

SOD-123 Plastic-Encapsulate Zener Diode

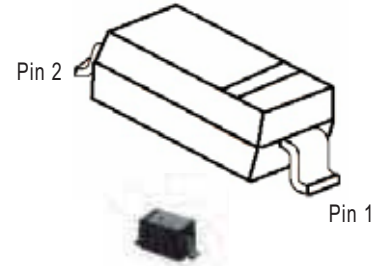
Features

- Low Zener Impedance
- Power Dissipation of 500mW
- High Stability and High Reliability
- P/N suffix V means AEC- Q 101 qualified, e.g: MMSZ4678V
- P/N suffix V means Halogen-free

Mechanical Data

- SOD-123 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Epoxy UL: 94V-0
- Mounting Position: Any

SOD-123



Maximum Ratings & Thermal Characteristics (Ratings at 25 °C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Power Dissipation(Note 1)	Pd	500	mW
Typical Thermal Resistance (Note 2)	R _{θJA}	340	°C/W
Typical Thermal Resistance (Note 2)	R _{θJC}	150	°C/W
Forward Voltage @IF=10mA (Note 3)	Vf	0.9	V
Storage temperature range	Ts	-65-+150	°C

- 1) Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm²
- 2) Thermal Resistance : Heat-sink mounted.
- 3) Short duration test pulse used to minimize self-heating effect
- 4) f=1KHz

Electrical Characteristics (Ratings at 25 °C ambient temperature unless otherwise specified).

Device	Marking	Zener Voltage Range				Maximum Reverse Current	
		Vz@Izt			Izt uA	IR uA	VR V
		Min(V)	Nom (V)	Max(V)			
MMSZ4678	CC	1.71	1.8	1.89	50	7.5	1
MMSZ4679	CD	1.90	2.0	2.10	50	5	1
MMSZ4680	CE	2.09	2.2	2.31	50	4	1
MMSZ4681	CF	2.28	2.4	2.52	50	2	1
MMSZ4682	CH	2.57	2.7	2.84	50	1	1
MMSZ4683	CJ	2.85	3.0	3.15	50	0.8	1
MMSZ4684	CK	3.13	3.3	3.47	50	7.5	1.5
MMSZ4685	CM	3.42	3.6	3.78	50	7.5	2
MMSZ4686	CN	3.70	3.9	4.10	50	5	2
MMSZ4687	CP	4.09	4.3	4.52	50	4	2
MMSZ4688	CT	4.47	4.7	4.94	50	4	3
MMSZ4689	CU	4.85	5.1	5.36	50	2	3
MMSZ4690	CV	5.32	5.6	5.88	50	2	4
MMSZ4691	CA	5.89	6.2	6.51	50	2	5
MMSZ4692	CX	6.46	6.8	7.14	50	2	5.1
MMSZ4693	CY	7.13	7.5	7.88	50	2	5.7
MMSZ4694	CZ	7.79	8.2	8.61	50	1	6.2
MMSZ4695	DC	8.27	8.7	9.14	50	1	6.6

Device	Marking	Zener Voltage Range				Maximum Reverse Current	
		V _Z @I _{ZT}			I _{ZT}	IR	VR
		Min(V)	Nom (V)	Max(V)	uA	uA	V
MMSZ4696	DD	8.65	9.1	9.56	50	1	6.9
MMSZ4697	DE	9.50	10.0	10.50	50	1	7.6
MMSZ4698	DF	10.45	11.0	11.55	50	0.05	8.4
MMSZ4699	DH	11.40	12.0	12.60	50	0.05	9.1
MMSZ4700	DJ	12.35	13.0	13.65	50	0.05	9.8
MMSZ4701	DK	13.30	14.0	14.70	50	0.05	10.6
MMSZ4702	DM	14.25	15.0	15.75	50	0.05	11.4
MMSZ4703	DN	15.20	16.0	16.80	50	0.05	12.1
MMSZ4704	DP	16.15	17.0	17.85	50	0.05	12.9
MMSZ4705	DT	17.10	18.0	18.90	50	0.05	13.6
MMSZ4706	DU	18.05	19.0	19.95	50	0.05	14.4
MMSZ4707	DV	19.00	20.0	21.00	50	0.01	15.2
MMSZ4708	DA	20.90	22.0	23.10	50	0.01	16.7
MMSZ4709	DX	22.80	24.0	25.20	50	0.01	18.2
MMSZ4710	DY	23.75	25.0	26.25	50	0.01	19
MMSZ4711	EA	25.65	27.0	28.35	50	0.01	20.4
MMSZ4712	EC	26.60	28.0	29.40	50	0.01	21.2
MMSZ4713	ED	28.50	30.0	31.50	50	0.01	22.8
MMSZ4714	EE	31.35	33.0	34.65	50	0.01	25
MMSZ4715	EF	34.20	36.0	37.80	50	0.01	27.3
MMSZ4716	EH	37.05	39.0	40.95	50	0.01	29.6
MMSZ4717	EJ	40.85	43.0	45.15	50	0.01	32.6

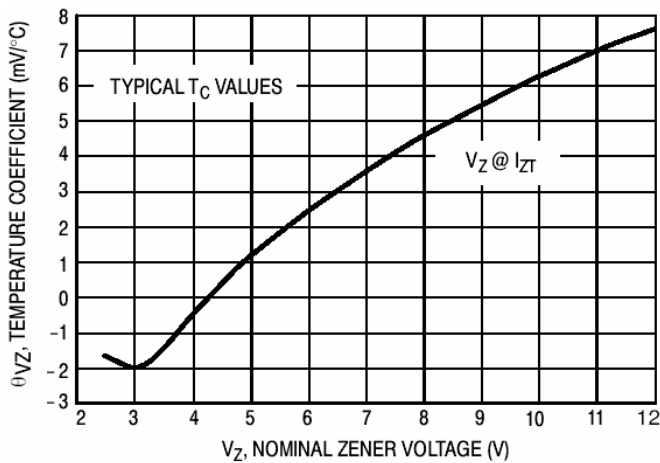


Figure 1. Temperature Coefficients
(Temperature Range -55°C to +150°C)

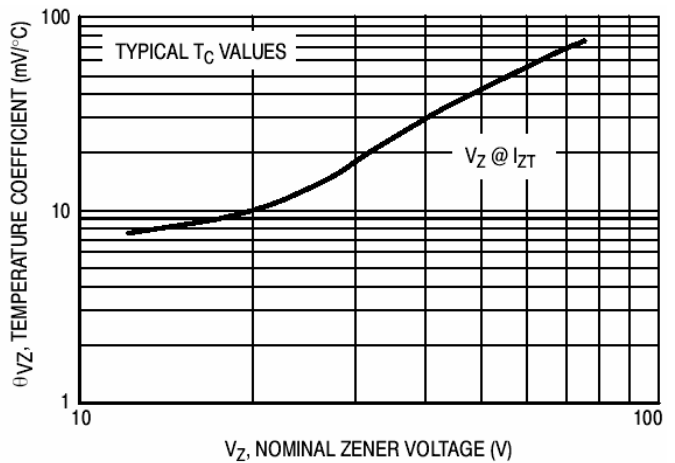


Figure 2. Temperature Coefficients
(Temperature Range -55°C to +150°C)

RATING AND CHARACTERISTICS CURVES (MMSZ4678 THRU MMSZ4717)

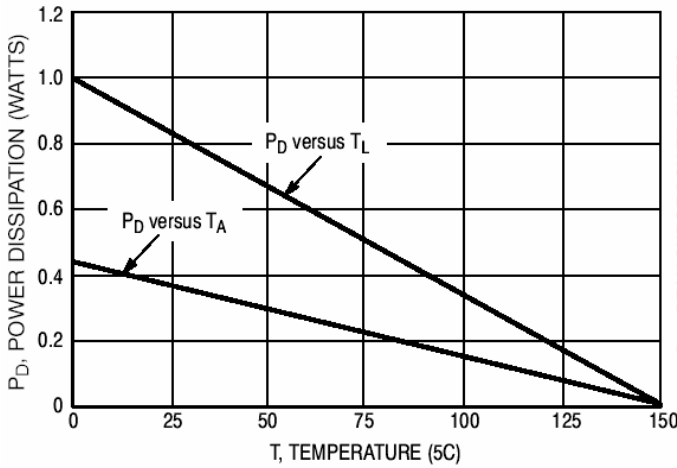


Figure 3. Steady State Power Derating

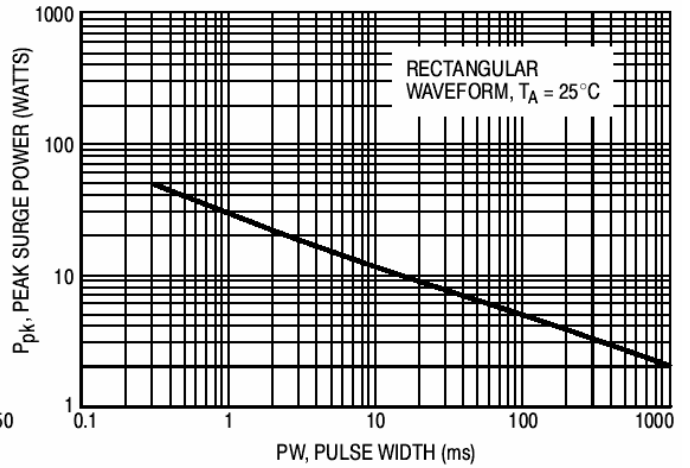


Figure 4. Maximum Nonrepetitive Surge Power

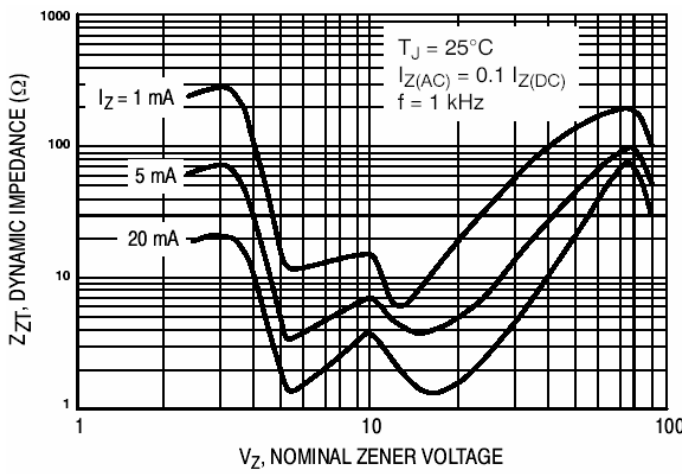


Figure 5. Effect of Zener Voltage on Zener Impedance

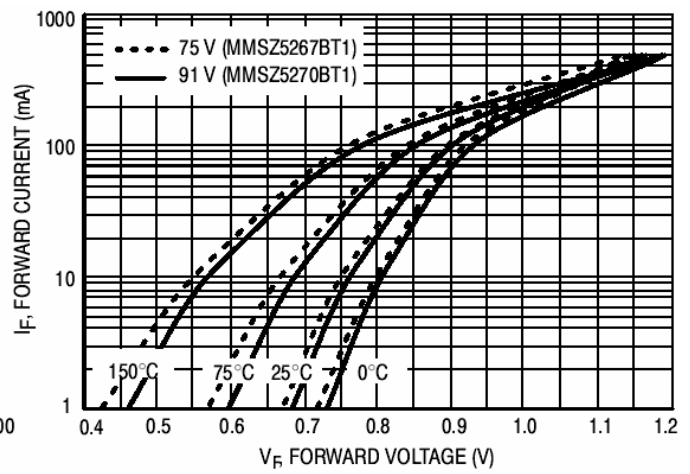


Figure 6. Typical Forward Voltage

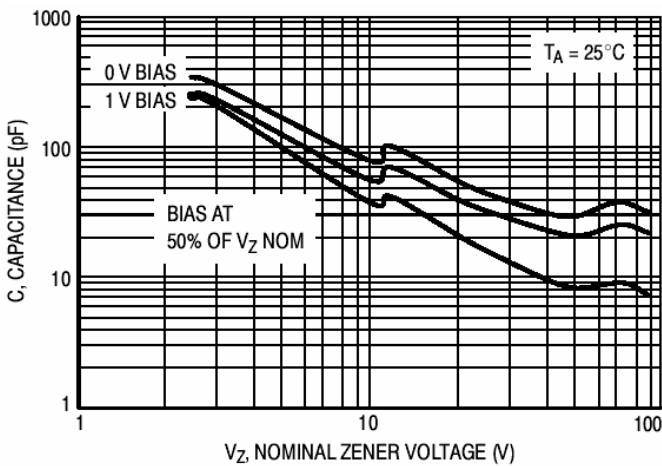


Figure 7. Typical Capacitance

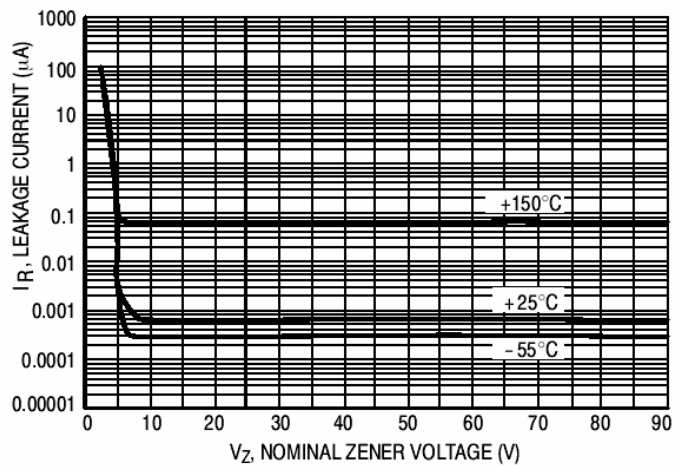


Figure 8. Typical Leakage Current

RATING AND CHARACTERISTICS CURVES (MMSZ4678 THRU MMSZ4717)

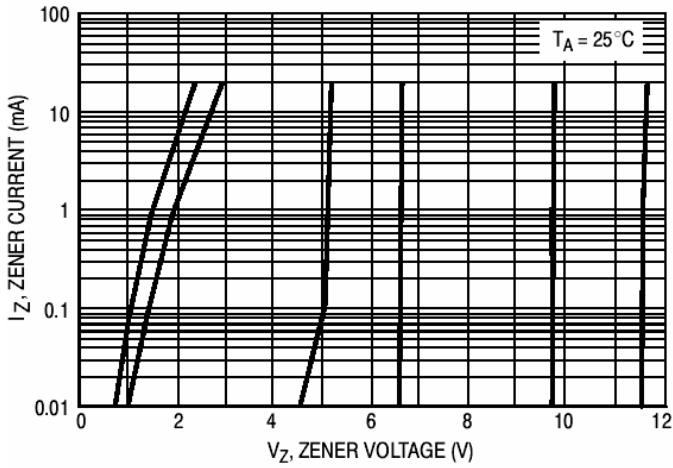


Figure 9. Zener Voltage versus Zener Current (V_Z Up to 12 V)

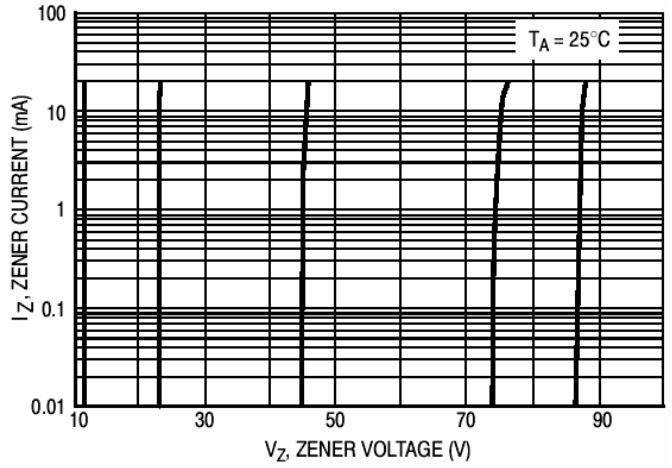
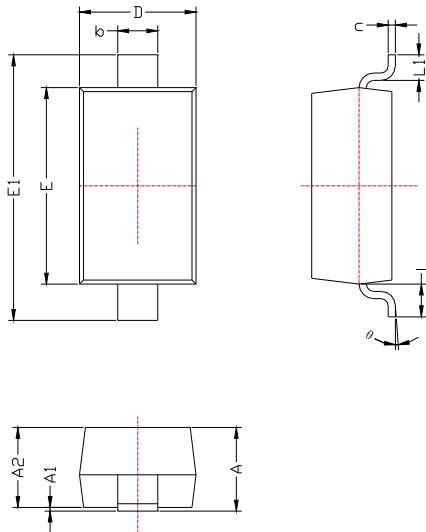


Figure 10. Zener Voltage versus Zener Current (12 V to 91 V)

SOD-123 PACKAGE OUTLINE Plastic surface mounted package

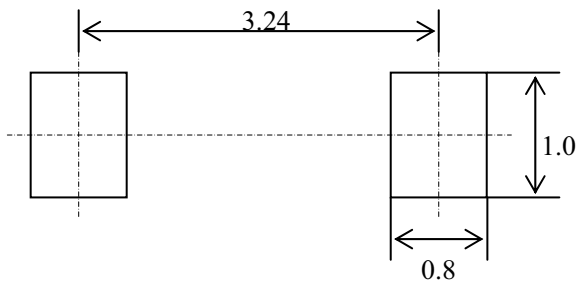


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500REF	
L1	0.250	0.450
θ	0°	8°

焊盘设计参考

Precautions: PCB Design

Recommended land dimensions for SOD-123 diode. Electrode patterns for PCBs



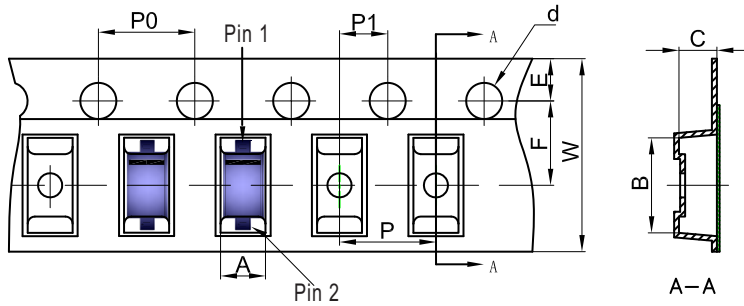
中心距: 3.24
脚宽: 0.55
焊盘宽: 1.00
脚长: 0.50
焊盘长: 0.80

技术要求:

- 1, 塑封体尺寸: 2.70 X 1.60
- 2, 未注公差为: ±0.05
- 3, 所有单位: mm

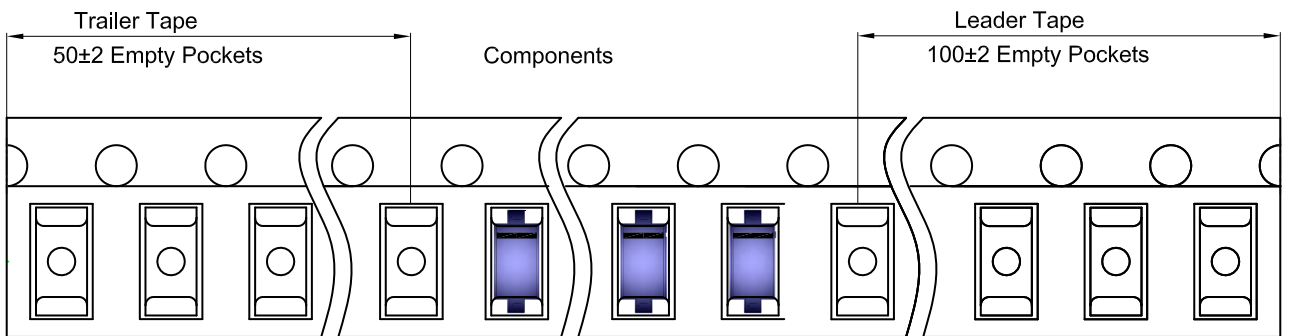
SOD-123 Tape and Reel

SOD-123 Embossed Carrier Tape

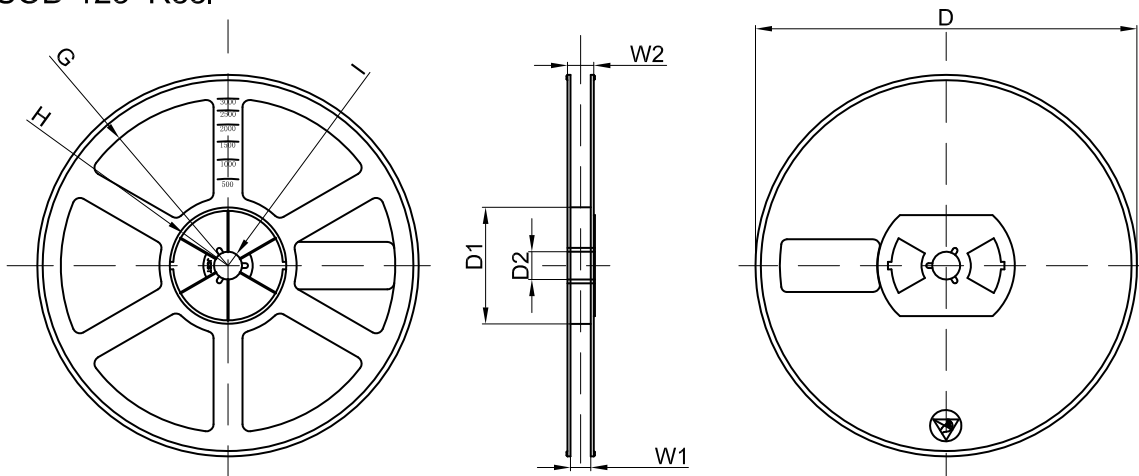


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOD-123 Tape Leader and Trailer



SOD-123 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

PACKAGING OF DIODE

REEL PACK

PACKAGE	PACKING CODE	REEL (EA)	COMPONENT SPACE(mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOD-123	-T	3,000	---	---	178	438*438*220	180,000	9.00

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