

## Surface Mount Zener Diodes

### 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

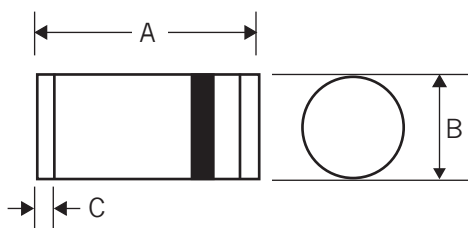
**SMALL SIGNAL  
ZENER DIODES  
0.5 WATTS**



**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 TA=75 °C <sup>(1)</sup>	PD	500	mW
Thermal Resistance Junction to Ambient Air <sup>(1)</sup>	R $\theta$ JA	300	°C/W
Forward Voltage @ IF=200mA	VF	1.1	V
Operation and Storage Temperature Range	Tj,TSTG	-65 to+175	°C

NOTES:1.Valid Provided that Electrodes are Kept at Ambient Temperature.

**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted,  $V_F=1.1\text{ V Max.}$  @ $I_F=200\text{mA}$  for all types)

Part Number	Zener Voltage(Note1)			Max ,Reverse Leakage Current		Max, Zener Impedance		Typical Temperature Coefficient	
	Vz			@I <sub>ZT</sub>	I <sub>R</sub> @V <sub>R</sub>		Z <sub>ZT</sub> @I <sub>ZT</sub>		T <sub>c</sub>
	Nom (V)	Min (V)	Max (V)	(mA)	( $\mu\text{A}$ )	(V)	( $\Omega$ )	(mA)	% / $^{\circ}\text{C}$
ZMM5221B	2.4	2.28	2.52	20	100	1.0	30	20	-0.085
ZMM5222B	2.5	2.38	2.63	20	100	1.0	30	20	-0.085
ZMM5223B	2.7	2.57	2.84	20	75	1.0	30	20	-0.085
ZMM5224B	2.8	2.66	2.94	20	75	1.0	30	20	-0.085
ZMM5225B	3.0	2.85	3.15	20	50	1.0	29	20	-0.075
ZMM5226B	3.3	3.14	3.47	20	25	1.0	28	20	-0.070
ZMM5227B	3.6	3.42	3.78	20	15	1.0	24	20	-0.065
ZMM5228B	3.9	3.71	4.10	20	10	1.0	23	20	-0.060
ZMM5229B	4.3	4.09	4.52	20	5.0	1.0	22	20	-0.055
ZMM5230B	4.7	4.47	4.94	20	5.0	2.0	19	20	$\pm 0.030$
ZMM5231B	5.1	4.85	5.36	20	5.0	2.0	17	20	$\pm 0.030$
ZMM5232B	5.6	5.32	5.88	20	5.0	3.0	11	20	+0.038
ZMM5233B	6.0	5.70	6.30	20	5.0	3.5	7.0	20	+0.038
ZMM5234B	6.2	5.89	6.51	20	5.0	4.0	7.0	20	+0.045
ZMM5235B	6.8	6.46	7.14	20	3.0	5.0	5.0	20	+0.050
ZMM5236B	7.5	7.13	7.88	20	3.0	6.0	6.0	20	+0.058
ZMM5237B	8.2	7.79	8.61	20	3.0	6.5	8.0	20	+0.062
ZMM5238B	8.7	8.27	9.14	20	3.0	6.5	8.0	20	+0.065
ZMM5239B	9.1	8.65	9.56	20	3.0	7.0	10	20	+0.068
ZMM5240B	10	9.50	10.50	20	3.0	8.0	17	20	+0.075
ZMM5241B	11	10.45	11.55	20	2.0	8.4	22	20	+0.076
ZMM5242B	12	11.40	12.60	20	1.0	9.1	30	20	+0.077
ZMM5243B	13	12.35	13.65	9.5	0.5	9.9	13	9.5	+0.079
ZMM5244B	14	13.30	14.70	9.0	0.1	10	15	9.0	+0.082
ZMM5245B	15	14.24	15.75	8.5	0.1	11	16	8.5	+0.082
ZMM5246B	16	15.20	16.80	7.8	0.1	12	17	7.8	+0.083
ZMM5247B	17	16.15	17.85	7.4	0.1	13	19	7.4	+0.084
ZMM5248B	18	17.10	18.90	7.0	0.1	14	21	7.0	+0.085
ZMM5249B	19	18.05	19.95	6.6	0.1	14	23	6.6	+0.086
ZMM5250B	20	19.00	21.00	6.2	0.1	15	25	6.2	+0.086
ZMM5251B	22	20.90	23.010	5.6	0.1	17	29	5.6	+0.087
ZMM5252B	24	22.80	25.20	5.2	0.1	18	33	5.2	+0.087
ZMM5253B	25	23.75	26.25	5.0	0.1	19	35	5.0	+0.089
ZMM5254B	27	25.65	28.35	4.6	0.1	21	41	4.6	+0.090
ZMM5255B	28	26.60	29.40	4.5	0.1	21	44	4.5	+0.091
ZMM5256B	30	28.50	31.50	4.2	0.1	23	49	4.2	+0.091
ZMM5257B	33	31.35	34.65	3.8	0.1	25	58	3.8	+0.092
ZMM5258B	36	34.20	37.80	3.4	0.1	27	70	3.4	+0.093
ZMM5259B	39	37.05	40.95	3.2	0.1	30	80	3.2	+0.094
ZMM5260B	43	40.85	45.15	3.0	0.1	33	93	3.0	+0.095
ZMM5261B	47	44.65	49.35	2.7	0.1	36	105	2.7	+0.095
ZMM5262B	51	48.45	53.55	2.5	0.1	39	125	2.5	+0.096

1. Zener voltage is measured with a pulse test current  $I_Z$  at an ambient temperture of  $25^{\circ}\text{C}$
2. Zenner Voltage Tolerance Suffix "B" For  $\pm 5\%$

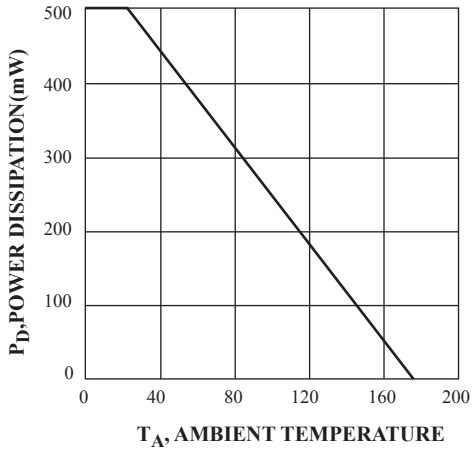


FIG 1, Power Dissipation vs Ambient Temperature

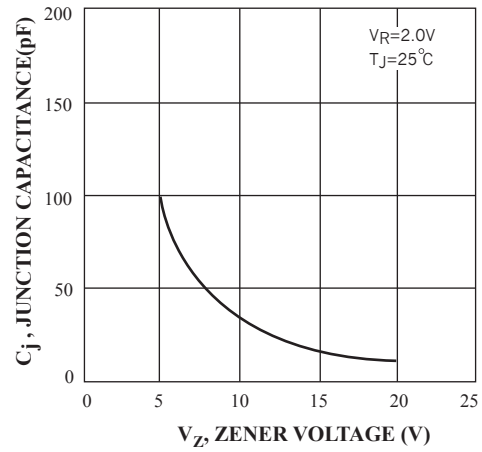


Fig 2., Junction Capacitance vs Zener Voltage

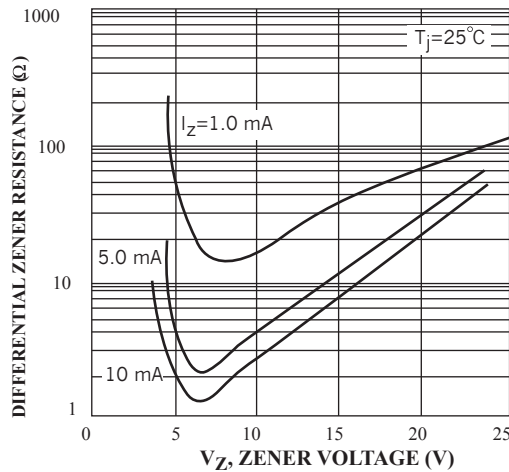


FIG 3, DIFFERENTIAL ZENER IMPEDANCE

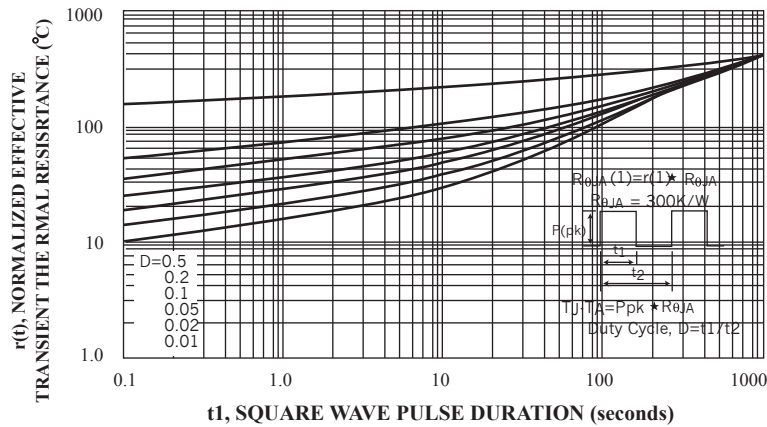


Fig 4, Typical Normalized Transient Thermal Impedance Curves