I_R	<	200 nA
11	$V_R = 8\text{ V}$	I_R	<	100 nA
12	$V_R = 8\text{ V}$	I_R	<	100 nA
13	$V_R = 8\text{ V}$	I_R	<	100 nA
15 to 47	$V_R = 0.7 V_{Znom}$	I_R	<	50 nA

.. = C for 5%

$T_j = 25^\circ\text{C}$

±5% tolerance range

* Device mounted on a ceramic alumina

** Device mounted on an FR5 printed-circuit board

$T_j = 25^\circ\text{C}$

±5% tolerance range

BZX84C series

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

* Pulse test 20 ms ≤ tp ≤ 50 ms