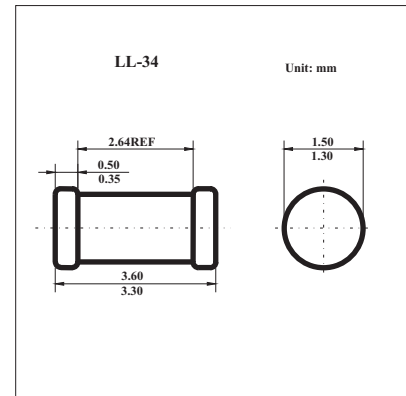


Zener Diodes

BZV55 series

■ Features

- Silicon Planar Power Zener Diodes.
- For use as low voltage stabilizer or voltage reference.
- The Zener voltages are graded according to the international E 24 standard. Higher Zener voltages and 1% tolerance available on request.
- Diodes available in these tolerance series:
±2% BZV55-B, ±3% BZV55-F, ±5% BZV55-C.



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

Parameter	Symbol	Rating	Unit
Zener Current see Table "Characteristics"			
Continuous Forward Current	I_F	250	mA
Forward Voltage at $I_F = 10\text{ mA}$	V_F	0.9	V
Power Dissipation at $T_A = 50^\circ\text{C}$	P_D^{*1}	400	mW
Thermal Resistance Junction to Ambient Air	R_{thJA}^{*1}	0.38	K/mW
Thermal Resistance Junction to Lead	R_{thJL}	0.3	K/mW
Junction Temperature	T_j	-65 to +200	$^\circ\text{C}$
Storage Temperature Range	T_s	-65 to +200	$^\circ\text{C}$

*1. Mounted on ceramic substrate 10mm × 10mm × 0.6mm

BZV55 series

■ Electrical Characteristics Ta = 25°C

Type ±5% Tol.	Zener Voltage range *1. at IZ = 5 mA		Type ±3% Tol.	Zener Voltage range *1. at IZ = 5 mA		Type ±2% Tol.	Zener Voltage range *1. at IZ = 5 mA	
	Vz V min.	max.		Vz V min.	max.		Vz V min.	max.
BZV55-C2V4	2.2	2.6	BZV55-F2V4	2.33	2.47	BZV55-B2V4	2.35	2.45
BZV55-C2V7	2.5	2.9	BZV55-F2V7	2.62	2.78	BZV55-B2V7	2.65	2.75
BZV55-C3V0	2.8	3.2	BZV55-F3V0	2.91	3.09	BZV55-B3V0	2.94	3.06
BZV55-C3V3	3.1	3.5	BZV55-F3V3	3.2	3.4	BZV55-B3V3	3.23	3.37
BZV55-C3V6	3.4	3.8	BZV55-F3V6	3.49	3.71	BZV55-B3V6	3.53	3.67
BZV55-C3V9	3.7	4.1	BZV55-F3V9	3.78	4.02	BZV55-B3V9	3.82	3.98
BZV55-C4V3	4	4.6	BZV55-F4V3	4.17	4.43	BZV55-B4V3	4.21	4.39
BZV55-C4V7	4.4	5	BZV55-F4V7	4.56	4.84	BZV55-B4V7	4.61	4.79
BZV55-C5V1	4.8	5.4	BZV55-F5V1	4.95	5.25	BZV55-B5V1	5	5.2
BZV55-C5V6	5.2	6	BZV55-F5V6	5.43	5.77	BZV55-B5V6	5.49	5.71
BZV55-C6V2	5.8	6.6	BZV55-F6V2	6.01	6.39	BZV55-B6V2	6.08	6.32
BZV55-C6V8	6.4	7.2	BZV55-F6V8	6.6	7	BZV55-B6V8	6.66	6.94
BZV55-C7V5	7	7.9	BZV55-F7V5	7.28	7.72	BZV55-B7V5	7.35	7.65
BZV55-C8V2	7.7	8.7	BZV55-F8V2	7.95	8.45	BZV55-B8V2	8.04	8.36
BZV55-C9V1	8.5	9.6	BZV55-F9V1	8.83	9.37	BZV55-B9V1	8.92	9.28
BZV55-C10	9.4	10.6	BZV55-F10	9.7	10.3	BZV55-B10	9.8	10.2
BZV55-C11	10.4	11.6	BZV55-F11	10.67	11.33	BZV55-B11	10.8	11.2
BZV55-C12	11.4	12.7	BZV55-F12	11.64	12.36	BZV55-B12	11.8	12.2
BZV55-C13	12.4	14.1	BZV55-F13	12.61	13.39	BZV55-B13	12.7	13.3
BZV55-C15	13.8	15.6	BZV55-F15	14.55	15.45	BZV55-B15	14.7	15.3
BZV55-C16	15.3	17.1	BZV55-F16	15.5	16.5	BZV55-B16	15.7	16.3
BZV55-C18	16.8	19.1	BZV55-F18	17.5	18.5	BZV55-B18	17.6	18.4
BZV55-C20	18.8	21.2	BZV55-F20	19.4	20.6	BZV55-B20	19.6	20.4
BZV55-C22	20.8	23.3	BZV55-F22	21.3	22.7	BZV55-B22	21.6	22.4
BZV55-C24	22.8	25.6	BZV55-F24	23.3	24.7	BZV55-B24	23.5	24.5
BZV55-C27	25.1	28.90 *3.	BZV55-F27	26.2	27.80 *3.	BZV55-B27	26.5	27.50 *3.
BZV55-C30	28	32.00 *3.	BZV55-F30	29.1	30.90 *3.	BZV55-B30	29.4	30.60 *3.
BZV55-C33	31	35.00 *3.	BZV55-F33	32	34.00 *3.	BZV55-B33	32.3	33.70 *3.
BZV55-C36	34	38.00 *3.	BZV55-F36	34.9	37.10 *3.	BZV55-B36	35.3	36.70 *3.
BZV55-C39	37	41.00 *3.	BZV55-F39	37.8	40.20 *3.	BZV55-B39	38.2	39.80 *3.
BZV55-C43	40	46.00 *3.	BZV55-F43	41.7	44.30 *3.	BZV55-B43	42.1	43.90 *3.
BZV55-C47	44	50.00 *3.	BZV55-F47	45.6	48.40 *3.	BZV55-B47	46.1	47.90 *3.
BZV55-C51	48	54.00 *3.	BZV55-F51	49.5	52.50 *3.	BZV55-B51	50	52.00 *3.
BZV55-C56	52	60.00 *3.	BZV55-F56	54.3	57.70 *3.	BZV55-B56	54.9	57.10 *3.
BZV55-C62	58	66.00 *3.	BZV55-F62	60.1	63.90 *3.	BZV55-B62	60.8	63.20 *3.
BZV55-C68	64	72.00 *3.	BZV55-F68	66	70.00 *3.	BZV55-B68	66.6	69.40 *3.
BZV55-C75	70	79.00 *3.	BZV55-F75	72.8	77.20 *3.	BZV55-B75	73.5	76.50 *3.

*1. Tested with pulses tp = 5 ms.

*3. IZ = 2 mA

See BZV55-y table for all characteristics other than zener voltage range.

BZV55 series

■ Electrical Characteristics Ta = 25°C

Type y=B for $\pm 2\%V_z$ y=F for $\pm 3\%V_z$ y=C for $\pm 5\%V_z$	Dynamic Resistance		Temp. coefficient of Zener Voltage at $I_z = 5 \text{ mA}$ av_z (%/K)		Reverse leakage current at $T_{amb} = 25^\circ\text{C}$	
	at $I_z = 5 \text{ mA}$, $f=1\text{kHz}$, r_{zj} (Ω) max.	at $I_z = 1 \text{ mA}$, $f=1\text{kHz}$, r_{zj} (Ω) max.	min.	max.	at I_R (μA)	V_R (V)
BZV55-Y2V4	100	600	-0.08	-0.06	50	1
BZV55-Y2V7	100	600	-0.08	-0.06	20	1
BZV55-Y3V0	95	600	-0.08	-0.06	10	1
BZV55-Y3V3	95	600	-0.08	-0.05	5	1
BZV55-Y3V6	90	600	-0.08	-0.04	5	1
BZV55-Y3V9	90	600	-0.07	-0.03	3	1
BZV55-Y4V3	90	600	-0.04	-0.01	3	1
BZV55-Y4V7	80	500	-0.03	0.01	3	2
BZV55-Y5V1	60	480	-0.02	0.05	2	2
BZV55-Y5V6	40	400	-0.01	0.06	1	2
BZV55-Y6V2	10	150	0	0.07	3	4
BZV55-Y6V8	15	80	0.01	0.08	2	4
BZV55-Y7V5	15	80	0.01	0.09	1	5
BZV55-Y8V2	15	80	0.01	0.09	0.7	5
BZV55-Y9V1	15	100	0.02	0.1	0.5	6
BZV55-Y10	20	150	0.03	0.11	0.2	7
BZV55-Y11	20	150	0.03	0.11	0.1	8
BZV55-Y12	25	150	0.03	0.11	0.1	8
BZV55-Y13	30	170	0.03	0.11	0.1	8
BZV55-Y15	30	200	0.03	0.11	0.05	10
BZV55-Y16	40	200	0.03	0.11	0.05	11
BZV55-Y18	45	225	0.03	0.11	0.05	13
BZV55-Y20	55	225	0.03	0.11	0.05	14
BZV55-Y22	55	250	0.03	0.11	0.05	15
BZV55-Y24	70	250	0.04	0.12	0.05	17
BZV55-Y27	80 *3.	300 *4.	+0.04 *3.	+0.12 *3.	0.05	19
BZV55-Y30	80 *3.	300 *4.	+0.04 *3.	+0.12 *3.	0.05	21
BZV55-Y33	80 *3.	325 *4.	+0.04 *3.	+0.12 *3.	0.05	23
BZV55-Y36	90 *3.	350 *4.	+0.04 *3.	+0.12 *3.	0.05	25
BZV55-Y39	130 *3.	350 *4.	+0.04 *3.	+0.12 *3.	0.05	27
BZV55-Y43	150 *3.	375 *4.	+0.04 *3.	+0.12 *3.	0.05	30
BZV55-Y47	170 *3.	375 *4.	+0.04 *3.	+0.12 *3.	0.05	33
BZV55-Y51	180 *3.	400 *4.	+0.04 *3.	+0.12 *3.	0.05	36
BZV55-Y56	200 *3.	425 *4.	typ. +0.1 *3.		0.05	39
BZV55-Y62	215 *3.	450 *4.	typ. +0.1 *3.		0.05	43
BZV55-Y68	240 *3.	475 *4.	typ. +0.1 *3.		0.05	48
BZV55-Y75	255 *3.	500 *4.	typ. +0.1 *3.		0.05	53

*1. Tested with pulses $t_p = 5 \text{ ms}$.

*2. Valid provided that electrodes are kept at ambient temperature.

*3. at $I_z = 2.0 \text{ mA}$ *4. at $I_z = 0.5 \text{ mA}$

y = Zener voltage tolerance designator