

MM1Z4xxx Series-CH

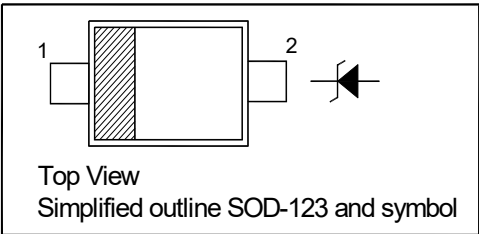
Silicon Planar Zener Diodes

Features

- AEC-Q101 Qualified
- Halogen and Antimony Free(HAF),
RoHS compliant

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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

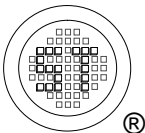
Parameter	Symbol	Value	Unit
Power Dissipation $T_L = 75^{\circ}\text{C}^{1)}$	P_D	500	mW
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

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

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient $^{2)}$	$R_{\theta JA}$	340	$^{\circ}\text{C/W}$
Thermal Resistance Junction to Lead $^{1)}$	$R_{\theta JL}$	150	$^{\circ}\text{C/W}$

$^{1)}$ FR-4 PCB = 89 * 38 mm.

$^{2)}$ Mounted on an FR-4 PCB 38 * 38 * 1.6 mm with single-sided Cu pad areas 25mm 2 (>70 μm thick).



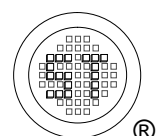
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Characteristics at $T_a = 25^\circ\text{C}$ ($V_F = 0.9\text{ V Max. at } I_F = 10\text{ mA}$)

Table 1

Type	Marking Code	Zener Voltage ¹⁾				Reverse Current	
		V_{ZT}			at I_{ZT}	I_R	at V_R
		Nom. (V)	Min. (V)	Max. (V)	μA	Max. (μA)	V
MM1Z4678	BC	1.8	1.71	1.89	50	7.5	1
MM1Z4679	BD	2.0	1.9	2.1	50	5	1
MM1Z4680	BE	2.2	2.09	2.31	50	4	1
MM1Z4681	BF	2.4	2.28	2.52	50	2	1
MM1Z4682	BH	2.7	2.57	2.84	50	1	1
MM1Z4683	BJ	3.0	2.85	3.15	50	0.8	1
MM1Z4684	BK	3.3	3.13	3.47	50	7.5	1.5
MM1Z4685	BM	3.6	3.42	3.78	50	7.5	2
MM1Z4686	BN	3.9	3.7	4.1	50	5	2
MM1Z4687	BP	4.3	4.09	4.52	50	4	2
MM1Z4688	BR	4.7	4.47	4.94	50	10	3
MM1Z4689	BX	5.1	4.85	5.36	50	10	3
MM1Z4690	BY	5.6	5.32	5.88	50	10	4
MM1Z4691	BZ	6.2	5.89	6.51	50	10	5
MM1Z4692	CA	6.8	6.46	7.14	50	10	5.1
MM1Z4693	CB	7.5	7.13	7.88	50	10	5.7
MM1Z4694	CC	8.2	7.79	8.61	50	1	6.2
MM1Z4695	CD	8.7	8.27	9.14	50	1	6.6
MM1Z4696	CE	9.1	8.65	9.56	50	1	6.9
MM1Z4697	CF	10	9.5	10.5	50	1	7.6
MM1Z4698	CH	11	10.45	11.55	50	0.05	8.4
MM1Z4699	CJ	12	11.4	12.6	50	0.05	9.1
MM1Z4700	CK	13	12.35	13.65	50	0.05	9.8
MM1Z4701	CM	14	13.3	14.7	50	0.05	10.6
MM1Z4702	CN	15	14.25	15.75	50	0.05	11.4
MM1Z4703	CP	16	15.2	16.8	50	0.05	12.1
MM1Z4704	CQ	17	16.2	17.9	50	0.05	12.9
MM1Z4705	CX	18	17.1	18.9	50	0.05	13.6
MM1Z4706	CY	19	18.1	20	50	0.05	14.4
MM1Z4707	CZ	20	19	21	50	0.01	15.2
MM1Z4708	DA	22	20.9	23.1	50	0.01	16.7
MM1Z4709	DB	24	22.8	25.2	50	0.01	18.2
MM1Z4710	DC	25	23.8	26.3	50	0.01	19
MM1Z4711	DD	27	25.65	28.35	50	0.01	20.4
MM1Z4712	DE	28	26.6	29.4	50	0.01	21.2
MM1Z4713	DF	30	28.5	31.5	50	0.01	22.8
MM1Z4714	DH	33	31.35	34.65	50	0.01	25
MM1Z4715	DJ	36	34.2	37.8	50	0.01	27.3
MM1Z4716	DK	39	37.05	40.95	50	0.01	29.6
MM1Z4717	DM	43	40.85	45.15	50	0.01	32.6

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



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Electrical Characteristics Curves

Fig. 1 Zener Characteristics Curve

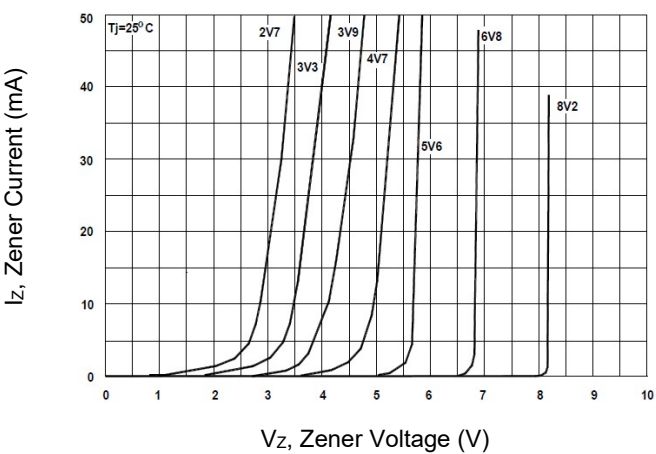


Fig. 2 Zener Characteristics Curve

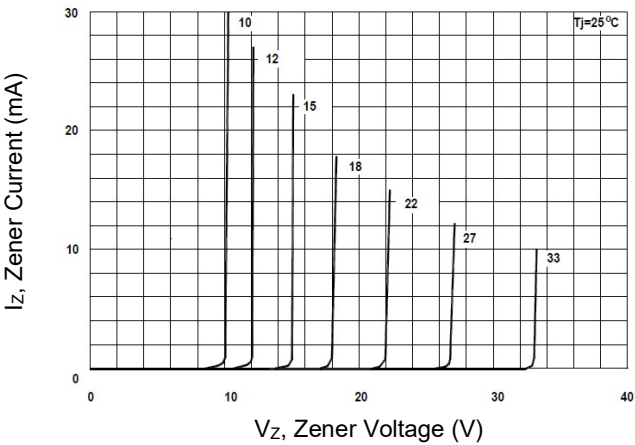
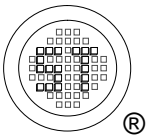
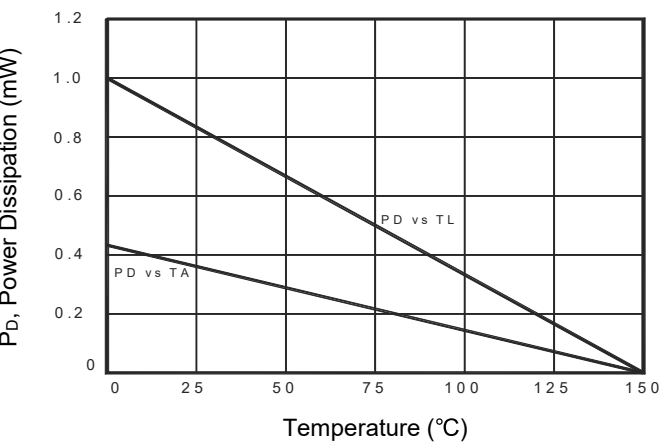


Fig. 3 Power Derating Curve

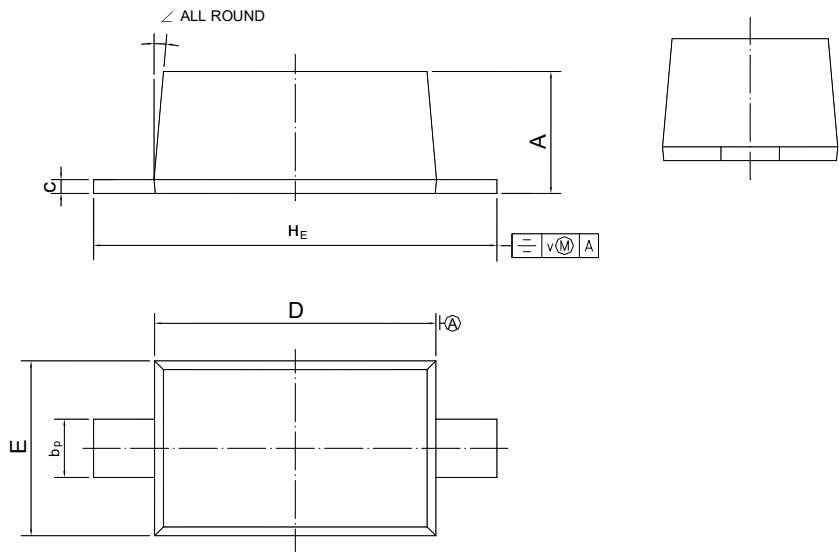


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PACKAGE OUTLINE

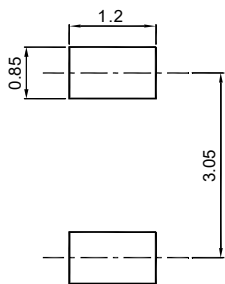
Plastic surface mounted package; 2 leads

SOD-123



UNIT	A	b _p	c	D	E	H _E	v	∠
mm	1.15 1.05	0.6 0.5	0.135 0.100	2.7 2.6	1.65 1.55	3.85 3.55	0.2	5°

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	(inch)	mm	(inch)	
SOD-123	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

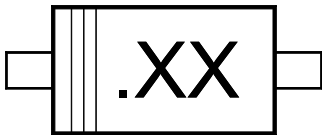
Marking information

" XX " = Marking Code. (See Table 1 of Marking Code)

" III " = Cathode line

" • " = HAF (Halogen and Antimony Free)

Font type: Arial



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