

# ZMD3.9 ~ ZMD100

$V_Z$  : 3.9 to 100 Volts

$P_D$  : 1 Watts

## FEATURES :

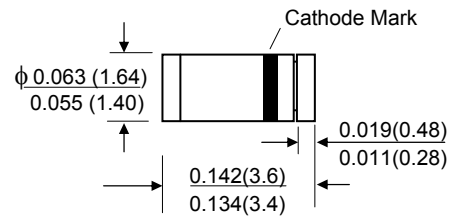
- \* Nominal zener voltage 3.9 ~ 100 Volts
- \* Maximum power dissipation 1 Watts
- \* Pb / RoHS Free

## MECHANICAL DATA :

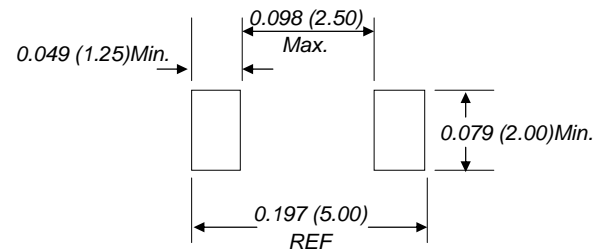
- \* Case : MiniMELF Glass Case (SOD-80C)
- \* Weight : 0.05 gram (approximately)

# ZENER DIODES

## MiniMELF (SOD-80C)



## Mounting Pad Layout



Dimensions in inches and ( millimeters )

## Maximum Ratings and Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Zener Current see Table "Characteristics"			
Power Dissipation <sup>(1)</sup>	$P_D$	1	W
Thermal Resistance Junction to Ambient Air <sup>(1)</sup>	$R_{\theta JA}$	150	K/W
Thermal Resistance Junction to Terminal	$R_{\theta JT}$	60	K/W
Operating Junction Temperature Range	$T_J$	-50 to + 175	°C
Storage Temperature Range	$T_{STG}$	-50 to + 175	°C

### Note:

- (1) Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal.

## ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Type	Zener Voltage <sup>(2)</sup> at $I_{ZT}$		Test Current	Dynamic Resistance		Temp. Coefficient of Zener Voltage	Reverse Voltage at $I_R = 0.5\mu A$	Zener Current <sup>(1)</sup>
	$V_Z$ (V)			$r_{zj}$ ( $\Omega$ ) at $f = 1\text{kHz}$				
	min.	max.	$I_{ZT}$ (mA)	$I_Z = 5\text{mA}$	$I_Z = 1\text{mA}$	$\alpha_{VZ}$ ( $10^{-4}/^\circ\text{C}$ )	$V_{Rmin}$ (V)	$I_{Zmax}$ (mA)
ZMD3.9	3.7	4.1	5	80(<95)	-	-9...-4	-	244
ZMD4.3	4.0	4.6	5	80(<95)	-	-9...-3	-	217
ZMD4.7	4.4	5.0	5	70(<78)	<1400	-8...-3	-	200
ZMD5.1	4.8	5.4	5	30(<60)	<700	-8...-3	0.5(1 $\mu$ A)	185
ZMD5.6	5.2	6.0	5	10(<40)	<500	-7...-3	1.0(1 $\mu$ A)	167
ZMD6.2	5.8	6.6	5	4.8(<11)	<300	-6...-1	1.5(1 $\mu$ A)	152
ZMD6.8	6.4	7.2	5	4.5(<10)	<300	-5...+2	2.0(1 $\mu$ A)	139
ZMD7.5	7.0	7.9	5	4.0(<8)	<100	-3...+4	3.5	127
ZMD8.2	7.7	8.7	5	4.5(<10)	<50	-2...+6	5.0	115
ZMD9.1	8.5	9.6	5	4.8(<11)	<50	-1...+7	6.0	104
ZMD10	9.4	10.6	5	5.2(<15)	<70	+2...+7	7.0	94
ZMD11	10.4	11.6	5	6.0(<20)	<70	+3...+7	7.0	86
ZMD12	11.4	12.7	5	7.0(<20)	<90	+4...+7	8.0	79
ZMD13	12.4	14.1	5	9.0(<25)	<110	+5...+8	9.0	71
ZMD15	13.8	15.6	5	11(<30)	<110	+5...+8	10	64
ZMD16	15.3	17.1	5	13(<40)	<170	+5...+9	11	58
ZMD18	16.8	19.1	5	18(<50)	<170	+6...+9	12	52
ZMD20	18.8	21.2	5	20(<50)	<220	+7...+9	13	47
ZMD22	20.8	23.3	5	25(<55)	<220	+7...+9	15	43
ZMD24	22.8	25.6	5	28(<80)	<220	+7...+9.5	16	39
ZMD27	25.1	28.9	5	30(<80)	<250	+8...+9.5	18	35
ZMD30	28	32	5	35(<80)	<250	+8...+9.5	20	31
ZMD33	31	35	5	40(<80)	<250	+8...+10	22	29
ZMD36	34	38	5	40(<90)	<300	+8...+10	24	26
ZMD39	37	41	5	50(<90)	<500	+8...+10	26	24
ZMD43	40	46	5	60(<100)	<700	+8...+10	28	22
ZMD47	44	50	5	70(<100)	<750	+8...+10	31	20
ZMD51	48	54	5	70(<100)	<750	+8...+10	34	19
ZMD56	52	60	5	70(<100)	<750	+9...+11	36	17
ZMD62	58	66	5	80(<110)	<750	+9...+11	41	15
ZMD68	64	72	5	90(<140)	<750	+9...+12	45	14
ZMD75	70	79	5	95(<150)	<750	+9...+12	49	13
ZMD82	77	88	5	100(<170)	<750	+9...+12	54	11
ZMD91	85	96	5	130(<200)	<800	+10...+12	59	10
ZMD100	94	106	5	200(<300)	<800	+10...+12	66	9

### Notes:

- (1) Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal.
- (2) Tested with pulses.