

## ZMM2.4 - ZMM75

$V_Z$  : 2.4 to 75V

$P_D$  : 500mW

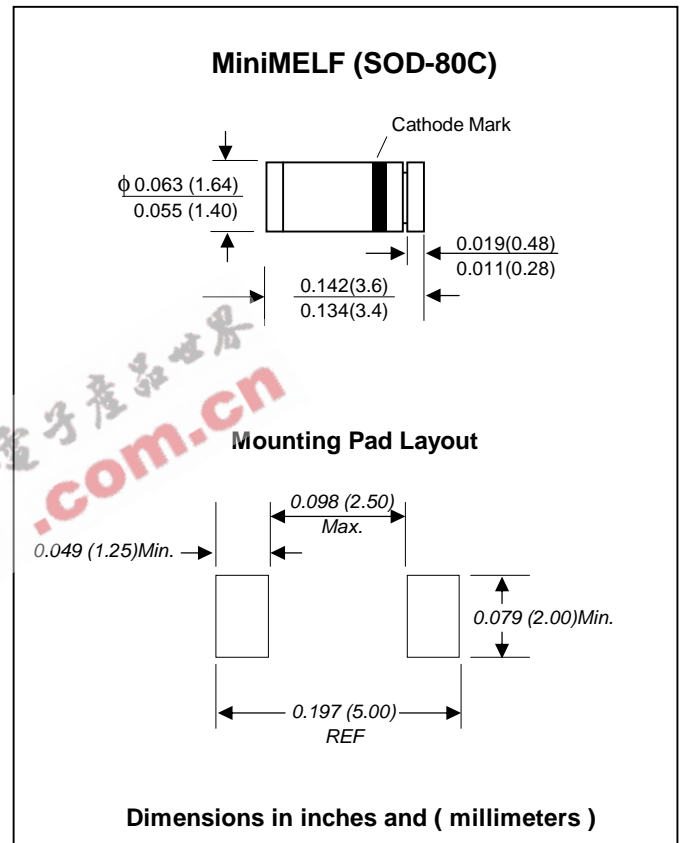
### FEATURES :

- Silicon planar zener diodes
- In MiniMELF case especially for automatic insertion
- Standard zener voltage tolerance is  $\pm 5\%$
- Other zener voltages are available upon request.
- These diodes are also available in DO-35 case with the type designation ZPD2.7 ... ZPD51
- Pb / RoHS Free

### MECHANICAL DATA :

- \* Case : MiniMELF Glass Case (SOD-80C)
- \* Weight : 0.05 gram (approximately)

## ZENER DIODES



## Maximum Ratings and Thermal Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Zener Current see Table "Characteristics"			
Maximum Forward Voltage at $I_F = 200$ mA.	$V_F$	1.25	V
Power Dissipation at $T_{flange} = 75^\circ\text{C}$	$P_D$	500 <sup>(1)</sup>	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	300 <sup>(1)</sup>	$^\circ\text{C}/\text{W}$
Junction temperature	$T_J$	175	$^\circ\text{C}$
Storage temperature range	$T_S$	-65 to + 150	$^\circ\text{C}$

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

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Type	Zener Voltage $V_Z @ I_{ZT}$		Dynamic Resistance at $I_Z=5mA$ at $I_Z=1mA$		Maximum Reverse Leakage Current		Temp. coefficient of Zener Voltage		Admissible Zener Current $I_Z$ (mA)
	Nom <sup>1)</sup> (V)	$I_{ZT}$ (mA)	f = 1 kHz $r_{zj}$ (W)	f = 1 kHz $r_{zj}$ (W)	$I_R$ (mA)	at $V_R$ (V)	$\alpha_{VZ}(10^{-4} / ^\circ C)$ min. max.		
ZMM2.4	2.4	5	< 100	< 600	50	0.8	-10 -5	175	
ZMM2.7	2.7	5	6.5 (< 8)	< 500	20	0.8	-9 -4	160	
ZMM3.0	3.0	5	75 (< 83)	< 500	10	0.8	-9 -3	140	
ZMM3.3	3.3	5	80 (< 95)	< 500	6.0	0.8	-8 -3	130	
ZMM3.6	3.6	5	80 (< 95)	< 500	6.0	0.8	-8 -3	120	
ZMM3.9	3.9	5	80 (< 95)	< 500	1.6	0.8	-7 -3	110	
ZMM4.3	4.3	5	80 (< 95)	< 500	1.0	0.8	-6 -1	100	
ZMM4.7	4.7	5	70 (< 78)	< 500	0.1	0.8	-5 +2	90	
ZMM5.1	5.1	5	30 (< 60)	< 480	0.1	0.8	-3 +4	80	
ZMM5.6	5.6	5	10 (< 40)	< 400	0.1	1	-2 +6	70	
ZMM6.2	6.2	5	4.8 (< 10)	< 200	0.1	2	-1 +7	64	
ZMM6.8	6.8	5	4.5 (< 8)	< 150	0.1	3	+2 +7	58	
ZMM7.5	7.5	5	4 (< 7)	< 50	0.1	5	+3 +7	53	
ZMM8.2	8.2	5	4.5 (< 7)	< 50	0.1	6	+4 +7	47	
ZMM9.1	9.1	5	4.8 (< 10)	< 50	0.1	7	+5 +8	43	
ZMM10	10	5	5.2 (< 15)	< 70	0.1	7.5	+5 +8	40	
ZMM11	11	5	6 (< 20)	< 70	0.1	8.5	+5 +9	36	
ZMM12	12	5	7 (< 20)	< 90	0.1	9	+6 +9	32	
ZMM13	13	5	9 (< 25)	< 110	0.1	10	+7 +9	29	
ZMM15	15	5	11 (< 30)	< 110	0.1	11	+7 +9	27	
ZMM16	16	5	13 (< 40)	< 170	0.1	12	+8 +9.5	24	
ZMM18	18	5	18 (< 50)	< 170	0.1	14	+8 +9.5	21	
ZMM20	20	5	20 (< 50)	< 220	0.1	15	+8 +10	20	
ZMM22	22	5	25 (< 55)	< 220	0.1	17	+8 +10	18	
ZMM24	24	5	28 (< 80)	< 220	0.1	18	+8 +10	16	
ZMM27	27	5	30 (< 80)	< 250	0.1	20	+8 +10	14	
ZMM30	30	5	35 (< 80)	< 250	0.1	22.5	+8 +10	13	
ZMM33	33	5	40 (< 80)	< 250	0.1	25	+8 +10	12	
ZMM36	36	5	40 (< 90)	< 250	0.1	27	+8 +10	11	
ZMM39	39	5	50 (< 90)	< 300	0.1	29	+10 +12	10	
ZMM43	43	5	60 (< 100)	< 700	0.1	32	+10 +12	9.2	
ZMM47	47	5	70 (< 100)	< 750	0.1	35	+10 +12	8.5	
ZMM51	51	5	70 (< 100)	< 750	0.1	38	+10 +12	7.8	
ZMM56	56	2.5	< 135 <sup>(3)</sup>	< 1000 <sup>(4)</sup>	0.1	42	+10 (typ.)	7.1	
ZMM62	62	2.5	< 150 <sup>(3)</sup>	< 1000 <sup>(4)</sup>	0.1	47	+ 10 (typ.)	6.4	
ZMM68	68	2.5	< 200 <sup>(3)</sup>	< 1000 <sup>(4)</sup>	0.1	51	+ 10 (typ.)	5.8	
ZMM75	75	2.5	< 250 <sup>(3)</sup>	< 1500 <sup>(4)</sup>	0.1	55	+ 10 (typ.)	5.3	

Notes: 1) Tested with pulses  $t_p = 5$  ms

2) Valid Provided that leads are kept at ambient temperature.

3) at  $I_Z = 2.5mA$

4) at  $I_Z = 0.5mA$