

FEATURES

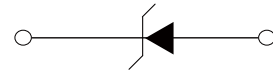
- | SOD-123 Package
- | Epoxy meets UL-94 V-0 flammability rating and halogen free



SOD-123

APPLICATION

- | Linear voltage regulator
- | DC regulator
- | Small-signal surge protection



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	500 ¹⁾	mW
Forward Voltage@I _F =10mA	V _F	0.9 ²⁾	V
Storage temperature range	T _S	-65 to +150	°C

Note:

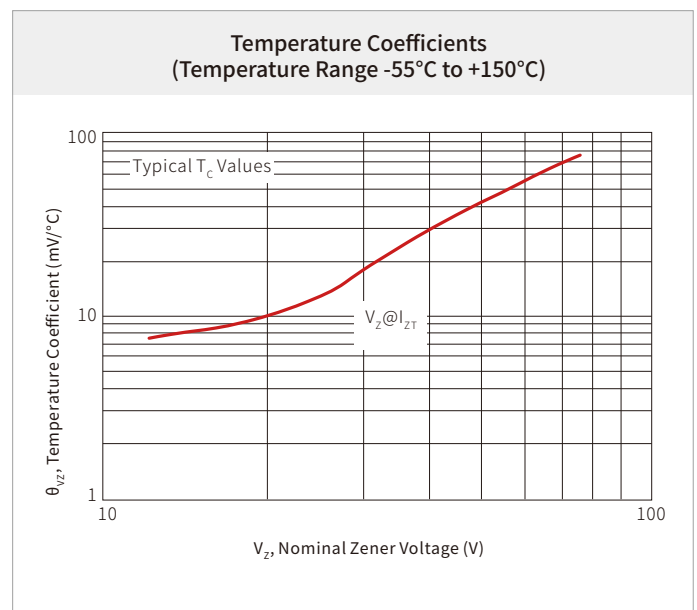
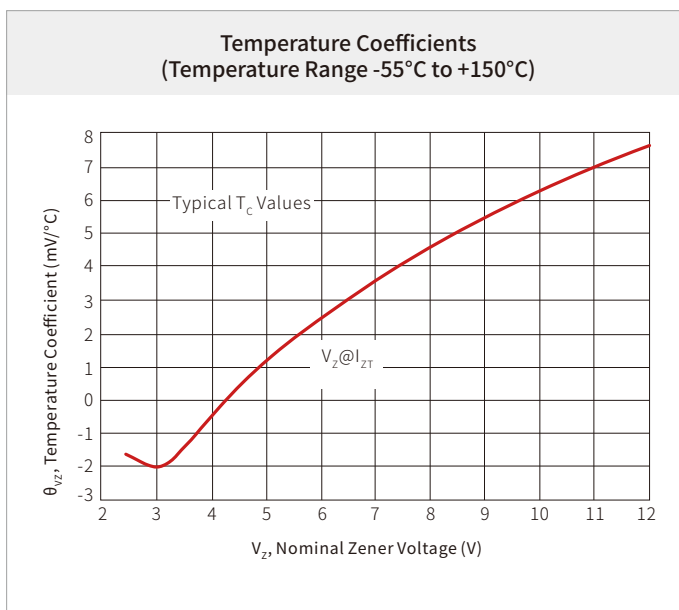
- 1) Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm²
- 2) Short duration test pulse used to minimize self-heating effect

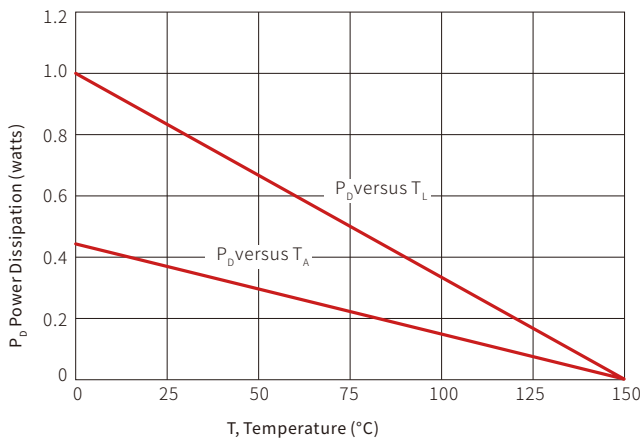
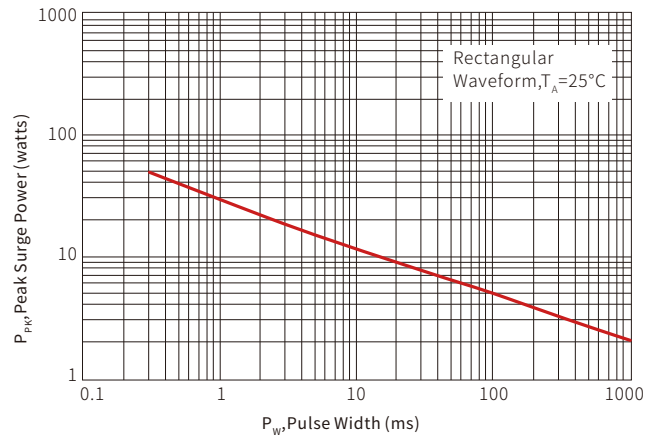
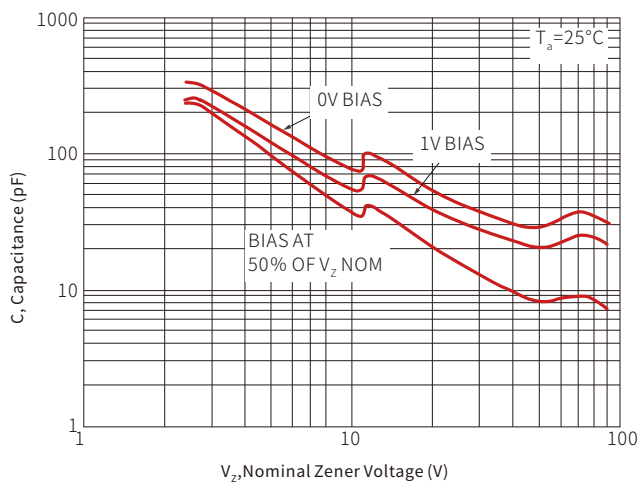
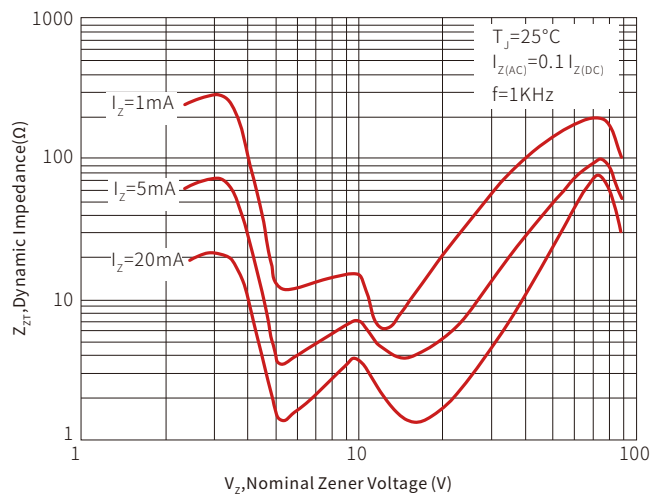
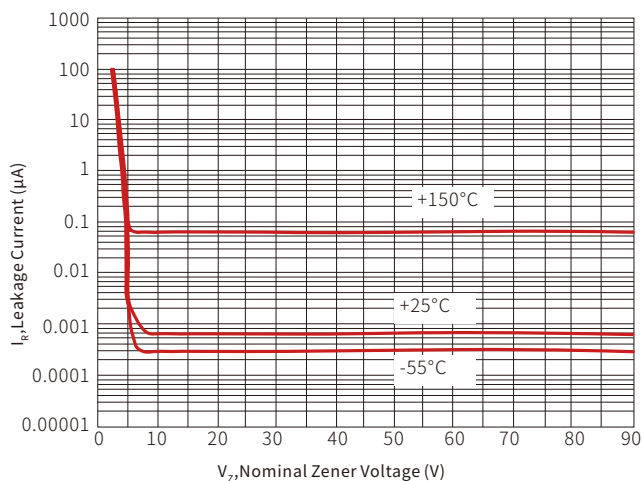
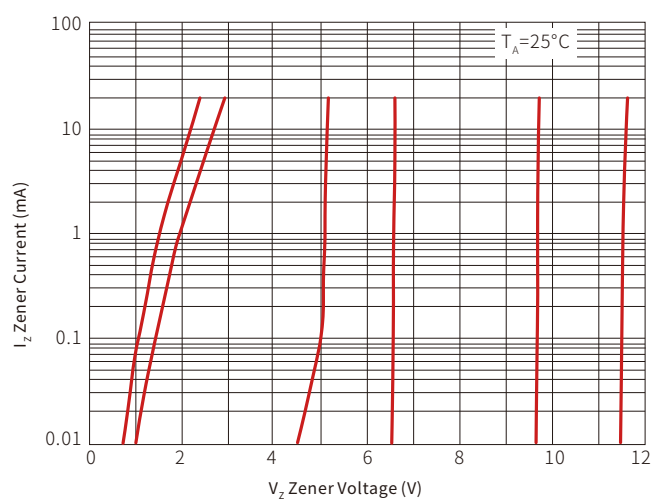
ELECTRICAL CHARACTERISTICS

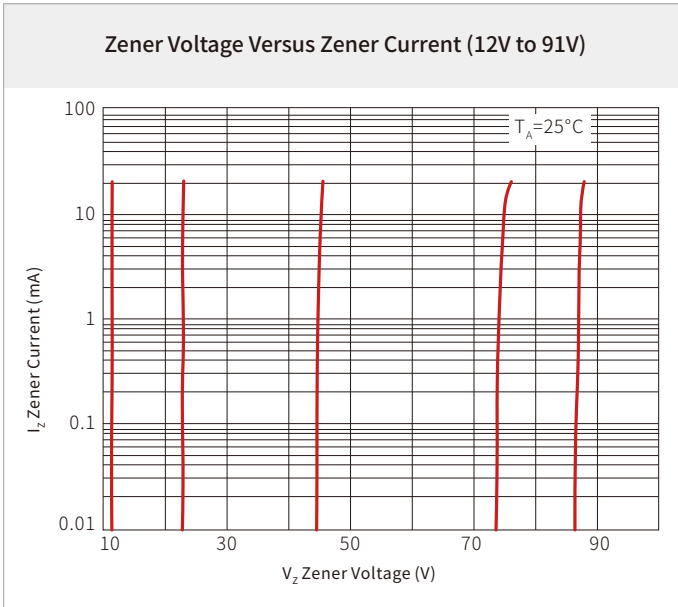
Part Number	Device Marking Code	Zener Voltage Range				Maximum Reverse Current	
		$V_Z@I_{ZT}$			I_{ZT}	I_R	V_R
		Nom.(V)	Min.(V)	Max.(V)	μA	μA	V
MMSZ4678	CC	1.8	1.71	1.89	50	7.5	1
MMSZ4679	CD	2.0	1.90	2.10	50	5	1
MMSZ4680	CE	2.2	2.09	2.31	50	4	1
MMSZ4681	CF	2.4	2.28	2.52	50	2	1
MMSZ4682	CH	2.7	2.57	2.84	50	1	1
MMSZ4683	CJ	3.0	2.85	3.15	50	0.8	1
MMSZ4684	CK	3.3	3.15	3.47	50	7.5	1.5
MMSZ4685	CM	3.6	3.42	3.78	50	7.5	2
MMSZ4686	CN	3.9	3.70	4.10	50	5	2
MMSZ4687	CP	4.3	4.09	4.52	50	4	2
MMSZ4688	CT	4.7	4.47	4.94	50	10	3
MMSZ4689	CU	5.1	4.85	5.36	50	10	3
MMSZ4690	CV	5.6	5.32	5.88	50	10	4
MMSZ4691	CA	6.2	5.89	6.51	50	10	5
MMSZ4692	CX	6.8	6.46	7.14	50	10	5.1
MMSZ4693	CY	7.5	7.13	7.88	50	10	5.7
MMSZ4694	CZ	8.2	7.79	8.61	50	1	6.2
MMSZ4695	DC	8.7	8.27	9.14	50	1	6.6
MMSZ4696	DD	9.1	8.65	9.56	50	1	6.9
MMSZ4697	DE	10.0	9.50	10.50	50	1	7.6
MMSZ4698	DF	11.0	10.45	11.55	50	0.05	8.4
MMSZ4699	DH	12.0	11.40	12.60	50	0.05	9.1
MMSZ4700	DJ	13.0	12.35	13.65	50	0.05	9.8
MMSZ4701	DK	14.0	13.30	14.70	50	0.05	10.6
MMSZ4702	DM	15.0	14.25	15.75	50	0.05	11.4
MMSZ4703	DN	16.0	15.20	16.80	50	0.05	12.1
MMSZ4704	DP	17.0	16.15	17.85	50	0.05	12.9
MMSZ4705	DT	18.0	17.10	18.90	50	0.05	13.6
MMSZ4706	DU	19.0	18.05	19.95	50	0.05	14.4
MMSZ4707	DV	20.0	19.0	21.00	50	0.01	15.2
MMSZ4708	DA	22.0	20.90	23.10	50	0.01	16.7
MMSZ4709	DX	24.0	22.80	25.20	50	0.01	18.2
MMSZ4710	DY	25.0	23.75	26.25	50	0.01	19

Part Number	Device Marking Code	Zener Voltage Range				Maximum Reverse Current	
		$V_Z@I_{ZT}$			I_{ZT}	I_R	V_R
		Nom.(V)	Min.(V)	Max.(V)	μA	μA	V
MMSZ4711	EA	27.0	25.65	28.35	50	0.01	20.4
MMSZ4712	EC	28.0	26.60	29.40	50	0.01	21.2
MMSZ4713	ED	30.0	28.50	31.50	50	0.01	22.8
MMSZ4714	EE	33.0	31.35	34.65	50	0.01	25
MMSZ4715	EF	36.0	34.20	37.80	50	0.01	27.3
MMSZ4716	EH	39.0	37.05	40.95	50	0.01	29.6
MMSZ4717	EJ	43.0	40.85	45.15	50	0.01	32.6

CHARACTERISTIC CURVES

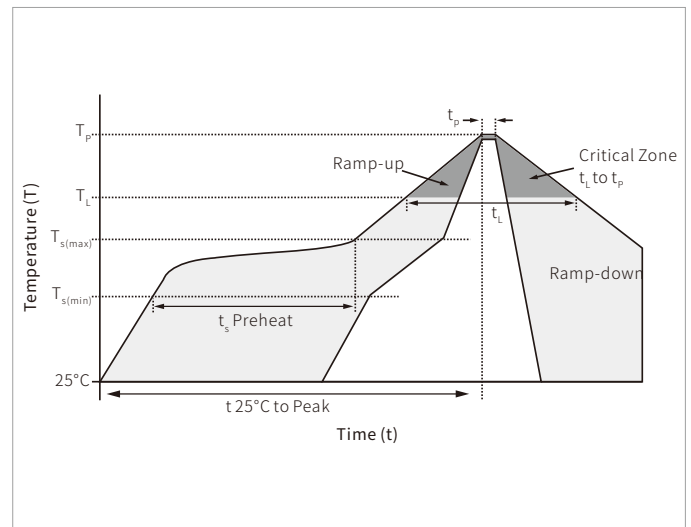


Steady State Power Derating

Maximum Nonrepetitive Surge Power

Typical Capacitance

Effect of Zener Voltage on Zener Impedance

Typical Leakage Current

Zener Voltage Versus Zener Current (V_Z Up to 12V)


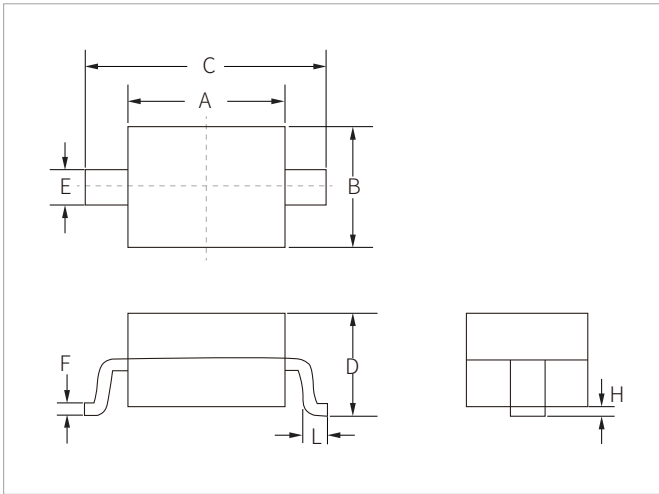


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(\min)}$)	150°C
	Temperature Max ($T_{s(\max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(\max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_r)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

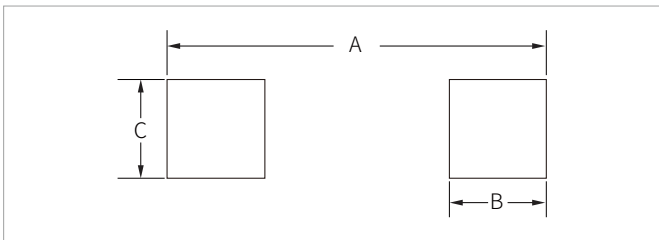


SOD-123 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	2.80	0.102	0.110
B	1.50	1.70	0.059	0.067
C	3.55	3.85	0.140	0.152
D	1.05	1.25	0.041	0.049
E	0.45	0.65	0.018	0.026
F	0.08	0.15	0.003	0.006
H	0.00	0.10	0.000	0.004
L	0.25	0.45	0.010	0.018

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.00	4.30	0.157	0.169
B	0.75	0.85	0.030	0.033
C	0.95	1.05	0.037	0.041

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MMSZ4678-MMSZ4717	SOD-123	3000PCS	7"

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