



# ZMM5225 THRU ZMM5262

## SILICON PLANAR ZENER DIODES

### Features

#### Silicon Planar Zener Diodes

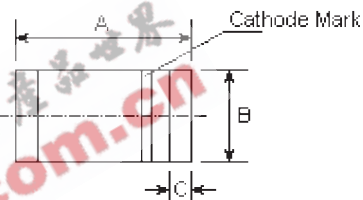
Standard Zener voltage tolerance is  $\pm 20\%$ . Add suffix "A" for  $\pm 10\%$  tolerance and suffix "B" for  $\pm 5\%$  tolerance. Other tolerances, non standard and higher Zener voltages upon request.

These diodes are also available in DO-35 case with the type designation 1N5225 thru 1N5262.

These diodes are delivered typed. Details see "Taping".

Weight approx. : 0.13g

#### MiniMELF



DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.134	0.142	3.4	3.6	
B	0.055	0.059	1.40	1.50	$\phi$
C	0.008	0.016	0.2	0.4	

### Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

	Symbols	Values	Units
Zener current see Table "Characteristics"			
Power dissipation at $T_{amb}=75^\circ\text{C}$	$P_{tot}$	500 <sup>(1)</sup>	mW
Junction temperature	$T_j$	175	$^\circ\text{C}$
Storage temperature range	$T_s$	-65 to +175	$^\circ\text{C}$

Note:

(1) Valid provided that electrodes are kept at ambient temperature.

### Characteristics at $T_{amb}=25^\circ\text{C}$

	Symbols	Min.	Typ.	Max.	Units
Thermal resistance junction to ambient Air	$R_{thA}$	-	-	0.3 <sup>(1)</sup>	K/mW
Forward voltage at $I_F=200\text{mA}$	$V_F$	-	-	1.1	V

Note:

(1) Valid provided that electrodes are kept at ambient temperature.

Type	Nominal Zener voltage <sup>3)</sup>	Test current	Maximum Zener Impedance <sup>1)</sup>		Maximum reverse leakage current			Maximum regulator current <sup>2)</sup>	Typical temperature coefficient
	at $I_{ZT}$ $V_{ZT}$	$I_{ZT}$	at $I_{ZT}$ $Z_{ZT}$	at $I_{ZK}=0.25mA$ $Z_{ZK}$	$I_R$	Test voltage Suffix A      Suffix B		$I_{ZM}$	$\alpha_{VZ}$
	V	mA	$\Omega$	$\Omega$	$\mu A$	$V_R$ V	$V_R$ V	mA	%/K
ZMM5225	3.0	20	29	1600	50	0.95	1.0	152	-0.075
ZMM5226	3.3	20	28	1600	25	0.95	1.0	138	-0.070
ZMM5227	3.6	20	24	1700	15	0.95	1.0	126	-0.065
ZMM5228	3.9	20	23	1900	10	0.95	1.0	115	-0.060
ZMM5229	4.3	20	22	2000	5	0.95	1.0	106	-0.055
ZMM5230	4.7	20	19	1900	5	1.9	2.0	97	$\pm 0.030$
ZMM5231	5.1	20	17	1600	5	1.9	2.0	89	$\pm 0.030$
ZMM5232	5.6	20	11	1600	5	2.9	3.0	81	+0.038
ZMM5233	6.0	20	7	1600	5	3.3	3.5	76	+0.038
ZMM5234	6.2	20	7	1000	5	3.8	4.0	73	+0.045
ZMM5235	6.8	20	5	750	3	4.8	5.0	67	+0.050
ZMM5236	7.5	20	6	500	3	5.7	6.0	61	+0.058
ZMM5237	8.2	20	8	500	3	6.2	6.5	55	+0.062
ZMM5238	8.7	20	8	600	3	6.2	6.5	52	+0.065
ZMM5239	9.1	20	10	600	3	6.7	7.0	50	+0.068
ZMM5240	10	20	17	600	3	7.6	8.0	45	+0.075
ZMM5241	11	20	22	600	2	8.0	8.4	41	+0.076
ZMM5242	12	20	30	600	1	8.7	9.1	38	+0.077
ZMM5243	13	9.5	13	600	0.5	9.4	9.9	35	+0.079
ZMM5244	14	9.0	15	600	0.1	9.5	10	32	+0.082
ZMM5245	15	8.5	16	600	0.1	10.5	11	30	+0.082
ZMM5246	16	7.8	17	600	0.1	11.4	12	28	+0.083
ZMM5247	17	7.4	19	600	0.1	12.4	13	27	+0.084
ZMM5248	18	7.0	21	600	0.1	13.3	14	25	+0.085
ZMM5249	19	6.6	23	600	0.1	13.3	14	24	+0.086
ZMM5250	20	6.2	25	600	0.1	14.3	15	23	+0.086
ZMM5251	22	5.6	29	600	0.1	16.2	17	21	+0.087
ZMM5252	24	5.2	33	600	0.1	17.1	18	19.1	+0.087
ZMM5253	25	5.0	35	600	0.1	18.1	19	18.2	+0.089
ZMM5254	27	4.6	41	600	0.1	20	21	16.8	+0.090
ZMM5255	28	4.5	44	600	0.1	20	21	16.2	+0.091
ZMM5256	30	4.2	49	600	0.1	22	23	15.1	+0.091
ZMM5257	33	3.8	58	700	0.1	24	25	13.8	+0.092
ZMM5258	36	3.4	70	700	0.1	26	27	12.6	+0.093
ZMM5259	39	3.2	80	800	0.1	29	30	11.6	+0.094
ZMM5260	43	3.0	93	900	0.1	31	33	10.6	+0.095
ZMM5261	47	2.7	105	1000	0.1	34	36	9.7	+0.095
ZMM5262	51	2.5	125	1100	0.1	37	39	8.9	+0.096

Notes:

- (1) The Zener Impedance is derived from the 60Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ . Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.
- (2) Valid provided that electrodes are kept at ambient temperature.
- (3) Measured under thermal equilibrium and DC test conditions.

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## RATINGS AND CHARACTERISTIC CURVES

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### Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept  
at ambient temperature

