

SILICON PLANAR ZENER DIODES

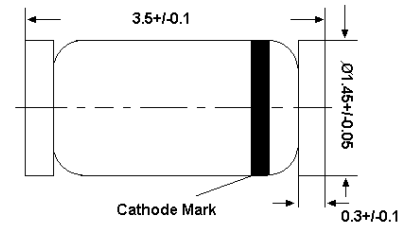
Applications

- Low voltage stabilizers or voltage references

Features

- Total power dissipation: max. 500 mW
- Two tolerance series: $\pm 2\%$ and approx. $\pm 5\%$

LL-34



Glass case MiniMELF
Dimensions in mm

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

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	500 ¹⁾	mW
Junction and Storage Temperature Range	T_j, T_s	- 65 to + 200	$^\circ\text{C}$

¹⁾ Valid provided that electrodes are kept at ambient temperature.

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

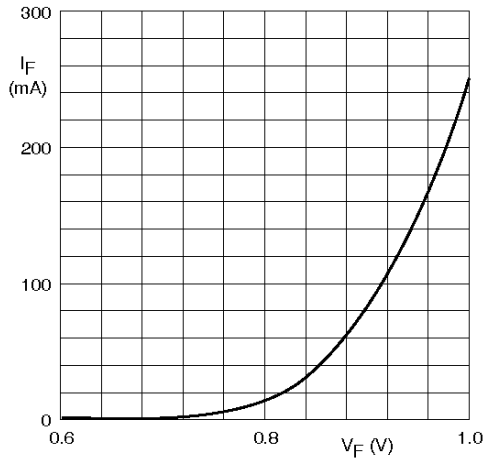
Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	0.3 ¹⁾	K/mW
Forward Voltage at $I_F = 10\text{ mA}$	V_F	0.9	V

¹⁾ Valid provided that electrodes are kept at ambient temperature.

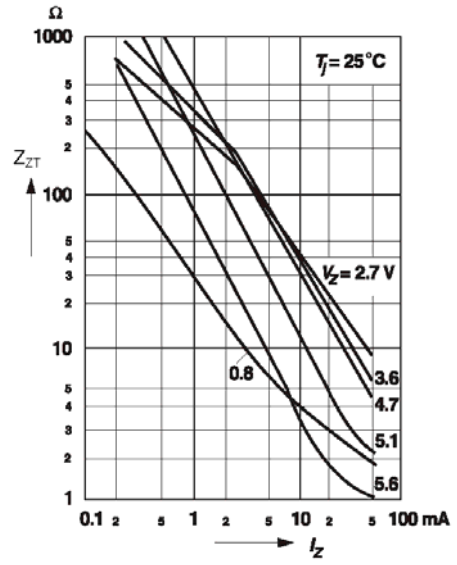
Characteristics at $T_j = 25\text{ °C}$

BZV55B... or BZV55C...	Zener Voltage Range ¹⁾			Dynamic Resistance			Reverse Current	
	V_{ZT} (V)		I_{ZT} (mA)	Z_{ZT} at I_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R
	BZV55B (Tol. $\pm 2\%$)	BZV55C (Tol. $\pm 5\%$)		Max. (Ω)	Max. (Ω)	mA	Max. (μA)	(V)
2V4	2.35...2.45	2.2...2.6	5	100	600	1	50	1
2V7	2.65...2.75	2.5...2.9	5	100	600	1	20	1
3V0	2.94...3.06	2.8...3.2	5	95	600	1	10	1
3V3	3.23...3.37	3.1...3.5	5	95	600	1	5	1
3V6	3.53...3.67	3.4...3.8	5	90	600	1	5	1
3V9	3.82...3.98	3.7...4.1	5	90	600	1	3	1
4V3	4.21...4.39	4...4.6	5	90	600	1	3	1
4V7	4.61...4.79	4.4...5	5	80	500	1	3	2
5V1	5...5.2	4.8...5.5	5	60	480	1	2	2
5V6	5.49...5.71	5.2...6	5	40	400	1	1	2
6V2	6.08...6.32	5.8...6.6	5	10	150	1	3	4
6V8	6.66...6.94	6.4...7.2	5	15	80	1	2	4
7V5	7.35...7.65	7...7.9	5	15	80	1	1	5
8V2	8.04...8.36	7.7...8.7	5	15	80	1	0.7	5
9V1	8.92...9.28	8.5...9.6	5	15	100	1	0.5	6
10	9.8...10.2	9.4...10.6	5	20	150	1	0.2	7
11	10.8...11.2	10.4...11.6	5	20	150	1	0.1	8
12	11.8...12.2	11.4...12.7	5	25	150	1	0.1	8
13	12.7...13.3	12.4...14.1	5	30	170	1	0.1	8
15	14.7...15.3	13.8...15.6	5	30	200	1	0.05	10
16	15.7...16.3	15.3...17.1	5	40	200	1	0.05	11
18	17.6...18.4	16.8...19.1	5	45	225	1	0.05	13
20	19.6...20.4	18.8...21.2	5	55	225	1	0.05	14
22	21.6...22.4	20.8...23.3	5	55	250	1	0.05	15
24	23.5...24.5	22.8...25.6	5	70	250	1	0.05	17
27	26.5...27.5	25.1...28.9	2	80	300	0.5	0.05	19
30	29.4...30.6	28...32	2	80	300	0.5	0.05	21
33	32.3...33.7	31...35	2	80	325	0.5	0.05	23
36	35.3...36.7	34...38	2	90	350	0.5	0.05	25
39	38.2...39.8	37...41	2	130	350	0.5	0.05	27
43	42.1...43.9	40...46	2	150	375	0.5	0.05	30
47	46.1...47.9	44...50	2	170	375	0.5	0.05	33
51	50...52	48...54	2	180	400	0.5	0.05	36
56	54.9...57.1	52...60	2	200	425	0.5	0.05	39
62	60.8...63.2	58...66	2	215	450	0.5	0.05	43
68	66.6...69.4	64...72	2	240	475	0.5	0.05	48
75	73.5...76.5	70...79	2	255	500	0.5	0.05	53

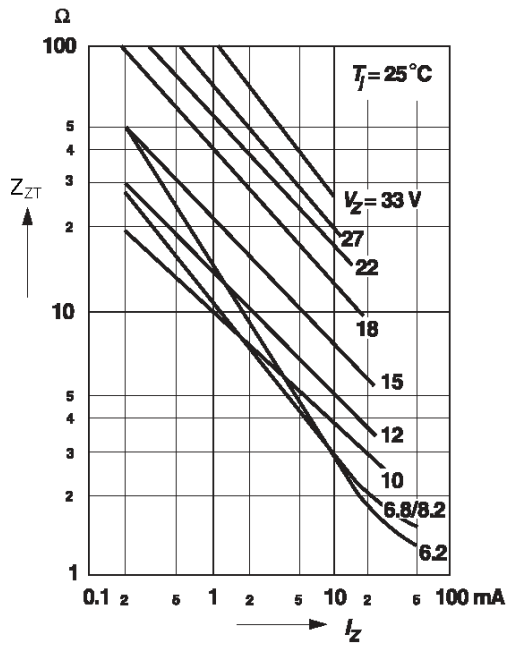
¹⁾ Tested with pulses $t_p = 20\text{ ms}$.



Typical forward current as a function of forward voltage



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current