



# ZMM5221B~ZMM5266B

## SURFACE MOUNT ZENER DIODES

**VOLTAGE** 2.4 to 68 Volt      **POWER** 500 mWatt

**MINI-MELF / LL34**      Unit : inch(mm)

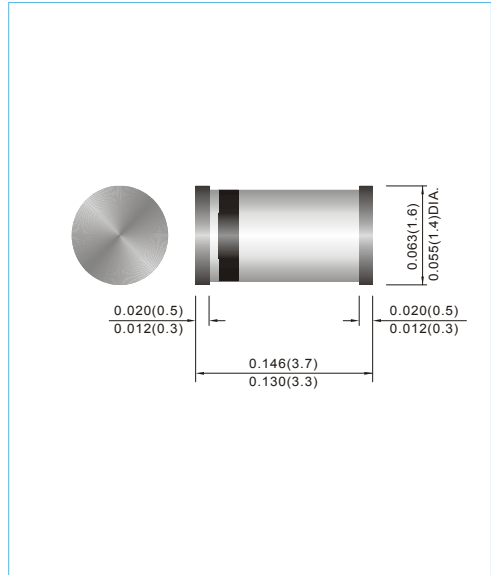
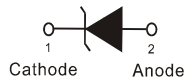
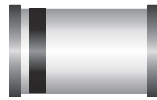
### FEATURES

- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes
- Lead free in compliance with EU RoHS 2.0

### MECHANICAL DATA

- Case: Molded Glass MINI-MELF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.001 ounces, 0.03 grams
- Packing information

T/R - 2.5K per 7" plastic Reel



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Power Dissipation at $T_A = 25^\circ\text{C}$	$P_{TOT}$	500	mW
Operating Junction Temperature Range	$T_J$	-65 to +175	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175	$^\circ\text{C}$

Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	--	--	0.3	$^\circ\text{C}/\text{mW}$
Forward Voltage at $I_F = 200\text{mA}$	$V_F$	--	--	1.1	V

Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.



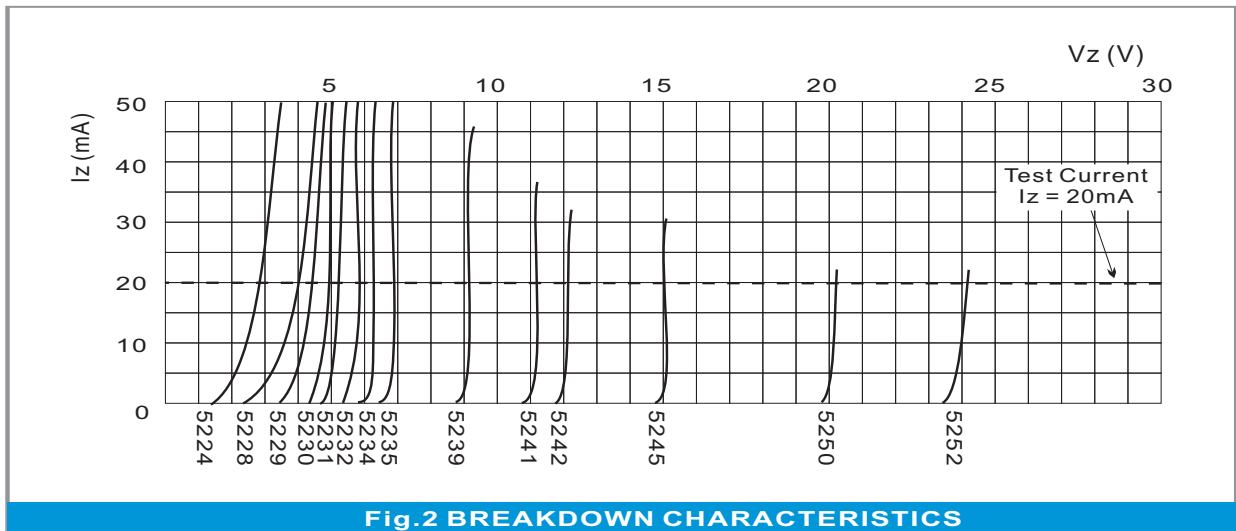
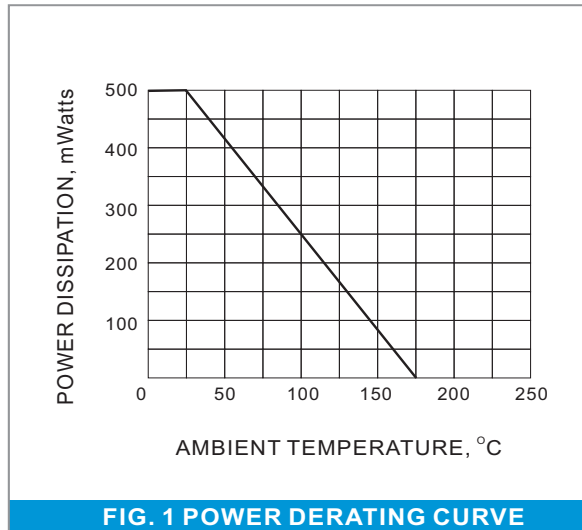
## ZMM5221B~ZMM5266B

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Marking code
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	uA	V	
ZMM5221B	2.4	2.28	2.52	30	20	1200	0.25	100	1	5221
ZMM5222B	2.5	2.38	2.63	30	20	1250	0.25	100	1	5222
ZMM5223B	2.7	2.57	2.84	30	20	1300	0.25	75	1	5223
ZMM5224B	2.8	2.66	2.94	30	20	1400	0.25	75	1	5224
ZMM5225B	3	2.85	3.15	29	20	1600	0.25	50	1	5225
ZMM5226B	3.3	3.14	3.47	28	20	1600	0.25	25	1	5226
ZMM5227B	3.6	3.42	3.78	24	20	1700	0.25	15	1	5227
ZMM5228B	3.9	3.71	4.1	23	20	1900	0.25	10	1	5228
ZMM5229B	4.3	4.09	4.52	22	20	2000	0.25	5	1	5229
ZMM5230B	4.7	4.47	4.94	19	20	1900	0.25	5	2	5230
ZMM5231B	5.1	4.85	5.36	17	20	1600	0.25	5	2	5231
ZMM5232B	5.6	5.32	5.88	11	20	1600	0.25	5	3	5232
ZMM5233B	6.0	5.7	6.3	7	20	1600	0.25	5	3.5	5233
ZMM5234B	6.2	5.89	6.51	7	20	1000	0.25	5	4	5234
ZMM5235B	6.8	6.46	7.14	5	20	750	0.25	3	5	5235
ZMM5236B	7.5	7.13	7.88	6	20	500	0.25	3	6	5236
ZMM5237B	8.2	7.79	8.61	8	20	500	0.25	3	6.5	5237
ZMM5238B	8.7	8.27	9.14	8	20	600	0.25	3	6.5	5238
ZMM5239B	9.1	8.65	9.56	10	20	600	0.25	3	7	5239
ZMM5240B	10	9.5	10.5	17	20	600	0.25	3	8	5240
ZMM5241B	11	10.45	11.55	22	20	600	0.25	2	8.4	5241
ZMM5242B	12	11.4	12.6	30	20	600	0.25	1	9.1	5242
ZMM5243B	13	12.35	13.65	13	9.5	600	0.25	0.5	9.9	5243
ZMM5244B	14	13.3	14.7	15	9	600	0.25	0.1	10	5244
ZMM5245B	15	14.25	15.75	16	8.5	600	0.25	0.1	11	5245
ZMM5246B	16	15.2	16.8	17	7.8	600	0.25	0.1	12	5246
ZMM5247B	17	16.15	17.85	19	7.4	600	0.25	0.1	13	5247
ZMM5248B	18	17.1	18.9	21	7	600	0.25	0.1	14	5248
ZMM5249B	19	18.05	19.95	23	6.6	600	0.25	0.1	14	5249
ZMM5250B	20	19	21	25	6.2	600	0.25	0.1	15	5250
ZMM5251B	22	20.9	23.1	29	5.6	600	0.25	0.1	17	5251
ZMM5252B	24	22.8	25.2	33	5.2	600	0.25	0.1	18	5252
ZMM5253B	25	23.75	26.25	35	5	600	0.25	0.1	19	5253
ZMM5254B	27	25.65	28.35	41	4.6	600	0.25	0.1	21	5254
ZMM5255B	28	26.6	29.4	44	4.5	600	0.25	0.1	21	5255
ZMM5256B	30	28.5	31.5	49	4.2	600	0.25	0.1	23	5256
ZMM5257B	33	31.35	34.65	58	3.8	700	0.25	0.1	25	5257
ZMM5258B	36	34.2	37.8	70	3.4	700	0.25	0.1	27	5258
ZMM5259B	39	37.05	40.95	80	3.2	800	0.25	0.1	30	5259
ZMM5260B	43	40.85	45.15	93	3	900	0.25	0.1	33	5260
ZMM5261B	47	44.65	49.35	150	2.7	1000	0.25	0.1	36	5261
ZMM5262B	51	48.45	53.55	125	2.5	1100	0.25	0.1	39	5262
ZMM5263B	56	53.2	58.8	150	2.2	1300	0.25	0.1	43	5263
ZMM5264B	60	57	63	170	2.1	1400	0.25	0.1	46	5264
ZMM5265B	62	58.9	65.1	185	2	1400	0.25	0.1	47	5265
ZMM5266B	68	64.6	71.4	230	1.8	1600	0.25	0.1	52	5266



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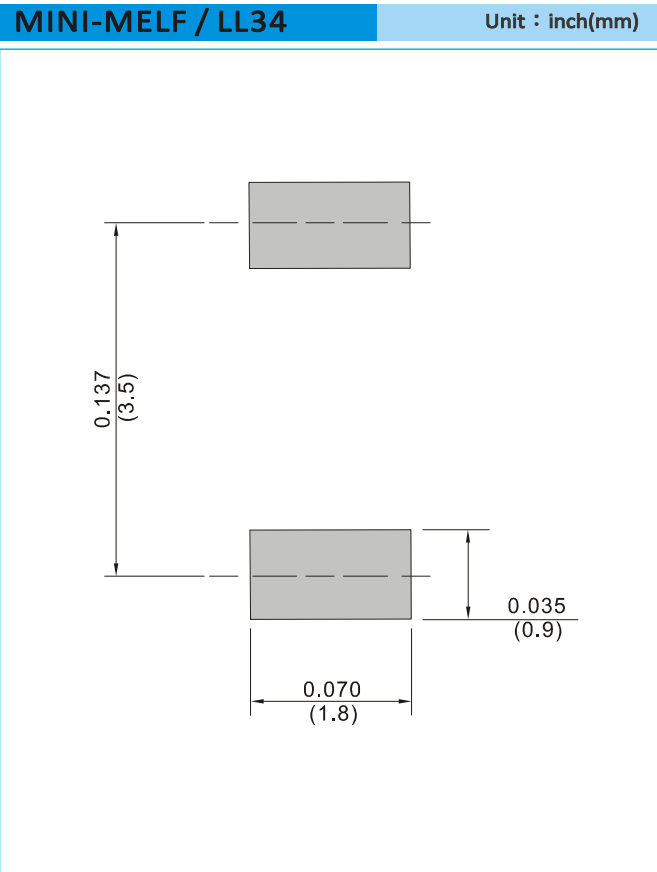
### RATING AND CHARACTERISTIC CURVES





## ZMM5221B~ZMM5266B

### MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information  
T/R - 10K per 13" plastic Reel  
T/R - 2.5K per 7" plastic Reel



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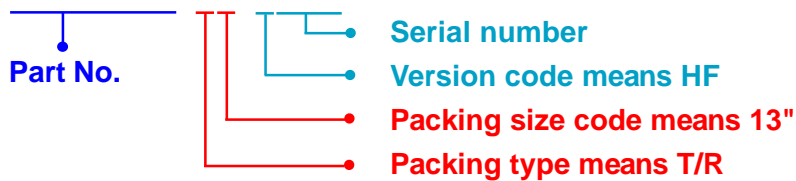
### Part No\_packing code\_Version

ZMM5221B\_R1\_10001

ZMM5221B\_R2\_10001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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