

### Surface Mount Zener Diodes

**(Pb)** Lead(Pb)-Free

#### Features:

- \*500mw Power Dissipation
- \*General Purpose , Medium Current
- \*Ideal for Surface Mounted Application

#### Mechanical Data:

- \*Case : MINI-MELF Glass Case (SOD-80)
- \*Weight : Approx 0.05 gram

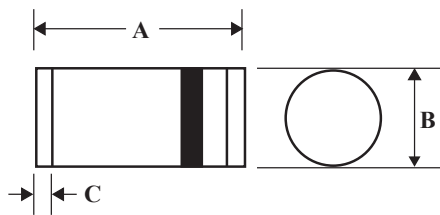
**SMALL SIGNAL  
ZENER DIODES  
0.5 WATTS**



**MINI-MELF**

### MINI-MELF Outline Dimensions

Unit:mm



MINI MELF		
Dim	Min	Max
A	3.30	3.70
B	1.30	1.60
C	0.28	0.50

**Maximum Ratings and Electrical Characteristics** (TA=25 °C Unless Otherwise Noted)

<b>Characteristics</b>	<b>Symbol</b>	<b>Value</b>	<b>Unit</b>
Power Dissipation	PD	500	mW
Thermal Resistance Junction to Ambient <sup>(1)</sup>	R $\theta$ JA	500	K/W
Forward Voltage @ IF=200mA	VF	1.5	V
Operation and Storage Temperature Range	Tj,TSTG	-65 to+175	°C

NOTES:1. On PC board 50 mmx50mmx1.6mm

## Electrical Characteristics (T<sub>A</sub>=25 °C unless otherwise noted, V<sub>F</sub>=1.5 V Max. @I<sub>F</sub>=200mA for all types)

Part Number	Zener Voltage(Note1)			Max ,Reverse Leakage Current		Max, Zener Impedance			Typical Temperature Coefficient	
	V <sub>Z</sub>			@I <sub>ZT</sub>	I <sub>R</sub> @V <sub>R</sub>		Γ <sub>ZjT</sub> @I <sub>ZT</sub>	Γ <sub>ZjK</sub> @I <sub>ZK</sub>	TK <sub>Vz</sub>	
	Nom (V)	Min (V)	Max (V)	(mA)	(μA)	(V)	(Ω)	(Ω)	(mA)	% / K
ZMM55C2V4	2.4	2.28	2.56	5	<50	1.0	<85	<600	1	-0.09~-0.06
ZMM55C2V7	2.7	2.5	2.9	5	<10	1.0	<85	<600	1	-0.09~-0.06
ZMM55C3V0	3.0	2.8	3.2	5	<4	1.0	<90	<600	1	-0.08~-0.05
ZMM55C3V3	3.3	3.1	3.5	5	<2	1.0	<90	<600	1	-0.08~-0.05
ZMM55C3V6	3.6	3.4	3.8	5	<2	1.0	<90	<600	1	-0.08~-0.05
ZMM55C3V9	3.9	3.7	4.1	5	<2	1.0	<90	<600	1	-0.08~-0.05
ZMM55C4V3	4.3	4.0	4.6	5	<1	1.0	<90	<600	1	-0.06~-0.03
ZMM55C4V7	4.7	4.4	5.0	5	<0.5	1.0	<80	<600	1	-0.05~+0.02
ZMM55C5V1	5.1	4.8	5.4	5	<0.1	1.0	<60	<550	1	-0.02~+0.02
ZMM55C5V6	5.6	5.2	6.0	5	<0.1	1.0	<40	<450	1	-0.05~+0.05
ZMM55C6V2	6.2	5.8	6.6	5	<0.1	2.0	<10	<200	1	0.03~0.06
ZMM55C6V8	6.8	6.4	7.2	5	<0.1	3.0	<8	<150	1	0.03~0.07
ZMM55C7V5	7.5	7.0	7.9	5	<0.1	5.0	<7	<50	1	0.03~0.07
ZMM55C8V2	8.2	7.7	8.7	5	<0.1	6.2	<7	<50	1	0.03~0.08
ZMM55C9V1	9.1	8.5	9.6	5	<0.1	6.8	<10	<50	1	0.03~0.09
ZMM55C10	10	9.4	10.6	5	<0.1	7.5	<15	<70	1	0.03~0.10
ZMM55C11	11	10.4	11.6	5	<0.1	8.2	<20	<70	1	0.03~0.11
ZMM55C12	12	11.4	12.7	5	<0.1	9.1	<20	<90	1	0.03~0.11
ZMM55C13	13	12.4	14.1	5	<0.1	10	<26	<110	1	0.03~0.11
ZMM55C15	15	13.8	15.6	5	<0.1	11	<30	<110	1	0.03~0.11
ZMM55C16	16	15.3	17.1	5	<0.1	12	<40	<170	1	0.03~0.11
ZMM55C18	18	16.8	19.1	5	<0.1	13	<50	<170	1	0.03~0.11
ZMM55C20	20	18.8	21.2	5	<0.1	15	<55	<220	1	0.03~0.11
ZMM55C22	22	20.8	23.3	5	<0.1	16	<55	<220	1	0.04~0.12
ZMM55C24	24	22.8	25.6	5	<0.1	18	<80	<220	1	0.04~0.12
ZMM55C27	27	25.1	28.9	5	<0.1	20	<80	<220	1	0.04~0.12
ZMM55C30	30	28	32	5	<0.1	22	<80	<220	1	0.04~0.12
ZMM55C33	33	31	35	5	<0.1	24	<80	<220	1	0.04~0.12
ZMM55C36	36	34	38	5	<0.1	27	<80	<220	1	0.04~0.12
ZMM55C39	39	37	41	2.5	<0.1	30	<90	<500	0.5	0.04~0.12
ZMM55C43	43	40	46	2.5	<0.1	33	<90	<600	0.5	0.04~0.12
ZMM55C47	47	44	50	2.5	<0.1	36	<110	<700	0.5	0.04~0.12
ZMM55C51	51	48	54	2.5	<0.1	39	<125	<700	0.5	0.04~0.12
ZMM55C56	56	52	60	2.5	<0.1	43	<135	<1000	0.5	0.04~0.12
ZMM55C62	62	58	66	2.5	<0.1	47	<150	<1000	0.5	0.04~0.12
ZMM55C68	68	64	72	2.5	<0.1	51	<200	<1000	0.5	0.04~0.12
ZMM55C75	75	70	79	2.5	<0.1	56	<250	<1500	0.5	0.04~0.12

NOTE:

1. Zener voltage is measured with a pulse test current I<sub>Z</sub> at an ambient temperature of 25 °C
2. Zener Voltage Tolerance Suffix "ZMM55C" For: 5%

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

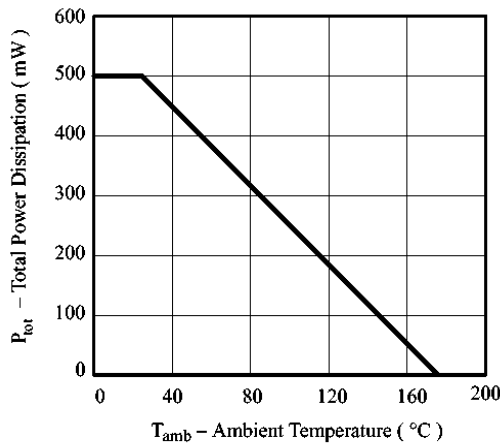


Figure 1. Total Power Dissipation vs. Ambient Temperature

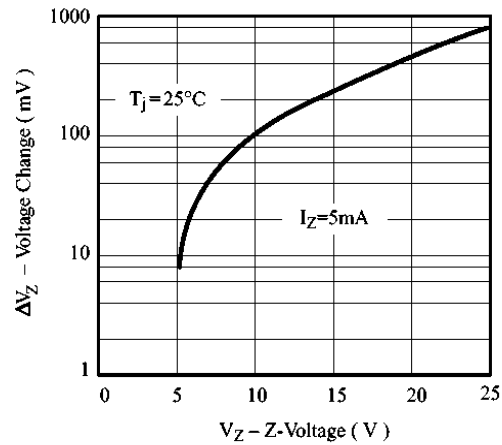


Figure 2. Typical Change of Working Voltage under Operating Conditions at  $T_{amb}=25^\circ\text{C}$

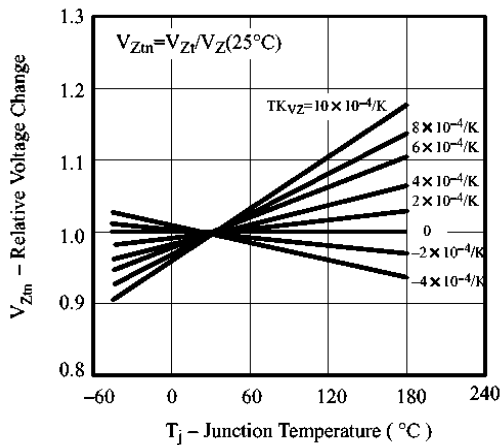


Figure 3. Typical Change of Working Voltage vs. Junction Temperature

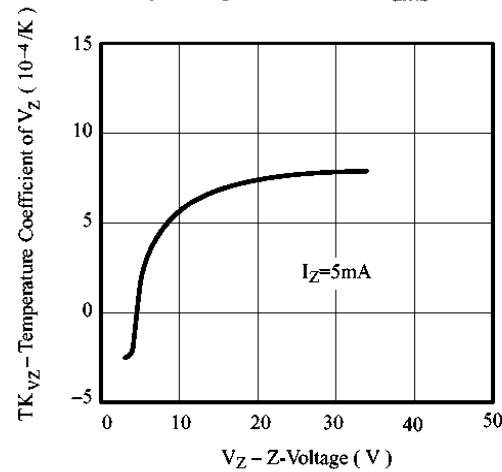


Figure 4. Temperature Coefficient of  $V_Z$  vs. Z-Voltage

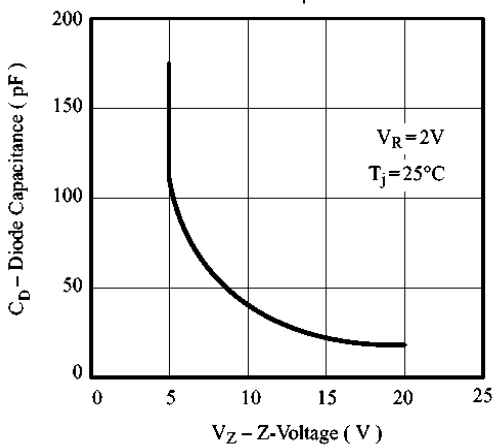


Figure 5. Diode Capacitance vs. Z-Voltage