



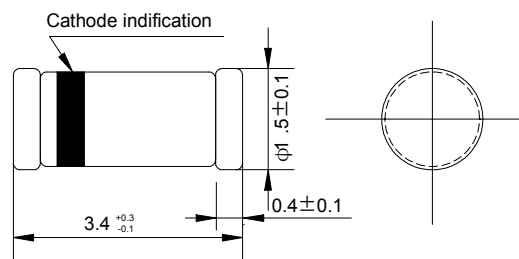
MINI-MELF

Features

- ✧ Small surface mounting type
- ✧ High reliability

Applications

- ✧ Voltage stabilization



Dimensions in millimeters

Construction

- ✧ Silicon epitaxial planar

Absolute Maximum Ratings

$T_j=25^{\circ}\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$R_{thJA} \leq 300\text{K/W}$		P_V	500	mW
Z-current			I_Z	P_V/V_Z	mA
Junction temperature			T_j	175	$^{\circ}\text{C}$
Storage temperature range			T_{stg}	-65~+175	$^{\circ}\text{C}$

Maximum Thermal Resistance

$T_j=25^{\circ}\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	on PC board 50mm × 50mm × 1.6mm	R_{thJA}	500	K/W

Electrical Characteristics

$T_j=25^{\circ}\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=200\text{mA}$		V_F			1.5	V

BZM55C Series

Zener Diodes

Type	V _{Znom}	I _{ZT}	for V _{ZT} and	r _{ZT}	r _{ZK} at	I _{ZK}	I _R and	I _R at	V _R	TK _{VZ}
BZM55C	V	mA	V ¹⁾	Ω	Ω	mA	μA	μA ²⁾	V	%/K
2V0	2.0	5	1.9~2.1	100	<600	1	<150	<300	1	-0.09~-0.06
2V2	2.2	5	2.09~2.31	100	<600	1	<150	<300	1	-0.09~-0.06
2V4	2.4	5	2.28~2.56	<85	<600	1	<50	<100	1	-0.09~-0.06
2V7	2.7	5	2.5~2.9	<85	<600	1	<10	<50	1	-0.09~-0.06
3V0	3.0	5	2.8~3.2	<85	<600	1	<4	<40	1	-0.08~-0.05
3V3	3.3	5	3.1~3.5	<85	<600	1	<2	<40	1	-0.08~-0.05
3V6	3.6	5	3.4~3.8	<85	<600	1	<2	<40	1	-0.08~-0.05
3V9	3.9	5	3.7~4.1	<85	<600	1	<2	<40	1	-0.08~-0.05
4V3	4.3	5	4.0~4.6	<75	<600	1	<1	<20	1	-0.06~-0.03
4V7	4.7	5	4.4~5.0	<60	<600	1	<0.5	<10	1	-0.05~+0.02
5V1	5.1	5	4.8~5.4	<35	<550	1	<0.1	<2	1	-0.02~+0.02
5V6	5.6	5	5.2~6.0	<25	<450	1	<0.1	<2	1	-0.05~+0.05
6V2	6.2	5	5.8~6.6	<10	<200	1	<0.1	<2	2	0.03~0.06
6V8	6.8	5	6.4~7.2	<8	<150	1	<0.1	<2	3	0.03~0.07
7V5	7.5	5	7.0~7.9	<7	<50	1	<0.1	<2	5	0.03~0.07
8V2	8.2	5	7.7~8.7	<7	<50	1	<0.1	<2	6.2	0.03~0.08
9V1	9.1	5	8.5~9.6	<10	<50	1	<0.1	<2	6.8	0.03~0.09
10	10	5	9.4~10.6	<15	<70	1	<0.1	<2	7.5	0.03~0.1
11	11	5	10.4~11.6	<20	<70	1	<0.1	<2	8.2	0.03~0.11
12	12	5	11.4~12.7	<20	<90	1	<0.1	<2	9.1	0.03~0.11
13	13	5	12.4~14.1	<26	<110	1	<0.1	<2	10	0.03~0.11
15	15	5	13.8~15.6	<30	<110	1	<0.1	<2	11	0.03~0.11
16	16	5	15.3~17.1	<40	<170	1	<0.1	<2	12	0.03~0.11
18	18	5	16.8~19.1	<50	<170	1	<0.1	<2	13	0.03~0.11
20	20	5	18.8~21.2	<55	<220	1	<0.1	<2	15	0.03~0.11
22	22	5	20.8~23.3	<55	<220	1	<0.1	<2	16	0.04~0.12
24	24	5	22.8~25.6	<80	<220	1	<0.1	<2	18	0.04~0.12
27	27	5	25.1~28.9	<80	<220	1	<0.1	<2	20	0.04~0.12
30	30	5	28~32	<80	<220	1	<0.1	<2	22	0.04~0.12
33	33	5	31~35	<80	<220	1	<0.1	<2	24	0.04~0.12
36	36	5	34~38	<80	<220	1	<0.1	<2	27	0.04~0.12
39	39	2.5	37~41	<90	<500	0.5	<0.1	<5	30	0.04~0.12
43	43	2.5	40~46	<90	<600	0.5	<0.1	<5	33	0.04~0.12
47	47	2.5	44~50	<110	<700	0.5	<0.1	<5	36	0.04~0.12
51	51	2.5	48~54	<125	<700	0.5	<0.1	<10	39	0.04~0.12
56	56	2.5	52~60	<135	<1000	0.5	<0.1	<10	43	0.04~0.12
62	62	2.5	58~66	<150	<1000	0.5	<0.1	<10	47	0.04~0.12
68	68	2.5	64~72	<200	<1000	0.5	<0.1	<10	51	0.04~0.12
75	75	2.5	70~79	<250	<1500	0.5	<0.1	<10	56	0.04~0.12

¹⁾ Tighter tolerances available request:

BZM5C... ±5% of V_{Znom}

BZM5B ... ±2% of V_{Znom}

²⁾ at T_J=150°C

Characteristics ($T_j=25^\circ\text{C}$ unless otherwise specified)

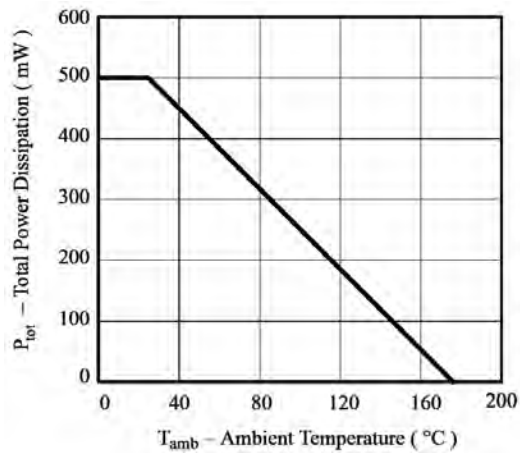


Figure 1. Total Power Dissipation vs. Ambient Temperature

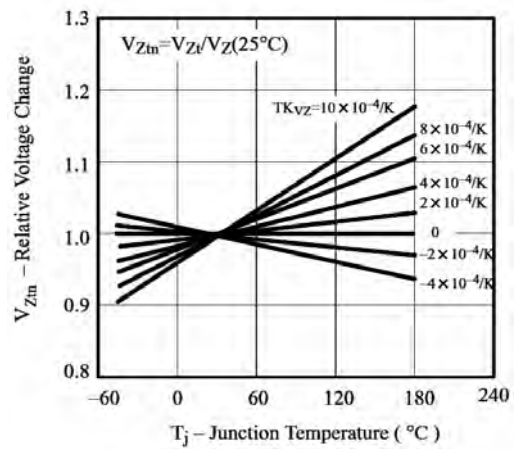


Figure 4. Typical Change of Working Voltage Vs. Junction Temperature

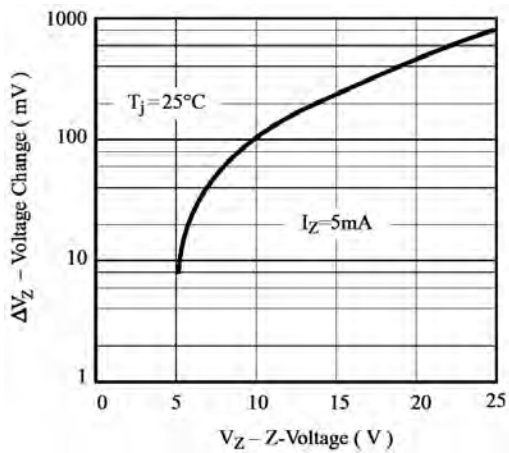


Figure 2. Typical Change of Working Voltage under Operating Conditions at $T_{\text{amb}}=25^\circ\text{C}$

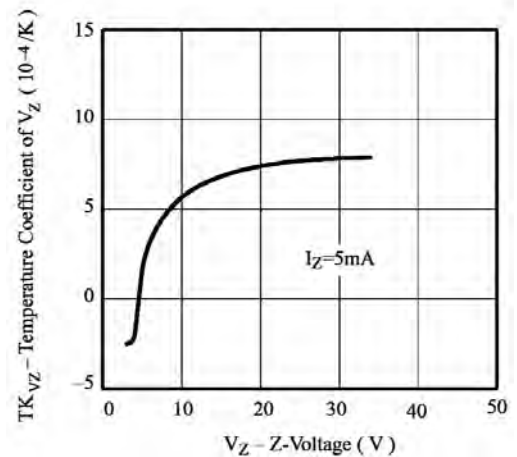


Figure 5. Temperature Coefficient of V_Z vs. Z-Voltage

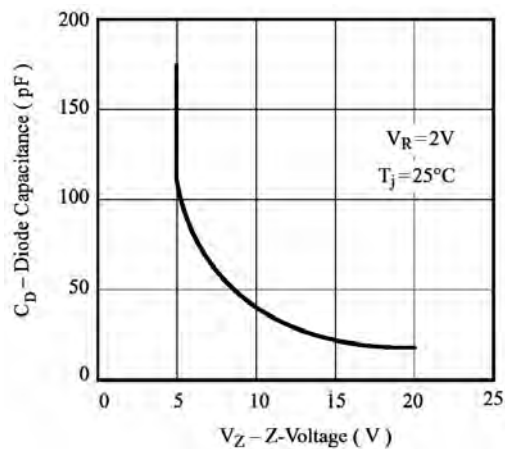


Figure 3. Diode Capacitance vs. Z-voltage

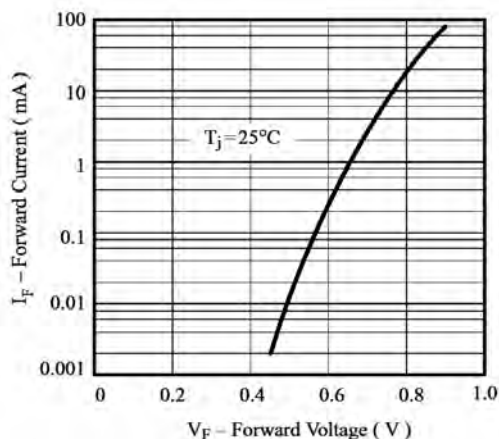


Figure 6. Forward Current vs. Forward Voltage

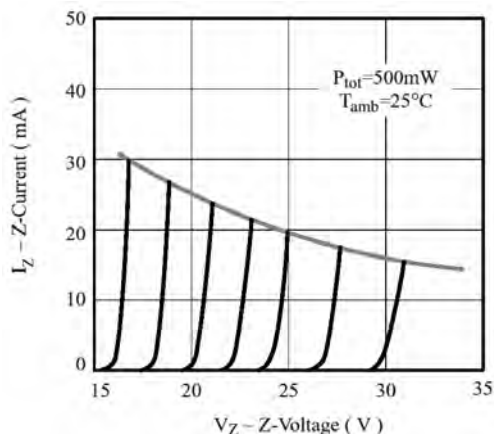


Figure 8. Z-Current vs. Z-Voltage

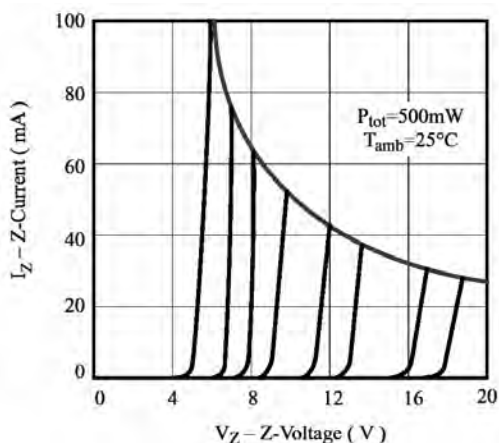


Figure 7. Z-Current vs. Z-Voltage

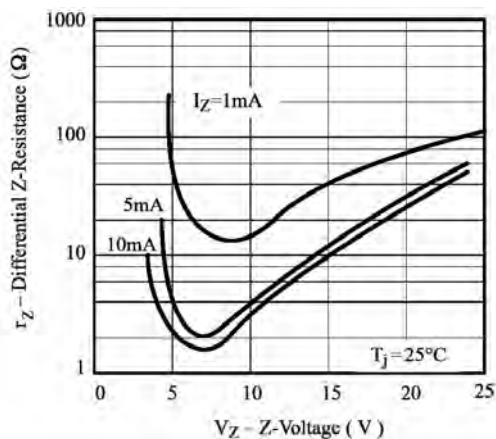


Figure 9. Differential Z-Resistance vs. Z-Voltage

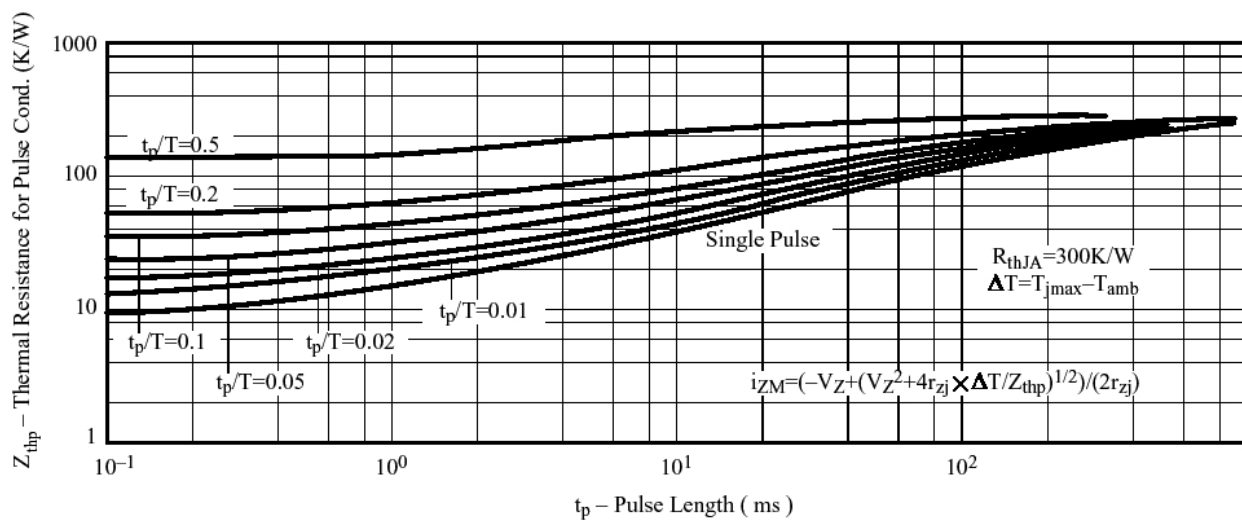


Figure 10. Thermal Response