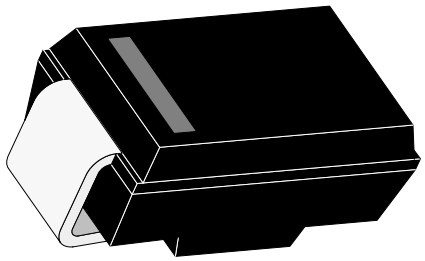
BZG03C10 THRU BZG03C270

Silicon Z–Diodes

Features

- Glass passivated junction
- High reliability
- Voltage range 10V to 270V
- Fits onto 5 mm SMD footpads
- Wave and reflow solderable



Applications

Voltage stabilization

Absolute Maximum Ratings

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	R_{thJA}<25K/W, T_{amb}=100°C		P_V	3	W
	R_{thJA}<100K/W, T_{amb}=50°C		P_V	1.25	W
Non repetitive peak surge power dissipation	t_p=100µs sq.pulse, T_j=25°C prior to surge		P_{ZSM}	600	W
Junction temperature			T_j	175	°C
Storage temperature range			T_{stg}	–65...+150	°C

Maximum Thermal Resistance

T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction lead		R_{thJL}	25	K/W
Junction ambient	mounted on epoxy–glass hard tissue, Fig. 1a	R_{thJA}	150	K/W
	mounted on epoxy–glass hard tissue, Fig. 1b	R_{thJA}	125	K/W
	mounted on Al–oxid–ceramic (Al_2O_3), Fig. 1b	R_{thJA}	100	K/W

Electrical Characteristics

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=0.5A		V_F			1.2	V

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Type BZG03C...	V_Z			r_{zj} and		TK_{VZ} at		I_Z	I_R at	V_R
	V			Ω		%/K		mA	μA	V
	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.		Max.	
10	9.4	10	10.6	2	4	0.05	0.09	50	10	7.5
11	10.4	11	11.6	4	7	0.05	0.10	50	4	8.2
12	11.4	12	12.7	4	7	0.05	0.10	50	3	9.1
13	12.4	13	14.1	5	10	0.05	0.10	50	2	10
15	13.8	15	15.6	5	10	0.05	0.10	50	1	11
16	15.3	16	17.1	6	15	0.06	0.11	25	1	12
18	16.8	18	19.1	6	15	0.06	0.11	25	1	13
20	18.8	20	21.2	6	15	0.06	0.11	25	1	15
22	20.8	22	23.3	6	15	0.06	0.11	25	1	16
24	22.8	24	25.6	7	15	0.06	0.11	25	1	18
27	25.1	27	28.9	7	15	0.06	0.11	25	1	20
30	28	30	32	8	15	0.06	0.11	25	1	22
33	31	33	35	8	15	0.06	0.11	25	1	24
36	34	36	38	21	40	0.06	0.11	10	1	27
39	37	39	41	21	40	0.06	0.11	10	1	30
43	40	43	46	24	45	0.07	0.12	10	1	33
47	44	47	50	24	45	0.07	0.12	10	1	36
51	48	51	54	25	60	0.07	0.12	10	1	39
56	52	56	60	25	60	0.07	0.12	10	1	43
62	58	62	66	25	80	0.08	0.13	10	1	47
68	64	68	72	25	80	0.08	0.13	10	1	51
75	70	75	79	30	100	0.08	0.13	10	1	56
82	77	82	87	30	100	0.08	0.13	10	1	62
91	85	91	96	60	200	0.09	0.13	5	1	68
100	94	100	106	60	200	0.09	0.13	5	1	75
110	104	110	116	80	250	0.09	0.13	5	1	82
120	114	120	127	80	250	0.09	0.13	5	1	91
130	124	130	141	110	300	0.09	0.13	5	1	100
150	138	150	156	130	300	0.09	0.13	5	1	110
160	158	160	171	150	350	0.09	0.13	5	1	120
180	168	180	191	180	400	0.09	0.13	5	1	130
200	188	200	212	200	500	0.09	0.13	5	1	150
220	208	220	233	350	750	0.09	0.13	2	1	160
240	228	240	256	400	850	0.09	0.13	2	1	180
270	251	270	289	450	1000	0.09	0.13	2	1	200

Characteristics (T_j = 25°C unless otherwise specified)

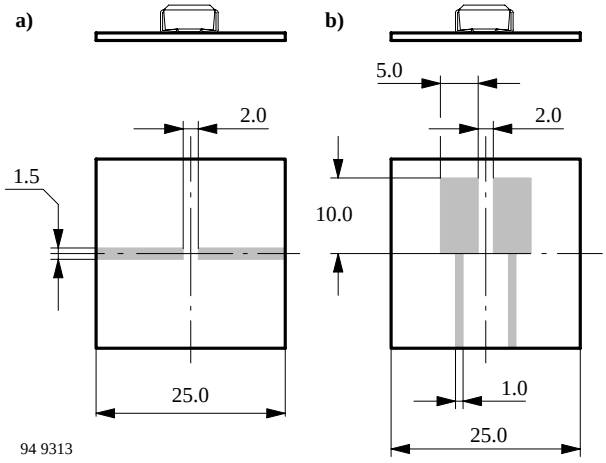

Figure 1. Boards for R_{thJA} definition (copper overlay 35µ)

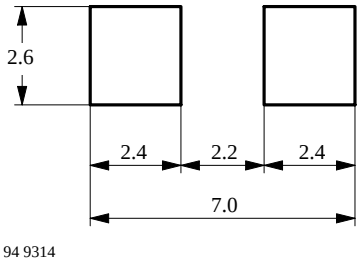

Figure 2. Recommended foot pads (in mm)

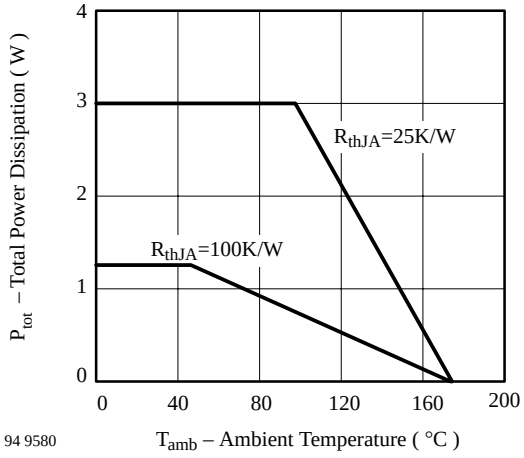

Figure 3. Total Power Dissipation vs. Ambient Temperature

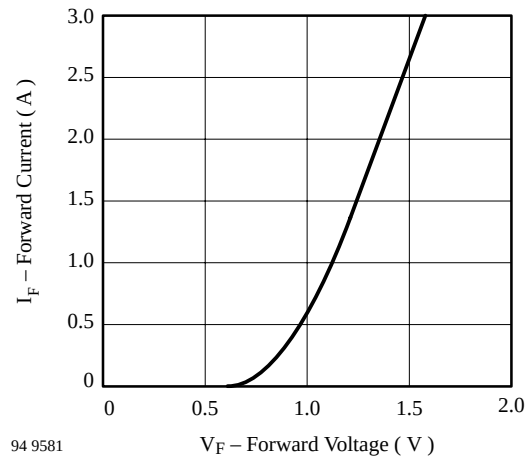

Figure 4. Forward Current vs. Forward Voltage

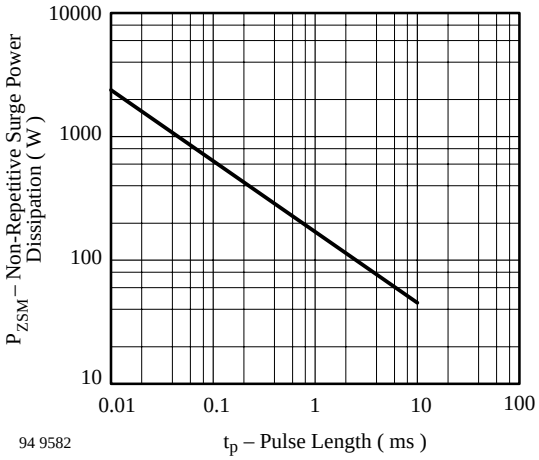

Figure 5. Non Repetitive Surge Power Dissipation vs. Pulse Length

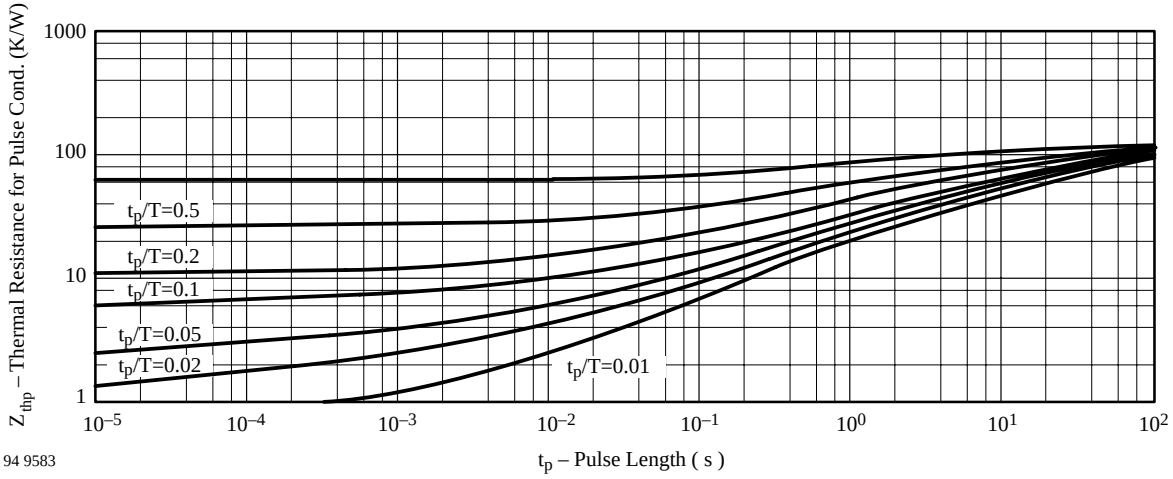

Figure 6. Thermal Response

Dimensions in mm