BZX84 ...

SILICON PLANAR ZENER DIODES

The Zener Voltages are graded according to the international E 24 standard.

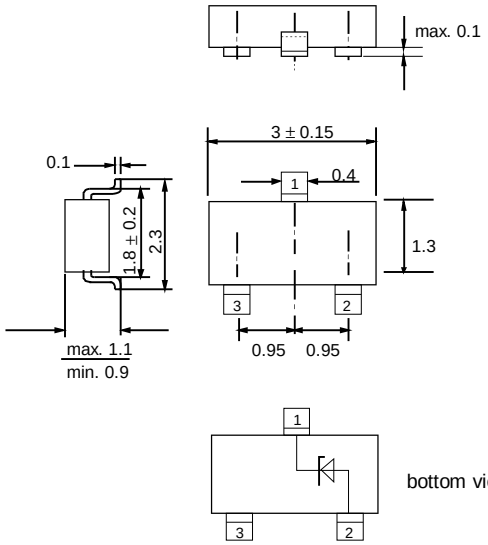
These diodes are delivered taped.

FEATURES :

* Pb / RoHS Free

Plastic Package JEDEC TO-236
23 A 3 according to DIN 41869

Weight approx. 0.01 g



Dimensions in millimeters

Absolute Maximum Ratings

	Symbol	Value	Unit
Zener Current	I_{ZM}	250	mA
Power Dissipation at T_{amb} = 25 °C	P_{tot}	350 [1)]	mW
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_S	- 65 to + 175	°C
1) Diode on Ceramic Substrate 10mm. x 8 mm. x 0.7 mm.			

Characteristics at T_{amb} = 25 °C

	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thJA}	-	-	420 [1)]	K/W
Forward Voltage at I_F = 10 mA	V_F	-	-	0.9	V
1) Diode on Ceramic Substrate 10mm. x 8 mm. x 0.7 mm.					

ELECTRICAL CHARACTERISTICS

TYPE	Marking	Zener Voltage [1] at I_{ZT}	Dynamic Resistance at I_{ZT}	Temp. coefficient of Zener Voltage at I_{ZT}	Test Current	Reverse leakage current	
		V_Z	r_{zj}	α_{VZ}	I_{ZT}	I_R	at V_R
	(V)	(V)	(Ω)	10^{-4} / K	(mA)	(µA)	(V)
BZX84-C2V7	Z12	2.5…2.9	75 (≤ 100)	-9…-4	5.0	20	1.0
BZX84-C3	Z13	2.8…3.2	80 (≤ 95)	-9…-3	5.0	10	1.0
BZX84-C3V3	Z14	3.1…3.5	85 (≤ 95)	-8…-3	5.0	5	1.0
BZX84-C3V6	Z15	3.4…3.8	85 (≤ 90)	-8…-3	5.0	5	1.0
BZX84-C3V9	Z16	3.7…4.1	85 (≤ 90)	-7…-3	5.0	3	1.0
BZX84-C4V3	Z17	4.0…4.6	80 (≤ 90)	-6…-1	5.0	3	1.0
BZX84-C4V7	Z1	4.4…5.0	50 (≤ 80)	-5…+2	5.0	3	2.0
BZX84-C5V1	Z2	4.8…5.4	40 (≤ 60)	-3…+4	5.0	2	2.0
BZX84-C5V6	Z3	5.2…6.0	15 (≤ 40)	-2…+6	5.0	1	2.0
BZX84-C6V2	Z4	5.8…6.6	6 (≤ 10)	-1…+7	5.0	3	4.0
BZX84-C6V8	Z5	6.4…7.2	6 (≤ 15)	+2…+7	5.0	2	4.0
BZX84-C7V5	Z6	7.0…7.9	6 (≤ 15)	+3…+7	5.0	1	5.0
BZX84-C8V2	Z7	7.7…8.7	6 (≤ 15)	+4…+7	5.0	0.7	5.0
BZX84-C9V1	Z8	8.5…9.6	6 (≤ 15)	+5…+8	5.0	0.5	6.0
BZX84-C10	Z9	9.4…10.6	8 (≤ 20)	+5…+8	5.0	0.2	7.0
BZX84-C11	Y1	10.4…11.6	10 (≤ 20)	+5…+9	5.0	0.1	8.0
BZX84-C12	Y2	11.4…12.7	10 (≤ 25)	+6…+9	5.0	0.1	8.0
BZX84-C13	Y3	12.4…14.1	10 (≤ 30)	+7…+9	5.0	0.1	8.0
BZX84-C15	Y4	13.8…15.6	10 (≤ 30)	+7…+9	5.0	0.05	0.7 $V_{Znom.}$
BZX84-C16	Y5	15.3…17.1	10 (≤ 40)	+8…+9.5	5.0	0.05	0.7 $V_{Znom.}$
BZX84-C18	Y6	16.8…19.1	10 (≤ 45)	+8…+9.5	5.0	0.05	0.7 $V_{Znom.}$
BZX84-C20	Y7	18.8…21.2	15 (≤ 55)	+8…+10	5.0	0.05	0.7 $V_{Znom.}$
BZX84-C22	Y8	20.8…23.3	20 (≤ 55)	+8…+10	5.0	0.05	0.7 $V_{Znom.}$
BZX84-C24	Y9	22.8…25.6	25 (≤ 70)	+8…+10	5.0	0.05	0.7 $V_{Znom.}$
BZX84-C27	Y10	25.1…28.9	25 (≤ 80)	+8…+10	2.0	0.05	0.7 $V_{Znom.}$
BZX84-C30	Y11	28…32	30 (≤ 80)	+8…+10	2.0	0.05	0.7 $V_{Znom.}$
BZX84-C33	Y12	31…35	35 (≤ 80)	+8…+10	2.0	0.05	0.7 $V_{Znom.}$
BZX84-C36	Y13	34…38	35 (≤ 90)	+8…+10	2.0	0.05	0.7 $V_{Znom.}$
BZX84-C39	Y14	37…41	40 (≤ 130)	+10…+12	2.0	0.05	0.7 $V_{Znom.}$
BZX84-C43	Y15	40…46	45 (≤ 150)	+10…+12	2.0	0.05	0.7 $V_{Znom.}$
BZX84-C47	Y16	44…50	50 (≤ 170)	+10…+12	2.0	0.05	0.7 $V_{Znom.}$
BZX84-C51	Y17	48…54	60 (≤ 180)	+10…+12	2.0	0.05	0.7 $V_{Znom.}$

1) Measured with pulses tp = 20 ms.

ELECTRICAL CHARACTERISTICS

TYPE	Zener Voltage [1] at I_{ZT}	Dynamic Resistance at I_{ZT}	Test Current	Zener Voltage [1] at I_{ZT}	Dynamic Resistance at I_{ZT}	Test Current
	V_Z	r_{zj}	I_{ZT}	V_Z	r_{zj}	I_{ZT}
	(V)	(Ω)	(mA)	(V)	(Ω)	(mA)
BZX84-C2V7	3.3 (3.0…3.6)	25 (≤ 50)	20	2.2 (1.9…2.4)	300 (≤ 600)	1.0
BZX84-C3	3.6 (3.3…3.9)	25 (≤ 50)	20	2.4 (2.1…2.7)	325 (≤ 600)	1.0
BZX84-C3V3	3.9 (3.6…4.2)	20 (≤ 40)	20	2.6 (2.3…2.9)	350 (≤ 600)	1.0
BZX84-C3V6	4.2 (3.9…4.5)	20 (≤ 40)	20	3.0 (2.7…3.3)	375 (≤ 600)	1.0
BZX84-C3V9	4.4 (4.1…4.7)	15 (≤ 30)	20	3.2 (2.9…3.5)	400 (≤ 600)	1.0
BZX84-C4V3	4.7 (4.4…5.1)	15 (≤ 30)	20	3.6 (3.3…4.0)	410 (≤ 600)	1.0
BZX84-C4V7	5.0 (4.5…5.4)	8 (≤ 15)	20	4.2 (3.7…4.7)	425 (≤ 500)	1.0
BZX84-C5V1	5.4 (5.0…5.9)	6 (≤ 15)	20	4.7 (4.2…5.3)	400 (≤ 480)	1.0
BZX84-C5V6	5.7 (5.2…6.3)	4 (≤ 10)	20	5.4 (4.8…6.0)	80 (≤ 400)	1.0
BZX84-C6V2	6.3 (5.8…6.8)	3 (≤ 6)	20	6.1 (5.6…6.6)	40 (≤ 150)	1.0
BZX84-C6V8	6.9 (6.4…7.4)	2.5 (≤ 6)	20	6.7 (6.3…7.2)	30 (≤ 80)	1.0
BZX84-C7V5	7.6 (7.0…8.0)	2.5 (≤ 6)	20	7.4 (6.9…7.9)	30 (≤ 80)	1.0
BZX84-C8V2	8.3 (7.7…8.8)	3 (≤ 6)	20	8.1 (7.6…8.7)	40 (≤ 80)	1.0
BZX84-C9V1	9.2 (8.5…9.7)	4 (≤ 8)	20	9.0 (8.4…9.6)	40 (≤ 100)	1.0
BZX84-C10	10.1 (9.4…10.7)	4 (≤ 10)	20	9.9 (9.3…10.6)	50 (≤ 150)	1.0
BZX84-C11	11.1 (10.4…11.8)	5 (≤ 10)	20	10.6 (10.2…11.6)	50 (≤ 150)	1.0
BZX84-C12	12.1 (11.4…12.9)	5 (≤ 10)	20	11.9 (11.2…12.7)	50 (≤ 150)	1.0
BZX84-C13	13.1 (12.5…14.2)	5 (≤ 15)	20	12.9 (12.3…14.0)	50 (≤ 170)	1.0
BZX84-C15	15.1 (13.9…15.7)	6 (≤ 20)	20	14.9 (13.7…15.5)	50 (≤ 200)	1.0
BZX84-C16	16.1 (15.4…17.2)	6 (≤ 20)	20	15.9 (15.2…17.0)	50 (≤ 200)	1.0
BZX84-C18	18.1 (16.9…19.2)	6 (≤ 20)	20	17.9 (16.7…19.0)	50 (≤ 225)	1.0
BZX84-C20	20.1 (18.9…21.4)	7 (≤ 20)	20	19.9 (18.7…21.1)	60 (≤ 225)	1.0
BZX84-C22	22.1 (20.9…23.4)	7 (≤ 25)	20	21.9 (20.7…23.2)	60 (≤ 250)	1.0
BZX84-C24	24.1 (22.9…25.7)	7 (≤ 25)	20	23.9 (22.7…25.5)	60 (≤ 250)	1.0
BZX84-C27	27.1 (25.2…29.3)	10 (≤ 45)	10	26.9 (25.0…28.9)	65 (≤ 300) [2]	0.1
BZX84-C30	30.1 (28.1…32.4)	15 (≤ 50)	10	29.9 (27.8…32.0)	70 (≤ 300) [2]	0.1
BZX84-C33	33.1 (31.1…35.4)	20 (≤ 55)	10	32.9 (30.8…35.0)	75 (≤ 325) [2]	0.1
BZX84-C36	36.1 (34.1…38.4)	25 (≤ 60)	10	35.9 (33.8…38.0)	80 (≤ 350) [2]	0.1
BZX84-C39	39.1 (37.1…41.5)	25 (≤ 70)	10	38.9 (36.7…41.0)	80 (≤ 350) [2]	0.1
BZX84-C43	43.1 (40.1…46.5)	25 (≤ 80)	10	42.9 (39.7…46.0)	85 (≤ 375) [2]	0.1
BZX84-C47	47.1 (44.1…50.5)	30 (≤ 90)	10	46.8 (43.7…50.0)	85 (≤ 375) [2]	0.1
BZX84-C51	51.1 (48.1…54.6)	35 (≤ 100)	10	50.8 (47.6…54.0)	85 (≤ 400) [2]	0.1

1) Measured with pulses tp = 20 ms.

2) Test current 0.5 mA