



**FRONTIER  
ELECTRONICS CO., LTD.**

**ZMM5221B  
THRU  
ZMM5257B**

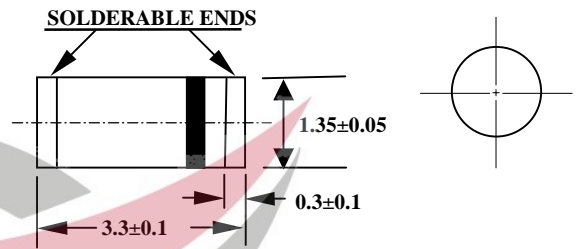
**500mW MINI MELF ZENER DIODE**

**FEATURES**

- LOW COST
- SMALL SIZE
- GLASS SEALED

**MECHANICAL DATA**

- CASE : MINI MELF GLASS CASE
- TERMINALS : SOLDERABLE PER MIL-STD -202, METHOD 208
- POLARITY : COLOR BAND DENOTES CATHODE
- MOUNTING POSITION : ANY
- WEIGHT : 0.036 GRAMS



CASE : DO-213AA (GL34)  
DIMENSIONS IN MILLIMETERS

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**  
RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED  
STORAGE AND OPERATING TEMPERATURE RANGE -55 TO + 175°C

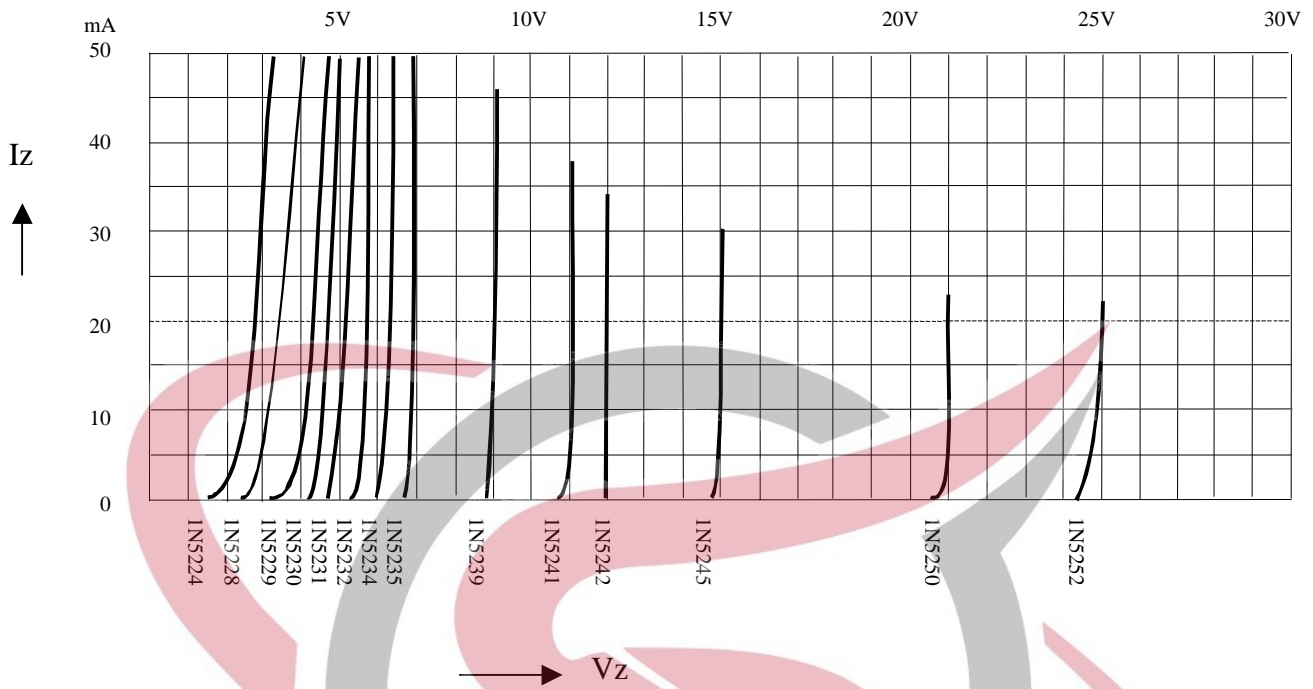
ELECTRICAL CHARACTERISTICS (TA=25°C UNLESS OTHERWISE NOTED) VF=1.2V MAX, IF = 200mA FOR ALL TYPES

JEDEC TYPE NO	NOMINAL ZENER VOLTAGE Vz @ IZT*	TEST CURRENT IZT	MAXIMUM ZENER IMPEDANCE		TYPICAL TEMPERATURE COEFFICIENT	MAXIMUM REVERSE LEAKAGE CURRENT		MAXIMUM REGULATOR CURRENT IZM
			ZzT @ IZT	ZzK AT IZK=0.25mA		IR	TEST VOLTAGE SUFFIX B	
	VOLTS	mA	OHMS	OHMS	% / °C	µA	VOLTAGE	mA
ZMM5221B	2.4	20	30	1200	-0.085	100	1.0	191
ZMM5222B	2.5	20	30	1250	-0.085	100	1.0	182
ZMM5223B	2.7	20	30	1300	-0.080	75	1.0	168
ZMM5224B	2.8	20	30	1400	-0.080	75	1.0	162
ZMM5225B	3.0	20	29	1600	-0.075	50	1.0	151
ZMM5226B	3.3	20	28	1600	-0.070	25	1.0	138
ZMM5227B	3.6	20	24	1700	-0.065	15	1.0	126
ZMM5228B	3.9	20	23	1900	-0.060	10	1.0	115
ZMM5229B	4.3	20	22	2000	±0.055	5	1.0	106
ZMM5230B	4.7	20	19	1900	±0.030	5	2.0	97
ZMM5231B	5.1	20	17	1600	±0.030	5	2.0	89
ZMM5232B	5.6	20	11	1600	+0.038	5	3.0	81
ZMM5233B	6.0	20	7	1600	+0.038	5	3.5	76
ZMM5234B	6.2	20	7	1000	+0.045	5	4.0	73
ZMM5235B	6.8	20	5	750	+0.050	3	5.0	67
ZMM5236B	7.5	20	6	500	+0.058	3	6.0	61
ZMM5237B	8.2	20	8	500	+0.062	3	6.5	55
ZMM5238B	8.7	20	8	600	+0.065	3	6.5	52
ZMM5239B	9.1	20	10	600	+0.068	3	7.0	50
ZMM5240B	10	20	17	600	+0.075	3	8.0	45
ZMM5241B	11	20	22	600	+0.076	2	8.4	41
ZMM5242B	12	20	30	600	+0.077	1	9.1	38
ZMM5243B	13	9.5	13	600	+0.079	0.5	9.9	35
ZMM5244B	14	9.0	15	600	+0.082	0.1	10	32
ZMM5245B	15	8.5	16	600	+0.082	0.1	11	30
ZMM5246B	16	7.8	17	600	+0.083	0.1	12	28
ZMM5247B	17	7.4	19	600	+0.084	0.1	13	27
ZMM5248B	18	7.0	21	600	+0.085	0.1	14	25
ZMM5249B	19	6.6	23	600	+0.086	0.1	14	24
ZMM5250B	20	6.2	25	600	+0.086	0.1	15	23
ZMM5251B	22	5.6	29	600	+0.087	0.1	17	21.2
ZMM5252B	24	5.2	33	600	+0.087	0.1	18	19.1
ZMM5253B	25	5.0	35	600	+0.089	0.1	19	18.2
ZMM5254B	27	4.6	41	600	+0.090	0.1	21	16.8
ZMM5255B	28	4.5	44	600	+0.091	0.1	21	16.2
ZMM5256B	30	4.2	49	600	+0.091	0.1	23	15.1
ZMM5257B	33	3.8	58	700	+0.092	0.1	25	13.8

NOTE: SUFFIX "B" FOR ±5% \*MEASURD WITH PULSE Tp=40ms

# RATINGS AND CHARACTERISTIC CURVES ZMM5221B THRU ZMM5257B

## FIG.1- BREAKDOWN CHARACTERISTICS



## FIG.2- POWER ,TEMPERATURE DERATING CURVE

