ZMM1…ZMM75
Silicon Planar Zener Diodes

Features

- MiniMELF case especially for automatic insertion. The Zener voltages are graded according to the international E24 standard. Smaller voltage tolerances and higher Zener voltages are upon request.

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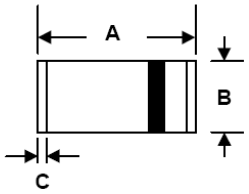


MiniMELF		
Dim	**Min.**	**Max.**
A	3.30	3.60
B	1.40	1.50
C	0.25	0.33
All Dimension in mm		

Absolute Maximum Ratings at T_A = 25 ℃

Parameter	Symbols	Value	Unit
Maximum Power Dissipation at T_C = 75°C	P_D	0.5	W
Junction Temperature	T_J	175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C

Electrical Characteristics at T_A = 25 ℃

Parameter	Symbols	Max.	Unit
Forward Voltage at I_F = 100 mA	V_F	1	V
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	300	°C/W

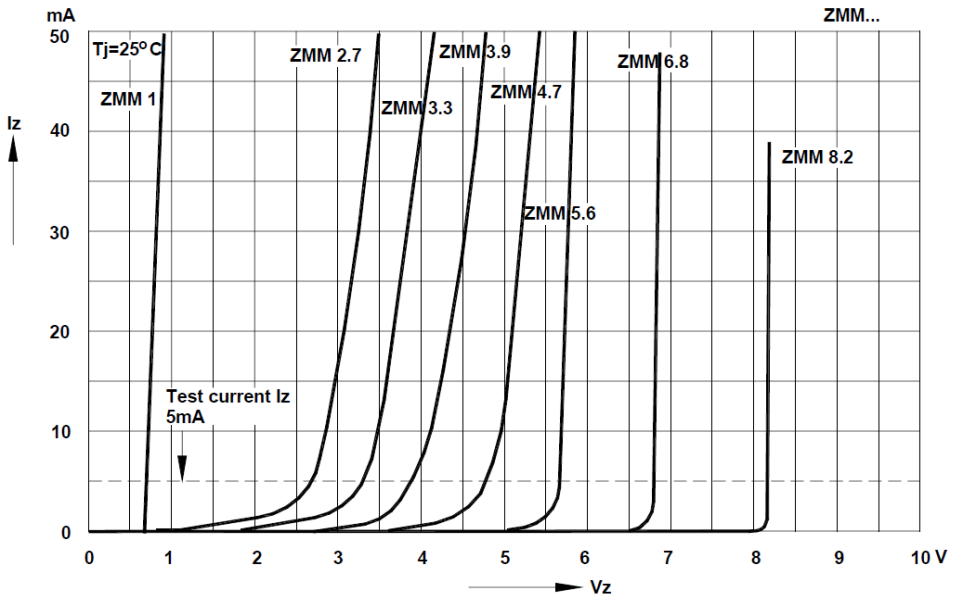
Characteristics at T_A = 25 ℃

Type	Zener Voltage Range Note1			I_{ZT}	Dynamic Impedance			Reverse Current		Temp.Coefficient of Zener Voltage
	V_{ZT} at I_{ZT}				Z_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R	
	Min.(V)	Nom.(V)	Max.(V)	(mA)	Max.(Ω)	Max.(Ω)	(mA)	Max.(μA)	(V)	TKvz(%/K)
ZMM1 Note2	0.7	0.75	0.8	5	8	50	1	-	-	-0.26…-0.23
ZMM2V0	1.8	2	2.15	5	85	600	1	100	1	-0.09…-0.06
ZMM2V2	2.08	2.2	2.33	5	85	600	1	75	1	-0.09…-0.06
ZMM2V4	2.28	2.4	2.56	5	85	600	1	50	1	-0.09…-0.06
ZMM2V7	2.5	2.7	2.9	5	85	600	1	10	1	-0.09…-0.06
ZMM3V0	2.8	3	3.2	5	85	600	1	4	1	-0.08...-0.05
ZMM3V3	3.1	3.3	3.5	5	85	600	1	2	1	-0.08...-0.05
ZMM3V6	3.4	3.6	3.8	5	85	600	1	2	1	-0.08...-0.05
ZMM3V9	3.7	3.9	4.1	5	85	600	1	2	1	-0.08...-0.05
ZMM4V3	4	4.3	4.6	5	75	600	1	1	1	-0.06...-0.03
ZMM4V7	4.4	4.7	5	5	60	600	1	0.5	1	-0.05...0.02
ZMM5V1	4.8	5.1	5.4	5	35	550	1	0.1	1	-0.02...0.02
ZMM5V6	5.2	5.6	6	5	25	450	1	0.1	1	-0.05...0.05
ZMM6V2	5.8	6.2	6.6	5	10	200	1	0.1	2	0.03...0.06
ZMM6V8	6.4	6.8	7.2	5	8	150	1	0.1	3	0.03...0.07
ZMM7V5	7	7.5	7.9	5	7	50	1	0.1	5	0.03...0.07
ZMM8V2	7.7	8.2	8.7	5	7	50	1	0.1	6.2	0.03...0.08
ZMM9V1	8.5	9.1	9.6	5	10	50	1	0.1	6.8	0.03...0.09
ZMM10	9.4	10	10.6	5	15	70	1	0.1	7.5	0.03...0.1
ZMM11	10.4	11	11.6	5	20	70	1	0.1	8.2	0.03...0.11
ZMM12	11.4	12	12.7	5	20	90	1	0.1	9.1	0.03...0.11
ZMM13	12.4	13	14.1	5	26	110	1	0.1	10	0.03...0.11
ZMM15	13.8	15	15.6	5	30	110	1	0.1	11	0.03...0.11
ZMM16	15.3	16	17.1	5	40	170	1	0.1	12	0.03...0.11
ZMM18	16.8	18	19.1	5	50	170	1	0.1	13	0.03...0.11
ZMM20	18.8	20	21.2	5	55	220	1	0.1	15	0.03...0.11
ZMM22	20.8	22	23.3	5	55	220	1	0.1	16	0.04...0.12
ZMM24	22.8	24	25.6	5	80	220	1	0.1	18	0.04...0.12
ZMM27	25.1	27	28.9	5	80	220	1	0.1	20	0.04...0.12
ZMM30	28	30	32	5	80	220	1	0.1	22	0.04...0.12
ZMM33	31	33	35	5	80	220	1	0.1	24	0.04...0.12
ZMM36	34	36	38	5	80	220	1	0.1	27	0.04...0.12
ZMM39	37	39	41	2.5	90	500	0.5	0.1	30	0.04...0.12
ZMM43	40	43	46	2.5	90	500	0.5	0.1	33	0.04...0.12
ZMM47	44	47	50	2.5	110	600	0.5	0.1	36	0.04...0.12
ZMM51	48	51	54	2.5	125	700	0.5	0.1	39	0.04...0.12
ZMM56	52	56	60	2.5	135	700	0.5	0.1	43	0.04...0.12
ZMM62	58	62	66	2.5	150	1000	0.5	0.1	47	0.04...0.12
ZMM68	64	68	72	2.5	200	1000	0.5	0.1	51	0.04...0.12
ZMM75	70	75	79	2.5	250	1000	0.5	0.1	56	0.04...0.12

Note: 1. Tested with pulses t_p = 20 ms.
2. The ZMM1 is a silicon diode with operation in forward direction. Hence, the index of all parameters should be "F" instead of "Z". Connect the cathode electrode to the negative pole.

Typical Characteristic Curves

Breakdown characteristics
T_j = constant (pulsed)



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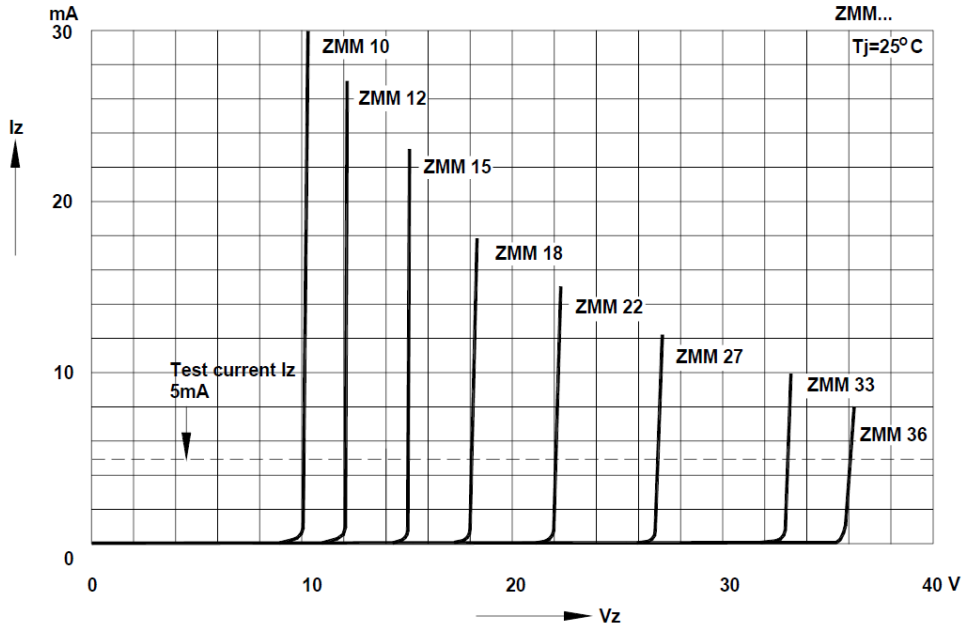

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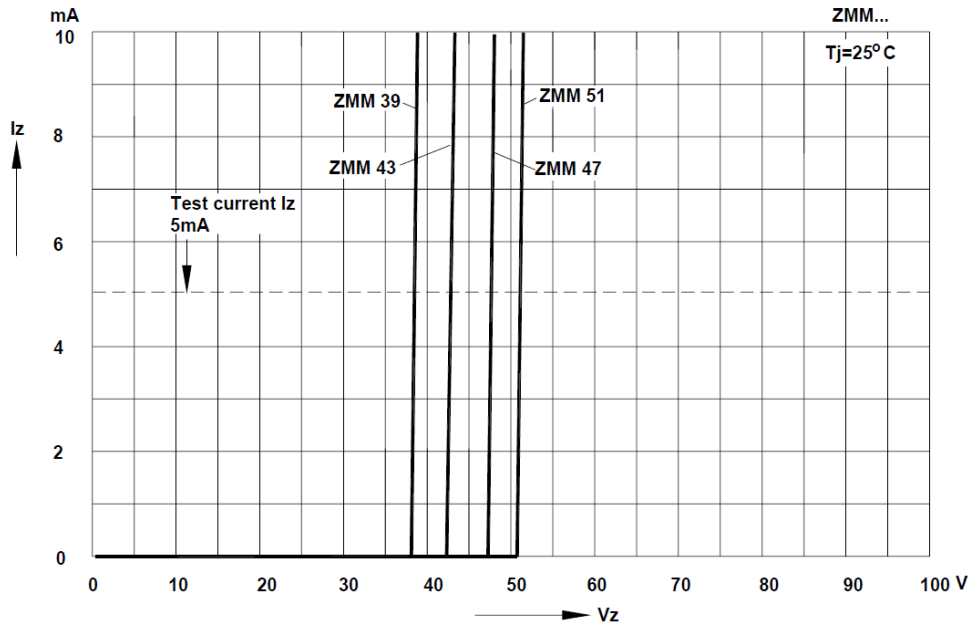

Forward characteristics