

DATA SHEET

ZMM5221B SERIES

SURFACE MOUNT ZENER DIODE

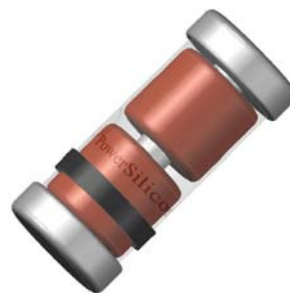
VOLTAGE 2.4~75 Volts **POWER** 500 mW

FEATURES

- PLANAR DIE CONSTRUCTION
- 500mW POWER DISSIPATION
- IDEALLY SUITED FOR AUTOMATED ASSEMBLY PROCESSES
- LEAD FREE AND HALOGEN FREE

MECHANICAL DATA

- CASE:MOLDED GLASS MINI-MELF
- TERMINALS:SOLDERABLE PER MIL-STD-202E, METHOD 208
- POLARITY:SEE DIAGRAM BELOW
- APPROX.WEIGHT:0.02 GRAMS
- MOUNTING POSITION:ANY
- PACKING INFORMATION
T/R-2.5K PER 7" PLASTIC REEL



CASE : MINI-MELF

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED.

PARAMETER	SYMBOL	VALUE	UNITS
MAXIMUM POWER DISSIPATION AT 25°C	P_D	500	mW
JUNCTION TEMPERATURE	T_J	175	°C
STORAGE TEMPERATURE RANGE	T_{STG}	-55 TO +175	°C

VALID PROVIDED THAT LEADS AT DISTANCE OF 10mm FROM CASE ARE KEPT AT AMBIENT TEMPERATURE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS
THERMAL RESISTANCE JUNCTION TO AMBIENT/AIR	$R_{\theta JA}$	-	-	300	°C/W
FORWARD VOLTAGE AT $I_F=100mA$	V_F	-	-	1	V

VALID PROVIDED THAT LEADS AT DISTANCE OF 8mm FROM CASE ARE KEPT AT AMBIENT TEMPERATURE

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
	$V_Z @ I_{ZT}$			$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V
500 mWatts Zener Diodes									
ZMM5221B	2.4	2.28	2.52	30	20.0	1200	0.25	100	1.0
ZMM5222B	2.5	2.38	2.63	30	20.0	1250	0.25	100	1.0
ZMM5223B	2.7	2.57	2.84	30	20.0	1300	0.25	75	1.0
ZMM5224B	2.8	2.66	2.94	30	20.0	1400	0.25	75	1.0
ZMM5225B	3.0	2.85	3.15	29	20.0	1600	0.25	50	1.0
ZMM5226B	3.3	3.14	3.47	28	20.0	1600	0.25	25	1.0
ZMM5227B	3.6	3.42	3.78	24	20.0	1700	0.25	15	1.0
ZMM5228B	3.9	3.71	4.10	23	20.0	1900	0.25	10	1.0
ZMM5229B	4.3	4.09	4.52	22	20.0	2000	0.25	5.0	1.0
ZMM5230B	4.7	4.47	4.94	19	20.0	1900	0.25	5.0	2.0
ZMM5231B	5.1	4.85	5.36	17	20.0	1600	0.25	5.0	2.0
ZMM5232B	5.6	5.32	5.88	11	20.0	1600	0.25	5.0	3.0
ZMM5233B	6.0	5.70	6.30	7	20.0	1600	0.25	5.0	3.5
ZMM5234B	6.2	5.89	6.51	7	20.0	1000	0.25	5.0	4.0
ZMM5235B	6.8	6.46	7.14	5	20.0	750	0.25	3.0	5.0
ZMM5236B	7.5	7.13	7.88	6	20.0	500	0.25	3.0	6.0
ZMM5237B	8.2	7.79	8.61	8	20.0	500	0.25	3.0	6.5
ZMM5238B	8.7	8.27	9.15	8	20.0	600	0.25	3.0	6.5
ZMM5239B	9.1	8.65	9.56	10	20.0	600	0.25	3.0	7.0
ZMM5240B	10	9.50	10.50	17	20.0	600	0.25	3.0	8.0
ZMM5241B	11	10.45	11.55	22	20.0	600	0.25	2.0	8.4
ZMM5242B	12	11.40	12.60	30	20.0	600	0.25	1.0	9.1
ZMM5243B	13	12.35	13.65	13	9.5	600	0.25	0.5	9.9
ZMM5244B	14	13.30	14.70	15	9.0	600	0.25	0.1	10.0
ZMM5245B	15	14.25	15.75	16	8.5	600	0.25	0.1	11.0
ZMM5246B	16	15.20	16.80	17	7.8	600	0.25	0.1	12.0
ZMM5247B	17	16.15	17.85	19	7.4	600	0.25	0.1	13.0
ZMM5248B	18	17.10	18.90	21	7.0	600	0.25	0.1	14.0
ZMM5249B	19	18.05	19.95	23	6.6	600	0.25	0.1	14.0
ZMM5250B	20	19.00	21.00	25	6.2	600	0.25	0.1	15.0
ZMM5251B	22	20.90	23.10	29	5.6	600	0.25	0.1	17.0
ZMM5252B	24	22.80	25.20	33	5.2	600	0.25	0.1	18.0
ZMM5253B	25	23.75	26.25	35	5.0	600	0.25	0.1	19.0
ZMM5254B	27	25.65	28.35	41	4.6	600	0.25	0.1	21.0

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
	$V_Z @ I_{ZT}$			$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V
500 mWatts Zener Diodes									
ZMM5255B	28	26.60	29.40	44	4.5	600	0.25	0.1	21.0
ZMM5256B	30	28.50	31.50	49	4.2	600	0.25	0.1	23.0
ZMM5257B	33	31.35	34.65	58	3.8	700	0.25	0.1	25.0
ZMM5258B	36	34.20	37.80	70	3.4	700	0.25	0.1	27.0
ZMM5259B	39	37.05	40.95	80	3.2	800	0.25	0.1	30.0
ZMM5260B	43	40.85	45.15	93	3.0	900	0.25	0.1	33.0
ZMM5261B	47	44.65	49.35	105	2.7	1000	0.25	0.1	36.0
ZMM5262B	51	48.45	53.55	125	2.5	1100	0.25	0.1	39.0
ZMM5263B	56	53.20	58.80	150	2.2	1300	0.25	0.1	43.0
ZMM5264B	60	57.00	63.00	170	2.1	1400	0.25	0.1	46.0
ZMM5265B	62	58.90	65.10	185	2.0	1400	0.25	0.1	47.0
ZMM5266B	68	64.60	72.40	230	1.8	1600	0.25	0.1	52.0
ZMM5267B	75	71.25	78.75	270	1.7	1700	0.25	0.1	56.0

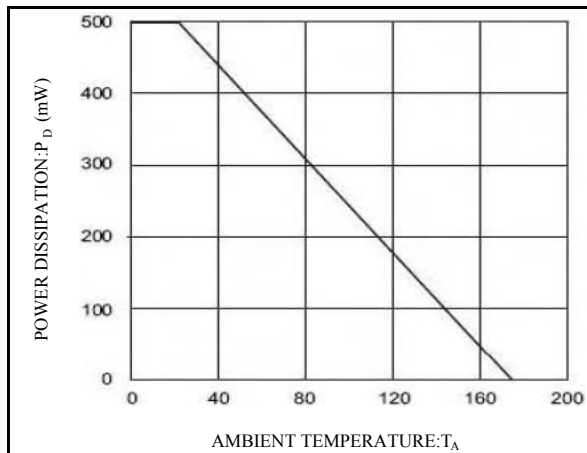


Fig.1-POWER DISSIPATION VS. AMBIENT TEMPERATURE

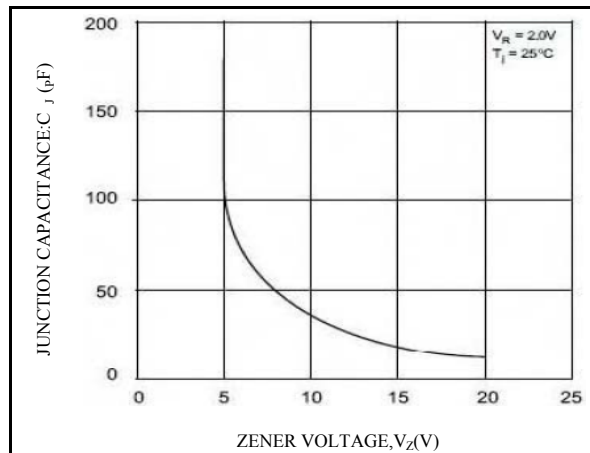


Fig.2-JUNCTION CAPACITANCE VS. ZENER VOLTAGE

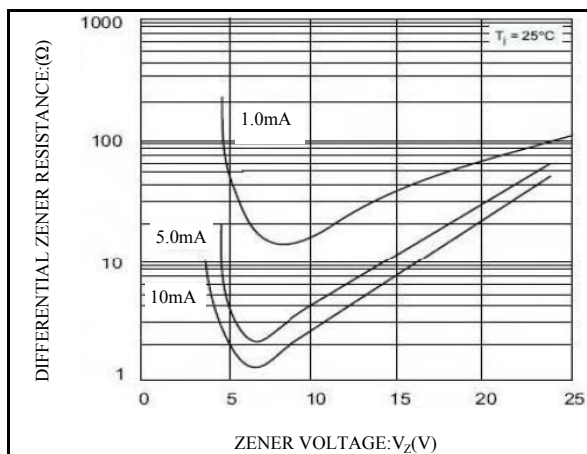


Fig.3-DIFFERENTIAL ZENER IMPEDANCE

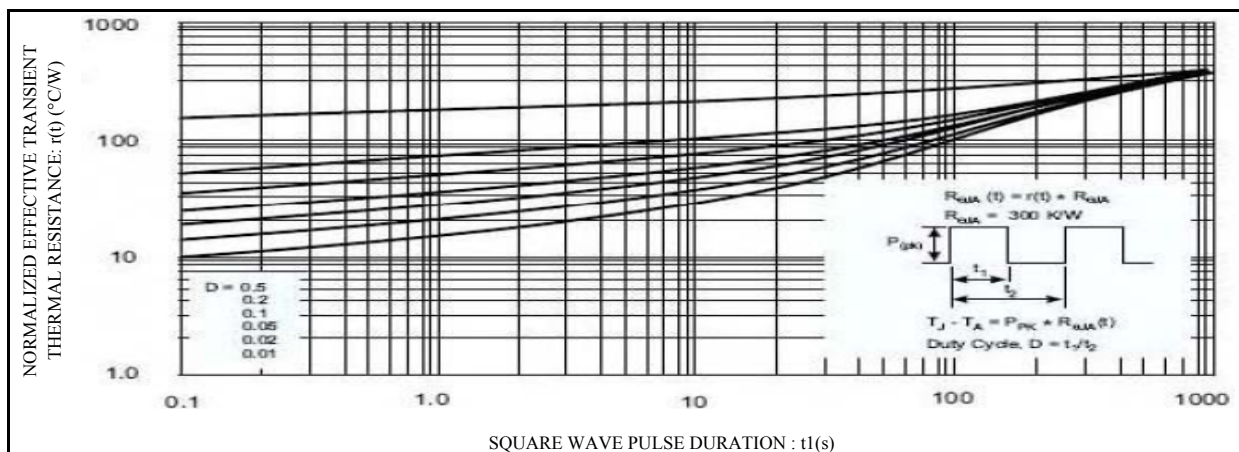
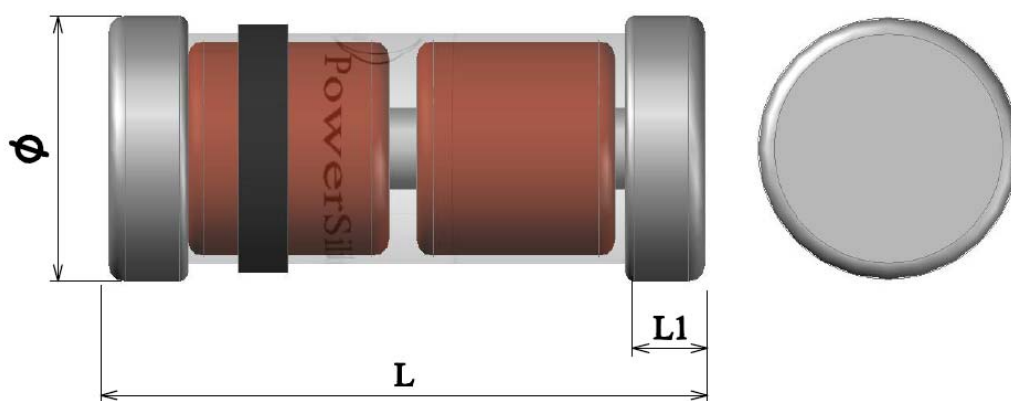


Fig.4-TYPICAL NORMALIZED TRANSIENT THERMAL IMPEDANCE CURVES

MINI-MELF DIMENSION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
L	3.40	3.60	0.134	0.142
L1	0.28	0.48	0.011	0.019
Φ	1.40	1.60	0.055	0.063