

ZENER DIODES

POWER DISSIPATION: 500 mW

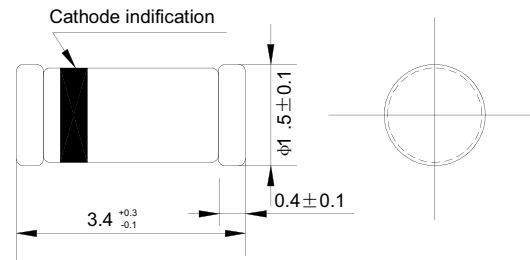
FEATURES

- ◇ Silicon planar power zener diodes
- ◇ The zener voltages are graded according to the international E 24 standard. Standard zener voltage tolerance is $\pm 5\%$. Replace suffix "C" with "B" for $\pm 2\%$, other voltage tolerance and other zener voltage are available upon request.

MECHANICAL DATA

- ◇ Case: MINI-MELF, glass case
- ◇ Terminals: Solderable per MIL-STD-202, method 208
- ◇ Polarity: Cathode band
- ◇ Marking: Type number
- ◇ Approx. Weight: 0.031 grams.

MINI-MELF



Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Zener current (see Table "Characteristics")			
Power dissipation @ $T_{amb}=50^{\circ}\text{C}$	P_{tot}	500 ¹⁾	mW
Junction temperature	T_J	200	°C
Storage temperature range	T_s	-65---+200	°C

	SYMBOL	MIN	TYP	MAX	UNIT
Thermal resistance junction to ambient	$R_{\theta JA}$	—	—	380 ¹⁾	K/W
Forward voltage at $I_F=10\text{mA}$	V_F	—	—	0.9	V

NOTES: (1) Device mounted on a ceramic substrate of 10X10X0.6mm.

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ELECTRICAL CHARACTERISTICS (Ratings at 25°C ambient temperature unless otherwise specified)

TABLE1

BZV55- BXXX CXXX	Working voltage V_Z at $I_{Ztest}=5mA$				Dynamic resistance $r_{zj}(\Omega)$				Temp. coefficient of zener voltage at $I_Z=5mA$ $S_Z(mV/K)$			Maximum reverse leakage current		Maximum capacitance $V_R=0V$ $f=1MHz$	Non-repetitive peak reverse current at $T_P=100\mu s$
	Tol. $\pm 2\%$ (B)		Tol. $\pm 5\%$ (C)		at $I_{Ztest}=1mA$		at $I_{Ztest}=5mA$		MIN.	TYP.	MAX.	I_R (nA)	at V_R (V)	Cd (pF)	I_{ZSM} (A)
	MIN.	MAX.	MIN.	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	TYP.	MAX.				
2V4	2.35	2.45	2.2	2.6	275	600	70	100	-3.5	-1.6	0	50000	1.0	450	6.0
2V7	2.65	2.75	2.5	2.9	300	600	75	100	-3.5	-2	0	20000	1.0	450	6.0
3V0	2.94	3.1	2.8	3.2	325	600	80	95	-3.5	-2.1	0	10000	1.0	450	6.0
3V3	3.23	3.37	3.1	3.5	350	600	85	95	-3.5	-2.4	0	5000	1.0	450	6.0
3V6	3.53	3.67	3.4	3.8	375	600	85	90	-3.5	-2.4	0	5000	1.0	450	6.0
3V9	3.82	3.98	3.7	4.1	400	600	85	90	-3.5	-2.5	0	3000	1.0	450	6.0
4V3	4.21	4.39	4.0	4.6	410	600	80	90	-3.5	-2.5	0	3000	1.0	450	6.0
4V7	4.61	4.79	4.4	5.0	425	500	50	80	-3.5	-1.4	0.2	3000	2.0	300	6.0
5V1	5.00	5.2	4.8	5.4	400	480	40	60	-2.7	-0.8	1.2	2000	2.0	300	6.0
5V6	5.49	5.71	5.2	6.0	80	400	15	40	-2.0	1.2	2.5	1000	2.0	300	6.0
6V2	6.08	6.32	5.8	6.6	40	150	6.0	10	0.4	2.3	3.7	3000	4.0	200	6.0
6V8	6.66	6.94	6.4	7.2	30	80	6.0	15	1.2	3.0	4.5	2000	4.0	200	6.0
7V5	7.35	7.65	7.0	7.9	30	80	6.0	15	2.5	4.0	5.3	1000	5.0	150	4.0
8V2	8.04	8.36	7.7	8.7	40	80	6.0	15	3.2	4.6	6.2	700	5.0	150	4.0
9V1	8.92	9.28	8.5	9.6	40	100	6.0	15	3.8	5.5	7.0	500	6.0	150	3.0
10	9.8	10.2	9.4	10.6	50	150	8.0	20	4.5	6.4	8.0	200	7.0	90	3.0
11	10.8	11.2	10.4	11.6	50	150	10	20	5.4	7.4	9.0	100	8.0	85	2.5
12	11.8	12.2	11.4	12.7	50	150	10	25	6.0	8.4	10	100	8.0	85	2.5
13	12.7	13.3	12.4	14.1	50	170	10	30	7.0	9.4	11	100	8.0	80	2.5
15	14.7	15.3	13.8	15.6	50	200	10	30	9.2	11.4	13	50	11	75	2.0
16	15.7	16.3	15.3	17.1	50	200	10	40	10.4	12.4	14	50	12	75	1.5
18	17.6	18.4	16.8	19.1	50	225	10	45	12.4	14.4	16	50	14	70	1.5
20	19.6	20.4	18.8	21.2	60	225	15	55	12.3	15.6	18	50	15	60	1.5
22	21.6	22.4	20.8	23.3	60	250	20	55	14.1	17.6	20	50	17	60	1.25
24	23.5	24.5	22.8	25.6	60	250	25	70	15.9	19.6	22	50	18	55	1.25

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ELECTRICAL CHARACTERISTICS(Ratings at 25°C ambient temperature unless otherwise specified)

TABLE2

BZV55- BXXX CXXX	Working voltage V_Z at $I_{Ztest}=2mA$				Dynamic resistance $r_{zj}(\Omega)$				Temp.coefficient of zener voltage at $I_Z=2mA$ $S_z(mV/K)$			Maximum reverse leakage current		Maximum capacitance $V_R=0V$ $f=1MHz$	Non-repetitive peak reverse current at $T_p=100\mu s$
	Tol.±2%(B)		Tol.±5%(C)		at $I_{Ztest}=0.5mA$		at $I_{Ztest}=2mA$		MIN.	TYP.	MAX.	I_R (n A)	at V_R (V)	C_d (p F)	I_{ZSM} (A)
	MIN.	MAX.	MIN.	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	TYP.	MAX.				
27	26.5	27.5	25.1	28.9	65	300	25	80	18	22.7	25.3	50	20	50	1.0
30	29.4	30.6	28	32	70	300	30	80	20.6	25.7	29.4	50	22	50	1.0
33	32.3	33.7	31	35	75	325	35	80	23.3	28.7	33.4	50	24	45	0.9
36	35.3	36.7	34	38	80	350	35	90	26	31.8	37.4	50	27	45	0.8
39	38.2	39.8	37	41	80	350	40	130	28.7	34.8	41.2	50	28	45	0.7
43	42.1	43.9	40	46	85	375	45	150	31.4	38.8	46.6	50	32	40	0.6
47	46.1	47.9	44	50	85	375	50	170	35	42.9	51.8	50	35	40	0.5
51	50	52	48	54	90	400	60	180	38.6	46.9	57.2	50	38	40	0.4
56	54.9	57.1	52	60	100	425	70	200	42.2	52	63.8	50	39	40	0.3
62	60.8	63.2	58	66	120	450	80	215	58.8	64.4	71.6	50	43	35	0.3
68	66.6	69.4	64	72	150	475	90	240	65.6	71.7	79.8	50	48	35	0.25
75	73.5	76.5	70	79	170	500	95	255	73.4	80.2	88.6	50	53	35	0.2

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FIG.1 – THERMAL RESISTANCE FROM JUNCTION TO AMBIENT AS A FUNCTION OF PULSE DURATION.

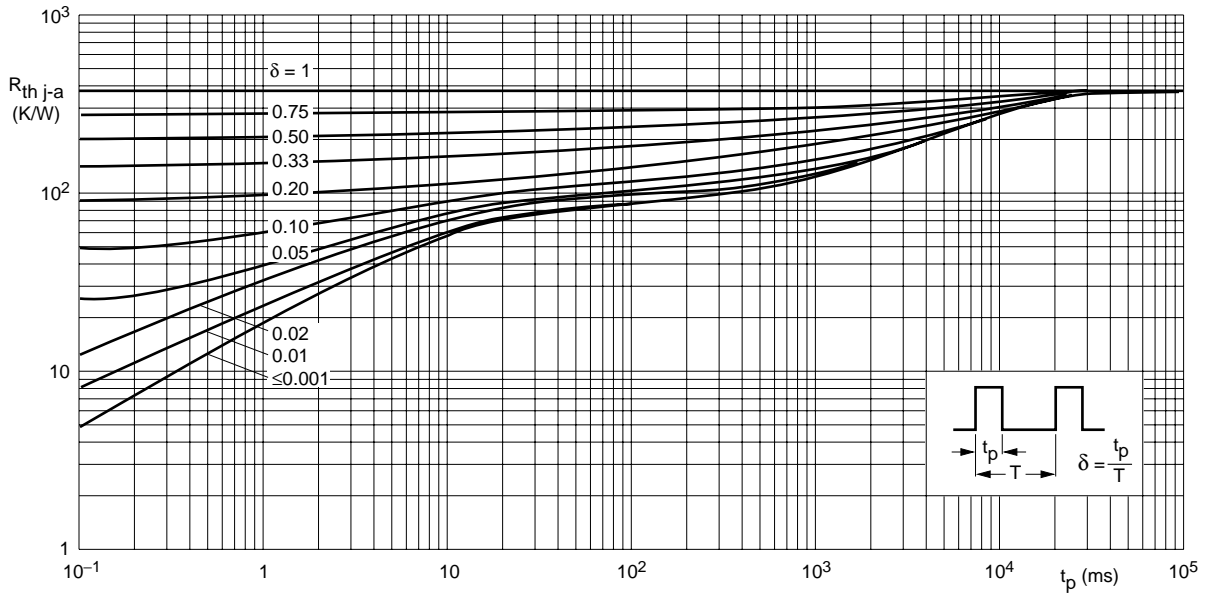


FIG.2 – ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

