TECH PUBLIC
台舟电子

MMSZxxxT1G-TP Series
500m Watt Zener Voltage Regulators

WWW.TECHPUBLIC.COM

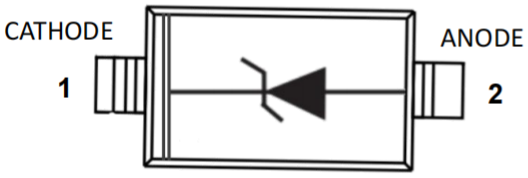
Features

- Low Zener Impedance
- Power Dissipation of 500mW
- High Stability and High Reliability
- Halogen free and RoHS compliant
- SOD123 surface mount package

Applications

- General voltage regulation
- Mobile & handheld systems
- Household Electric Appliances
- Industrial automation
- communication field

Pin Configuration



SOD123

Maximum Ratings& Thermal Characteristics

(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Forward Voltage @ IF=10mA	VF	0.9	V
Power Dissipation	PD	500	mW
Thermal Resistance (Junction-to-Ambient)	RθJA	340	°C/W
Junction Temperature Range	TJ	-55 ~ +150	°C
Storage Temperature Range	TSTG	-55 ~ +150	°C

MMSZxxxT1G-TP Series
500m Watt Zener Voltage Regulators

Electrical Characteristics (TA=25°C unless otherwise specified)

Part Number	V_{Z1} (Volts)			Z_{ZT1}	V_{Z2} (Volts)		Z_{ZT2}	Max Reverse Leakage Current	
	@ I_{ZT1} = 5 mA				@ I_{ZT2} = 1 mA			I_R @ V_R	
	Min	Nom	Max	Ω	Min	Max	Ω	μA	Volts
MMSZ2V4T1G-TP	2.28	2.4	2.52	100	1.7	2.1	600	50	1
MMSZ2V7T1G-TP	2.57	2.7	2.84	100	1.9	2.4	600	20	1
MMSZ3V0T1G-TP	2.85	3.0	3.15	95	2.1	2.7	600	10	1
MMSZ3V3T1G-TP	3.14	3.3	3.47	95	2.3	2.9	600	5	1
MMSZ3V6T1G-TP	3.42	3.6	3.78	90	2.7	3.3	600	5	1
MMSZ3V9T1G-TP	3.71	3.9	4.10	90	2.9	3.5	600	3	1
MMSZ4V3T1G-TP	4.09	4.3	4.52	90	3.3	4.0	600	3	1
MMSZ4V7T1G-TP	4.47	4.7	4.94	80	3.7	4.7	500	3	2
MMSZ5V1T1G-TP	4.85	5.1	5.36	60	4.2	5.3	480	2	2
MMSZ5V6T1G-TP	5.32	5.6	5.88	40	4.8	6.0	400	1	2
MMSZ6V2T1G-TP	5.89	6.2	6.51	10	5.6	6.6	150	3	4
MMSZ6V8T1G-TP	6.46	6.8	7.14	15	6.3	7.2	80	2	4
MMSZ7V5T1G-TP	7.13	7.5	7.88	15	6.9	7.9	80	1	5
MMSZ8V2T1G-TP	7.79	8.2	8.61	15	7.6	8.7	80	0.7	5
MMSZ9V1T1G-TP	8.65	9.1	9.56	15	8.4	9.6	100	0.5	6
MMSZ10T1G-TP	9.50	10	10.50	20	9.3	10.6	150	0.2	7
MMSZ11T1G-TP	10.45	11	11.55	20	10.2	11.6	150	0.1	8
MMSZ12T1G-TP	11.40	12	12.60	25	11.2	12.7	150	0.1	8
MMSZ13T1G-TP	12.35	13	13.65	30	12.3	14.0	170	0.1	8
MMSZ15T1G-TP	14.25	15	15.75	30	13.7	15.5	200	0.05	10.5
MMSZ16T1G-TP	15.20	16	16.80	40	15.2	17.0	200	0.05	11.2
MMSZ18T1G-TP	17.10	18	18.90	45	16.7	19.0	225	0.05	12.6
MMSZ20T1G-TP	19.00	20	21.00	55	18.7	21.1	225	0.05	14
MMSZ22T1G-TP	20.90	22	23.10	55	20.7	23.2	250	0.05	15.4
MMSZ24T1G-TP	22.80	24	25.20	70	22.7	25.5	250	0.05	16.8

Electrical Characteristics (TA=25°C unless otherwise specified)

Part Number	VZ1 (Volts)			ZZT1	VZ2 (Volts)		ZZT2	Max Reverse Leakage Current	
	@ IZT1 = 5 mA				@ IZT2 = 1 mA			IR @ VR	
	Min	Nom	Max	Ω	Min	Max	Ω	μA	Volts
MMSZ27T1G-TP	25.65	27	28.35	80	25	28.9	300	0.05	18.9
MMSZ30T1G-TP	28.50	30	31.50	80	27.8	32	300	0.05	21
MMSZ33T1G-TP	31.35	33	34.65	80	30.8	35	325	0.05	23.1
MMSZ36T1G-TP	34.20	36	37.80	90	33.8	38	350	0.05	25.2
MMSZ39T1G-TP	37.05	39	40.95	130	36.7	41	350	0.05	27.3
MMSZ43T1G-TP	40.85	43	45.15	150	39.7	46	375	0.05	30.1
MMSZ47T1G-TP	44.65	47	49.35	170	43.7	50	375	0.05	32.9
MMSZ51T1G-TP	48.45	51	53.55	180	47.6	54	400	0.05	35.7
MMSZ56T1G-TP	53.20	56	58.80	200	51.5	60	425	0.05	39.2

1.The type numbers shown have a standard tolerance of 5% on the nominal Zener Voltage.

2.Tolerance and Voltage Designation: Zener Voltage (VZ) is measured with the Zener Current applied for PW = 1 ms.

3.ZZT and ZZK are measured by dividing the AC voltage drop across the device by the AC current applied. The specified limits are for IZ(AC) = 0.1 IZ(DC), with the AC frequency = 1 kHz.

Typical Characteristics Curves

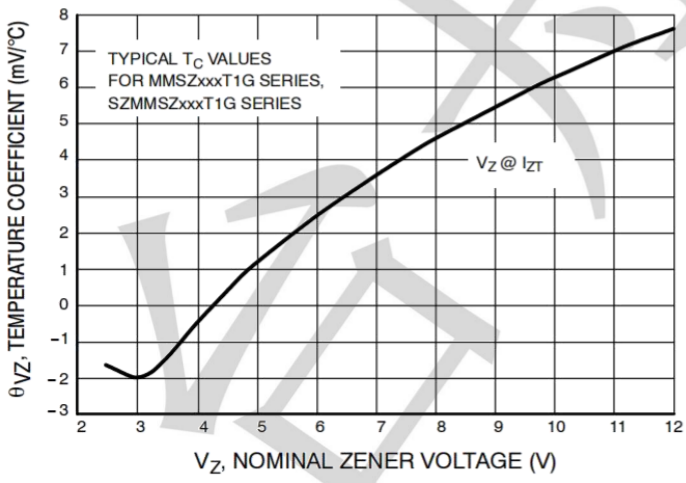


Figure 1. Temperature Coefficients (Temperature Range −55°C to +150°C)

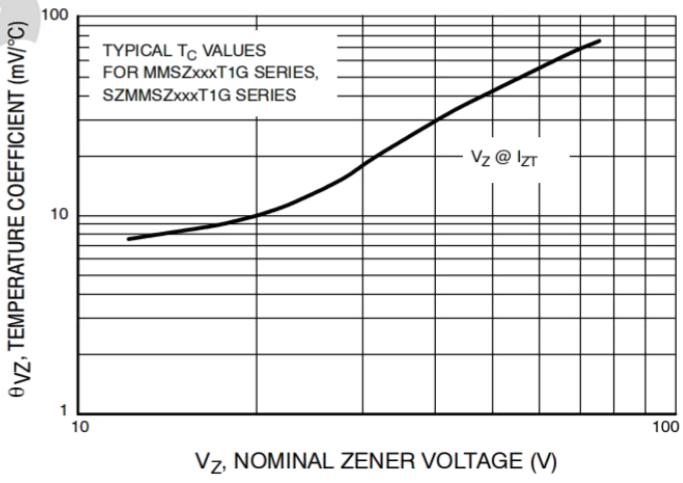


Figure 2. Temperature Coefficients (Temperature Range −55°C to +150°C)

Typical Characteristics Curves

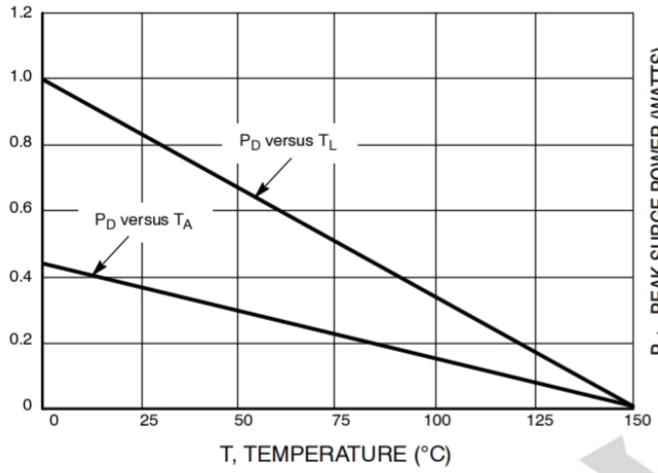


Figure 3. Steady State Power Derating

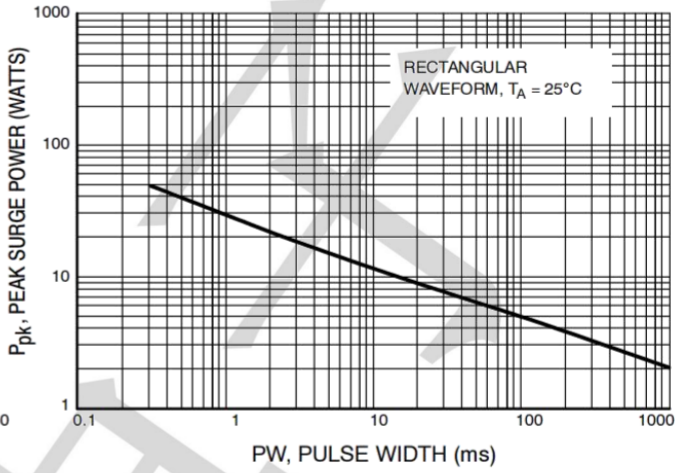


Figure 4. Maximum Nonrepetitive Surge Power

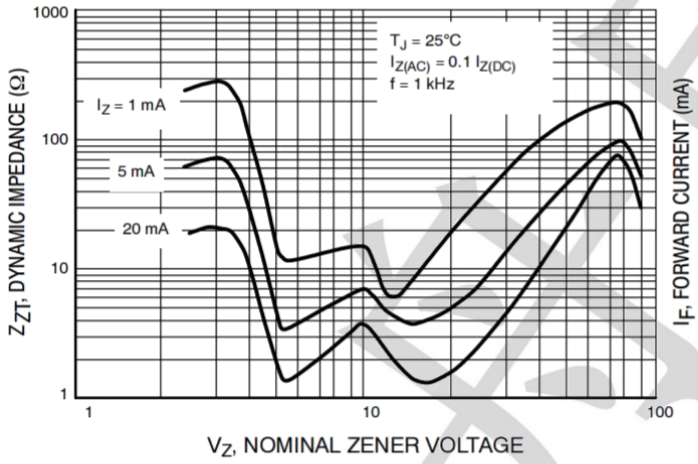


Figure 5. Effect of Zener Voltage on Zener Impedance

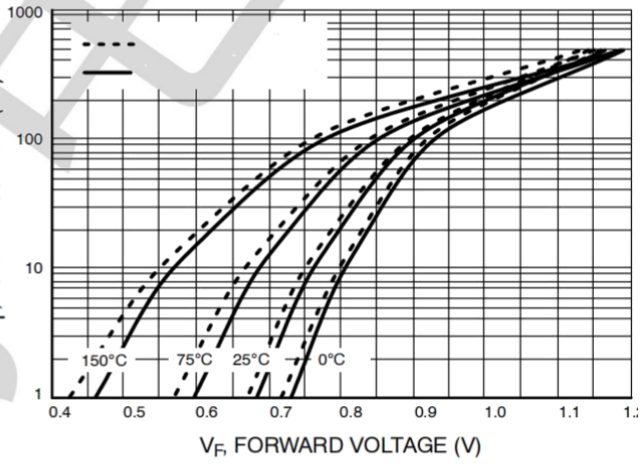


Figure 6. Typical Forward Voltage

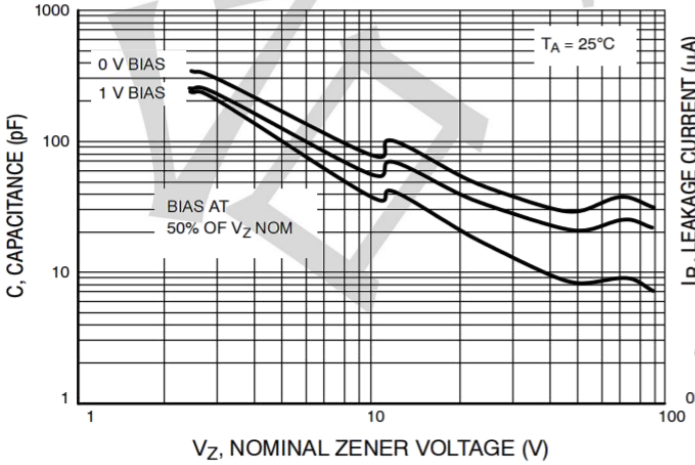


Figure 7. Typical Capacitance

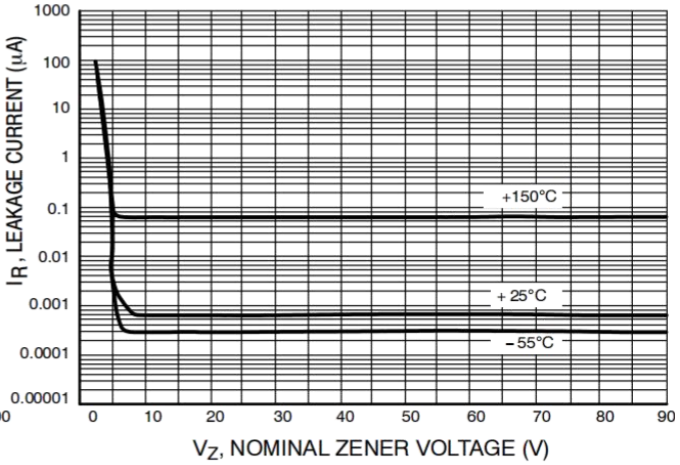
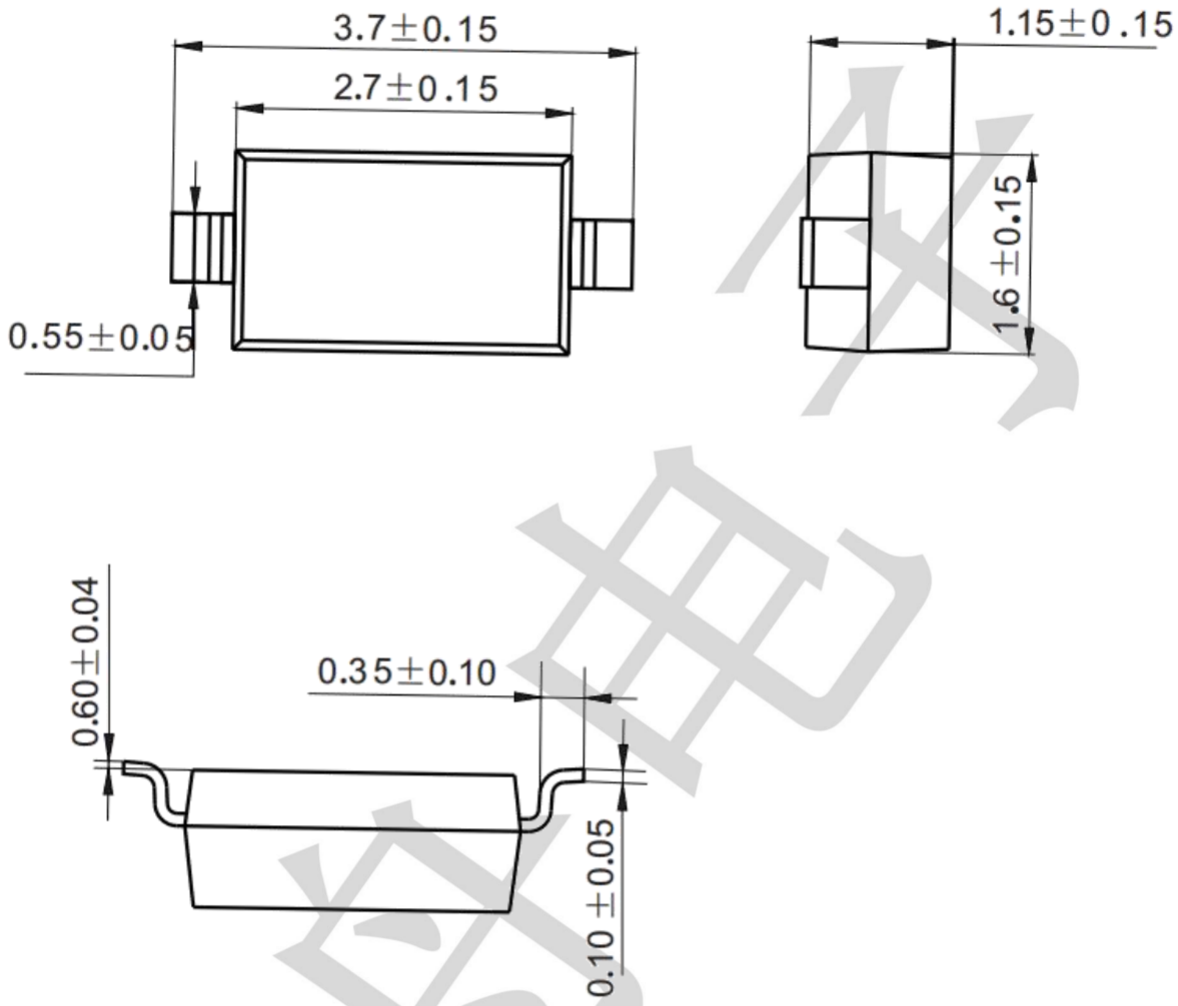


Figure 8. Typical Leakage Current

Package Outline Dimensions (unit: mm)

SOD123



Mounting Pad Layout (unit: mm)