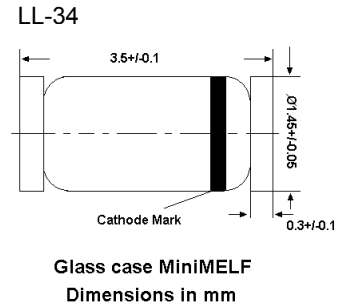


ZMM...HC Series

Silicon Epitaxial Planar Zener Diodes



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

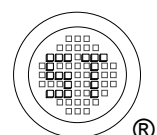
Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	500 ¹⁾	mW
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 175	$^\circ\text{C}$
¹⁾ Valid provided that electrodes are kept at ambient temperature			

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	0.3 ¹⁾	K/mW
Forward Voltage at $I_F = 100\text{ mA}$	V_F	1	V
¹⁾ Valid provided that electrodes are kept at ambient temperature			

Characteristics at $T_a = 25^\circ\text{C}$

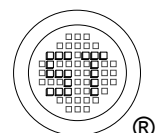
Type	Zener Voltage ¹⁾			Dynamic Resistance		Reverse Leakage Current	
	V_Z		at I_{ZT}	Z_{ZT}	at I_{ZT}	I_R	at V_R
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
ZMM2V2HC	2.09	2.41	20	120	20	120	0.7
ZMM2V2HCA	2.12	2.3	20	120	20	120	0.7
ZMM2V2HCB	2.22	2.41	20	120	20	120	0.7
ZMM2V4HC	2.3	2.64	20	120	20	120	1
ZMM2V4HCA	2.33	2.52	20	120	20	120	1
ZMM2V4HCB	2.43	2.63	20	120	20	120	1
ZMM2V7HC	2.5	2.9	20	100	20	100	1
ZMM2V7HCA	2.54	2.75	20	100	20	100	1
ZMM2V7HCB	2.69	2.91	20	100	20	100	1
ZMM3V0HC	2.8	3.2	20	80	20	50	1
ZMM3V0HCA	2.85	3.07	20	80	20	50	1
ZMM3V0HCB	3.01	3.22	20	80	20	50	1
ZMM3V3HC	3.1	3.5	20	70	20	20	1
ZMM3V3HCA	3.16	3.38	20	70	20	20	1
ZMM3V3HCB	3.32	3.53	20	70	20	20	1



ZMM...HC Series

Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

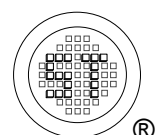
Type	Zener Voltage ¹⁾			Dynamic Resistance		Reverse Leakage Current	
	V_Z		at I_{ZT}	Z_{ZT}	at I_{ZT}	I_R	at V_R
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
ZMM3V6HC	3.4	3.8	20	60	20	10	1
ZMM3V6HCA	3.47	3.68	20	60	20	10	1
ZMM3V6HCB	3.62	3.83	20	60	20	10	1
ZMM3V9HC	3.7	4.1	20	50	20	5	1
ZMM3V9HCA	3.77	3.98	20	50	20	5	1
ZMM3V9HCB	3.92	4.14	20	50	20	5	1
ZMM4V3HC	4	4.5	20	40	20	5	1
ZMM4V3HCA	4.05	4.26	20	40	20	5	1
ZMM4V3HCB	4.2	4.4	20	40	20	5	1
ZMM4V3HCC	4.34	4.53	20	40	20	5	1
ZMM4V7HC	4.4	4.9	20	25	20	5	1
ZMM4V7HCA	4.47	4.65	20	25	20	5	1
ZMM4V7HCB	4.59	4.77	20	25	20	5	1
ZMM4V7HCC	4.71	4.91	20	25	20	5	1
ZMM5V1HC	4.8	5.4	20	20	20	5	1.5
ZMM5V1HCA	4.85	5.03	20	20	20	5	1.5
ZMM5V1HCB	4.97	5.18	20	20	20	5	1.5
ZMM5V1HCC	5.12	5.35	20	20	20	5	1.5
ZMM5V6HC	5.3	6	20	13	20	5	2.5
ZMM5V6HCA	5.29	5.52	20	13	20	5	2.5
ZMM5V6HCB	5.46	5.7	20	13	20	5	2.5
ZMM5V6HCC	5.64	5.88	20	13	20	5	2.5
ZMM6V2HC	5.8	6.6	20	10	20	5	3
ZMM6V2HCA	5.81	6.06	20	10	20	5	3
ZMM6V2HCB	5.99	6.24	20	10	20	5	3
ZMM6V2HCC	6.16	6.4	20	10	20	5	3
ZMM6V8HC	6.4	7.2	20	8	20	2	3.5
ZMM6V8HCA	6.32	6.59	20	8	20	2	3.5
ZMM6V8HCB	6.52	6.79	20	8	20	2	3.5
ZMM6V8HCC	6.7	6.97	20	8	20	2	3.5
ZMM7V5HC	7	7.9	20	8	20	0.5	4
ZMM7V5HCA	6.88	7.19	20	8	20	0.5	4
ZMM7V5HCB	7.11	7.41	20	8	20	0.5	4
ZMM7V5HCC	7.33	7.64	20	8	20	0.5	4
ZMM8V2HC	7.7	8.7	20	8	20	0.5	5
ZMM8V2HCA	7.56	7.9	20	8	20	0.5	5
ZMM8V2HCB	7.82	8.15	20	8	20	0.5	5
ZMM8V2HCC	8.07	8.41	20	8	20	0.5	5
ZMM9V1HC	8.5	9.6	20	8	20	0.5	6
ZMM9V1HCA	8.33	8.7	20	8	20	0.5	6
ZMM9V1HCB	8.61	8.99	20	8	20	0.5	6
ZMM9V1HCC	8.89	9.29	20	8	20	0.5	6
ZMM10HC	9.4	10.9	20	8	20	0.2	7
ZMM10HCA	9.19	9.59	20	8	20	0.2	7
ZMM10HCB	9.48	9.9	20	8	20	0.2	7



ZMM...HC Series

Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

Type	Zener Voltage ¹⁾			Dynamic Resistance		Reverse Leakage Current	
	V_Z		at I_{ZT}	Z_{ZT}	at I_{ZT}	I_R	at V_R
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
ZMM10HCC	9.82	10.3	20	8	20	0.2	7
ZMM11HC	10.4	11.6	10	10	10	0.2	8
ZMM11HCA	10.18	10.63	10	10	10	0.2	8
ZMM11HCB	10.5	10.95	10	10	10	0.2	8
ZMM11HCC	10.82	11.26	10	10	10	0.2	8
ZMM12HC	11.4	12.6	10	12	10	0.2	9
ZMM12HCA	11.13	11.63	10	12	10	0.2	9
ZMM12HCB	11.5	11.92	10	12	10	0.2	9
ZMM12HCC	11.8	12.3	10	12	10	0.2	9
ZMM13HC	12.4	14.1	10	14	10	0.2	10
ZMM13HCA	12.18	12.71	10	14	10	0.2	10
ZMM13HCB	12.59	13.16	10	14	10	0.2	10
ZMM13HCC	13.03	13.62	10	14	10	0.2	10
ZMM15HC	13.8	15.6	10	16	10	0.2	11
ZMM15HCA	13.48	14.09	10	16	10	0.2	11
ZMM15HCB	13.95	14.56	10	16	10	0.2	11
ZMM15HCC	14.42	15.52	10	16	10	0.2	11
ZMM16HC	15.3	17.1	10	18	10	0.2	12
ZMM16HCA	14.87	15.5	10	18	10	0.2	12
ZMM16HCB	15.33	15.96	10	18	10	0.2	12
ZMM16HCC	15.79	16.5	10	18	10	0.2	12
ZMM18HC	16.8	19.1	10	23	10	0.2	13
ZMM18HCA	16.34	17.06	10	23	10	0.2	13
ZMM18HCB	16.9	17.67	10	23	10	0.2	13
ZMM18HCC	17.51	18.3	10	23	10	0.2	13
ZMM20HC	18.8	21.6	10	28	10	0.2	15
ZMM20HCA	18.11	18.92	10	28	10	0.2	15
ZMM20HCB	18.73	19.57	10	28	10	0.2	15
ZMM20HCC	19.38	20.22	10	28	10	0.2	15
ZMM20HCD	19.88	20.72	10	28	10	0.2	15
ZMM22HC	20.8	23.3	5	30	5	0.2	17
ZMM22HCA	20.23	21.08	5	30	5	0.2	17
ZMM22HCB	20.76	21.65	5	30	5	0.2	17
ZMM22HCC	21.22	22.09	5	30	5	0.2	17
ZMM22HCD	21.68	22.61	5	30	5	0.2	17
ZMM24HC	21.8	25.6	5	35	5	0.2	19
ZMM24HCA	22.26	23.12	5	35	5	0.2	19
ZMM24HCB	22.75	23.73	5	35	5	0.2	19
ZMM24HCC	23.29	24.27	5	35	5	0.2	19
ZMM24HCD	23.81	24.81	5	35	5	0.2	19
ZMM27HC	25.1	28.9	5	45	5	0.2	21
ZMM27HCA	24.26	25.52	5	45	5	0.2	21
ZMM27HCB	24.97	26.26	5	45	5	0.2	21
ZMM27HCC	25.63	26.95	5	45	5	0.2	21
ZMM27HCD	26.29	27.64	5	45	5	0.2	21

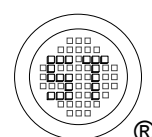


ZMM...HC Series

Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

Type	Zener Voltage ¹⁾			Dynamic Resistance		Reverse Leakage Current	
	V_Z		at I_{ZT}	Z_{ZT}	at I_{ZT}	I_R	at V_R
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
ZMM30HC	28	32	5	55	5	0.2	23
ZMM30HCA	26.99	28.39	5	55	5	0.2	23
ZMM30HCB	27.7	29.13	5	55	5	0.2	23
ZMM30HCC	28.36	29.82	5	55	5	0.2	23
ZMM30HCD	29.02	30.51	5	55	5	0.2	23
ZMM33HC	31	35	5	65	5	0.2	25
ZMM33HCA	29.68	31.22	5	65	5	0.2	25
ZMM33HCB	30.32	31.88	5	65	5	0.2	25
ZMM33HCC	30.9	32.5	5	65	5	0.2	25
ZMM33HCD	31.49	33.11	5	65	5	0.2	25

¹⁾ Tested with pulse $t_p = 20\text{ ms}$



Dated : 18/07/2009