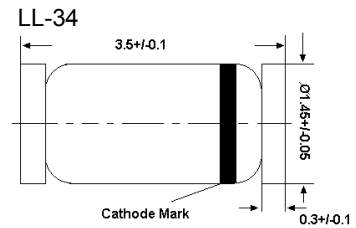


# ZMM...L Series

## Silicon Epitaxial Planar Zener Diodes

### Features

- Low leakage, low zener impedance and maximum power dissipation of 500 mW are ideally suited for stabilized power supply, etc.
- Wide spectrum from 5.2 V through 38 V of zener voltage provide flexible application.



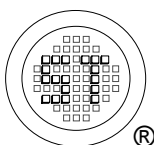
Glass case MiniMELF  
Dimensions in mm

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

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{\text{tot}}$	500	mW
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	- 55 to + 175	$^\circ\text{C}$

### Characteristics at $T_a = 25^\circ\text{C}$ ( $V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$ )

Type	Zener Voltage <sup>1)</sup>		Reverse Current			Dynamic Resistance	
	$V_Z$		at $I_{ZT}$ (mA)	$I_R$ Max. ( $\mu\text{A}$ )	at $V_R$ (V)	$Z_{ZT}$ Max. ( $\Omega$ )	at $I_{ZT}$ (mA)
	Min. (V)	Max. (V)					
ZMM6LA1	5.2	5.5	0.5	1	2	150	0.5
ZMM6LA2	5.3	5.6	0.5	1	2	150	0.5
ZMM6LA3	5.4	5.7	0.5	1	2	150	0.5
ZMM6LB1	5.5	5.8	0.5	1	2	80	0.5
ZMM6LB2	5.6	5.9	0.5	1	2	80	0.5
ZMM6LB3	5.7	6	0.5	1	2	80	0.5
ZMM6LC1	5.8	6.1	0.5	1	2	60	0.5
ZMM6LC2	6	6.3	0.5	1	2	60	0.5
ZMM6LC3	6.1	6.4	0.5	1	2	60	0.5
ZMM7LA1	6.3	6.6	0.5	1	3.5	60	0.5
ZMM7LA2	6.4	6.7	0.5	1	3.5	60	0.5
ZMM7LA3	6.6	6.9	0.5	1	3.5	60	0.5
ZMM7LB1	6.7	7	0.5	1	3.5	60	0.5
ZMM7LB2	6.9	7.2	0.5	1	3.5	60	0.5
ZMM7LB3	7	7.3	0.5	1	3.5	60	0.5
ZMM7LC1	7.2	7.6	0.5	1	3.5	60	0.5
ZMM7LC2	7.3	7.7	0.5	1	3.5	60	0.5
ZMM7LC3	7.5	7.9	0.5	1	3.5	60	0.5
ZMM9LA1	7.7	8.1	0.5	1	6	60	0.5
ZMM9LA2	7.9	8.3	0.5	1	6	60	0.5
ZMM9LA3	8.1	8.5	0.5	1	6	60	0.5
ZMM9LB1	8.3	8.7	0.5	1	6	60	0.5
ZMM9LB2	8.5	8.9	0.5	1	6	60	0.5
ZMM9LB3	8.7	9.1	0.5	1	6	60	0.5
ZMM9LC1	8.9	9.3	0.5	1	6	60	0.5
ZMM9LC2	9.1	9.5	0.5	1	6	60	0.5
ZMM9LC3	9.3	9.7	0.5	1	6	60	0.5
ZMM11LA1	9.5	9.9	0.5	1	8	80	0.5
ZMM11LA2	9.7	10.1	0.5	1	8	80	0.5
ZMM11LA3	9.9	10.3	0.5	1	8	80	0.5



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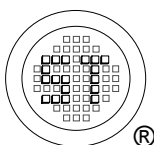
Dated : 18/07/2009

# ZMM...L Series

Characteristics at  $T_a = 25\text{ }^\circ\text{C}$  ( $V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$ )

Type	Zener Voltage <sup>1)</sup>			Reverse Current		Dynamic Resistance	
	$V_Z$		at $I_{ZT}$	$I_R$	at $V_R$	$Z_{ZT}$	at $I_{ZT}$
	Min. (V)	Max. (V)	(mA)	Max. ( $\mu\text{A}$ )	(V)	Max. ( $\Omega$ )	(mA)
ZMM11LB1	10.2	10.6	0.5	1	8	80	0.5
ZMM11LB2	10.4	10.8	0.5	1	8	80	0.5
ZMM11LB3	10.7	11.1	0.5	1	8	80	0.5
ZMM11LC1	10.9	11.3	0.5	1	8	80	0.5
ZMM11LC2	11.1	11.6	0.5	1	8	80	0.5
ZMM11LC3	11.4	11.9	0.5	1	8	80	0.5
ZMM12LA1	11.6	12.1	0.5	1	10.5	80	0.5
ZMM12LA2	11.9	12.4	0.5	1	10.5	80	0.5
ZMM12LA3	12.2	12.7	0.5	1	10.5	80	0.5
ZMM12LB1	12.4	12.9	0.5	1	10.5	80	0.5
ZMM12LB2	12.6	13.1	0.5	1	10.5	80	0.5
ZMM12LB3	12.9	13.4	0.5	1	10.5	80	0.5
ZMM12LC1	13.2	13.7	0.5	1	10.5	80	0.5
ZMM12LC2	13.5	14	0.5	1	10.5	80	0.5
ZMM12LC3	13.8	14.3	0.5	1	10.5	80	0.5
ZMM15L1	14.1	14.7	0.5	1	13	80	0.5
ZMM15L2	14.5	15.1	0.5	1	13	80	0.5
ZMM15L3	14.9	15.5	0.5	1	13	80	0.5
ZMM16L1	15.3	15.9	0.5	1	14	80	0.5
ZMM16L2	15.7	16.5	0.5	1	14	80	0.5
ZMM16L3	16.3	17.1	0.5	1	14	80	0.5
ZMM18L1	16.9	17.7	0.5	1	15	80	0.5
ZMM18L2	17.5	18.3	0.5	1	15	80	0.5
ZMM18L3	18.1	19	0.5	1	15	80	0.5
ZMM20L1	18.8	19.7	0.5	1	18	100	0.5
ZMM20L2	19.5	20.4	0.5	1	18	100	0.5
ZMM20L3	20.2	21.1	0.5	1	18	100	0.5
ZMM22L1	20.9	21.9	0.5	1	20	100	0.5
ZMM22L2	21.6	22.6	0.5	1	20	100	0.5
ZMM22L3	22.3	23.3	0.5	1	20	100	0.5
ZMM24L1	22.9	24	0.5	1	22	120	0.5
ZMM24L2	23.6	24.7	0.5	1	22	120	0.5
ZMM24L3	24.3	25.5	0.5	1	22	120	0.5
ZMM27L1	25.2	26.6	0.5	1	24	150	0.5
ZMM27L2	26.2	27.6	0.5	1	24	150	0.5
ZMM27L3	27.2	28.6	0.5	1	24	150	0.5
ZMM30L1	28.2	29.6	0.5	1	27	200	0.5
ZMM30L2	29.2	30.6	0.5	1	27	200	0.5
ZMM30L3	30.2	31.6	0.5	1	27	200	0.5
ZMM33L1	31.2	32.6	0.5	1	30	250	0.5
ZMM33L2	32.2	33.6	0.5	1	30	250	0.5
ZMM33L3	33.2	34.6	0.5	1	30	250	0.5
ZMM36L1	34.2	35.7	0.5	1	33	300	0.5
ZMM36L2	35.3	36.8	0.5	1	33	300	0.5
ZMM36L3	36.4	38	0.5	1	33	300	0.5

<sup>1)</sup> Tested with pulses  $t_p = 20\text{ ms}$ .



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