TECH PUBLIC
台舟电子

# MMSZ4xxxT1G-TP Series
## 500m Watt Zener Voltage Regulators

WWW.TECHPUBLIC.COM

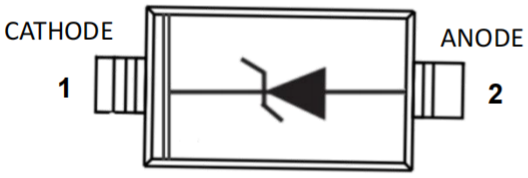
## Features

- 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 |

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

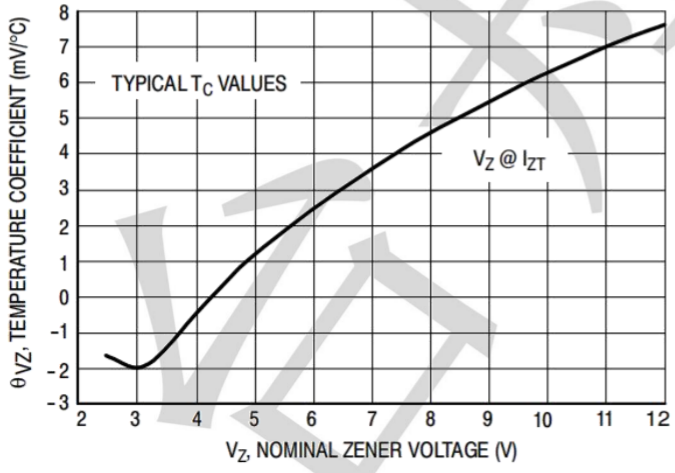
| Part Number | Zener Voltage | | | | Leakage Current | |
|---|---|---|---|---|---|---|
| | $V_Z$ (Volts) | | | @ $I_{ZT}$ | $I_R$ @ $V_R$ | |
| | Min | Nom | Max | μA | μA | Volts |
| MMSZ4678T1G -TP | 1.71 | 1.8 | 1.89 | 50 | 7.5 | 1 |
| MMSZ4679T1G -TP | 1.90 | 2.0 | 2.10 | 50 | 5 | 1 |
| MMSZ4680T1G -TP | 2.09 | 2.2 | 2.31 | 50 | 4 | 1 |
| MMSZ4681T1G -TP | 2.28 | 2.4 | 2.52 | 50 | 2 | 1 |
| MMSZ4682T1G -TP | 2.565 | 2.7 | 2.835 | 50 | 1 | 1 |
| MMSZ4683T1G -TP | 2.85 | 3.0 | 3.15 | 50 | 0.8 | 1 |
| MMSZ4684T1G -TP | 3.13 | 3.3 | 3.47 | 50 | 7.5 | 1.5 |
| MMSZ4685T1G -TP | 3.42 | 3.6 | 3.78 | 50 | 7.5 | 2 |
| MMSZ4686T1G -TP | 3.70 | 3.9 | 4.10 | 50 | 5 | 2 |
| MMSZ4687T1G -TP | 4.09 | 4.3 | 4.52 | 50 | 4 | 2 |
| MMSZ4688T1G -TP | 4.47 | 4.7 | 4.94 | 50 | 10 | 3 |
| MMSZ4689T1G -TP | 4.85 | 5.1 | 5.36 | 50 | 10 | 3 |
| MMSZ4690T1G -TP | 5.32 | 5.6 | 5.88 | 50 | 10 | 4 |
| MMSZ4691T1G -TP | 5.89 | 6.2 | 6.51 | 50 | 10 | 5 |
| MMSZ4692T1G -TP | 6.46 | 6.8 | 7.14 | 50 | 10 | 5.1 |
| MMSZ4693T1G -TP | 7.13 | 7.5 | 7.88 | 50 | 10 | 5.7 |
| MMSZ4694T1G -TP | 7.79 | 8.2 | 8.61 | 50 | 1 | 6.2 |
| MMSZ4695T1G -TP | 8.27 | 8.7 | 9.14 | 50 | 1 | 6.6 |
| MMSZ4696T1G -TP | 8.65 | 9.1 | 9.56 | 50 | 1 | 6.9 |
| MMSZ4697T1G -TP | 9.50 | 10 | 10.50 | 50 | 1 | 7.6 |
| MMSZ4698T1G -TP | 10.45 | 11 | 11.55 | 50 | 0.05 | 8.4 |
| MMSZ4699T1G -TP | 11.40 | 12 | 12.60 | 50 | 0.05 | 9.1 |
| MMSZ4700T1G -TP | 12.35 | 13 | 13.65 | 50 | 0.05 | 9.8 |
| MMSZ4701T1G -TP | 13.30 | 14 | 14.70 | 50 | 0.05 | 10.6 |
| MMSZ4702T1G -TP | 14.25 | 15 | 15.75 | 50 | 0.05 | 11.4 |
| MMSZ4703T1G -TP | 15.20 | 16 | 16.80 | 50 | 0.05 | 12.1 |
| MMSZ4704T1G -TP | 16.15 | 17 | 17.85 | 50 | 0.05 | 12.9 |
| MMSZ4705T1G -TP | 17.10 | 18 | 18.90 | 50 | 0.05 | 13.6 |

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

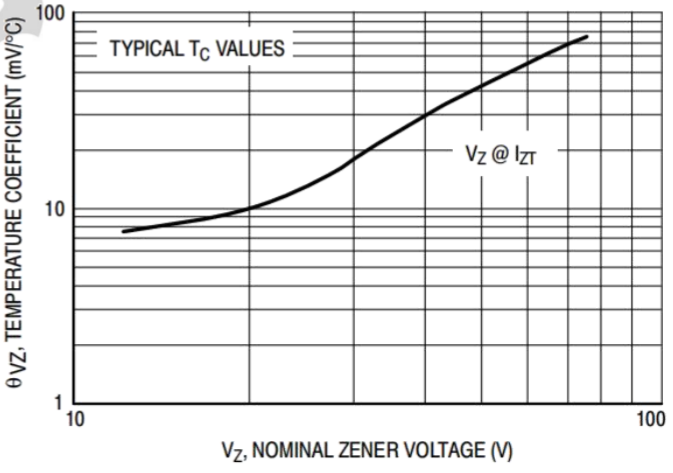
| Part Number | Zener Voltage | | | | Leakage Current | |
|---|---|---|---|---|---|---|
| | $V_Z$ (Volts) | | | @ $I_{ZT}$ | $I_R$ @ $V_R$ | |
| | Min | Nom | Max | μA | μA | Volts |
| MMSZ4706T1G -TP | 18.05 | 19 | 19.95 | 50 | 0.05 | 14.4 |
| MMSZ4707T1G -TP | 19.00 | 20 | 21.00 | 50 | 0.01 | 15.2 |
| MMSZ4708T1G -TP | 20.90 | 22 | 23.10 | 50 | 0.01 | 16.7 |
| MMSZ4709T1G -TP | 22.80 | 24 | 25.20 | 50 | 0.01 | 18.2 |
| MMSZ4710T1G -TP | 23.75 | 25 | 26.25 | 50 | 0.01 | 19.0 |
| MMSZ4711T1G -TP | 25.65 | 27 | 28.35 | 50 | 0.01 | 20.4 |
| MMSZ4712T1G -TP | 26.60 | 28 | 29.40 | 50 | 0.01 | 21.2 |
| MMSZ4713T1G -TP | 28.50 | 30 | 31.50 | 50 | 0.01 | 22.8 |
| MMSZ4714T1G -TP | 31.35 | 33 | 34.65 | 50 | 0.01 | 25.0 |
| MMSZ4715T1G -TP | 34.20 | 36 | 37.80 | 50 | 0.01 | 27.3 |
| MMSZ4716T1G -TP | 37.05 | 39 | 40.95 | 50 | 0.01 | 29.6 |
| MMSZ4717T1G -TP | 40.85 | 43 | 45.15 | 50 | 0.01 | 32.6 |

.

## Typical Characteristics Curves

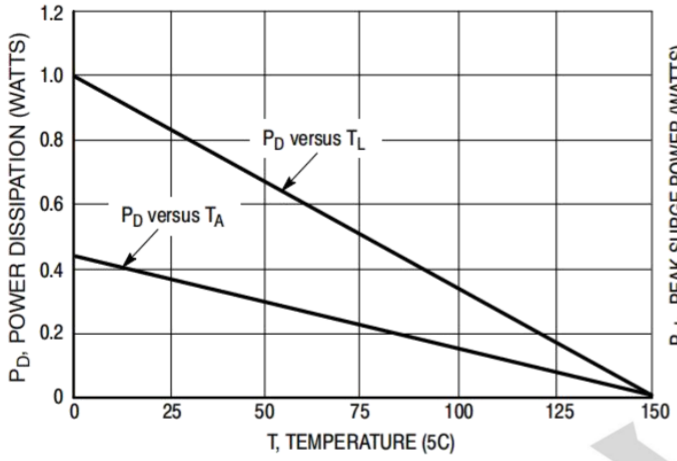



**Temperature Coefficients**
**(Temperature Range –55°C to +150°C)**

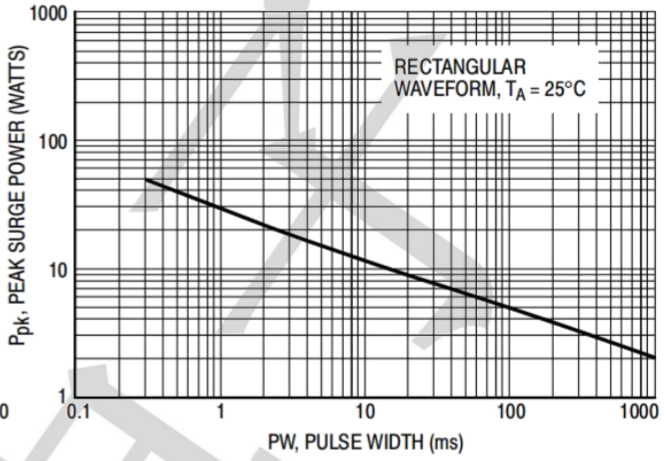



**Temperature Coefficients**
**(Temperature Range –55°C to +150°C)**

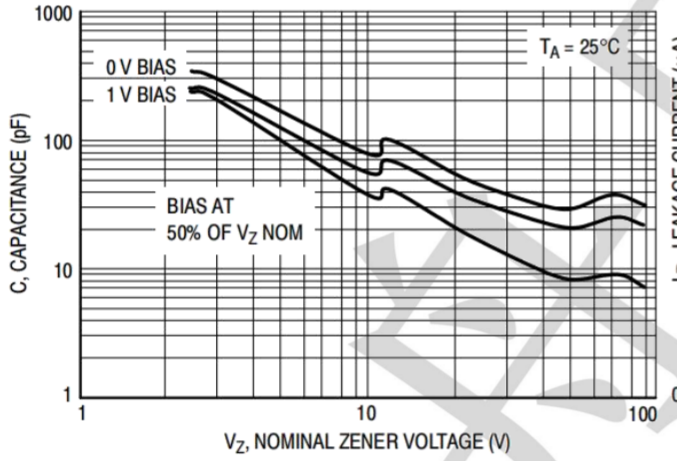
## Typical Characteristics Curves



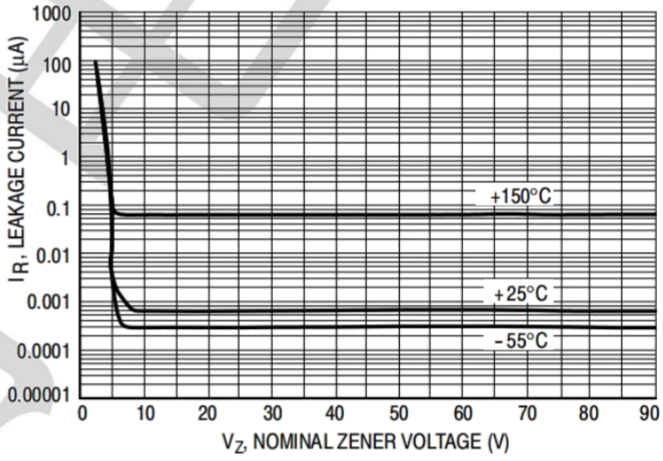

**Steady State Power Derating**



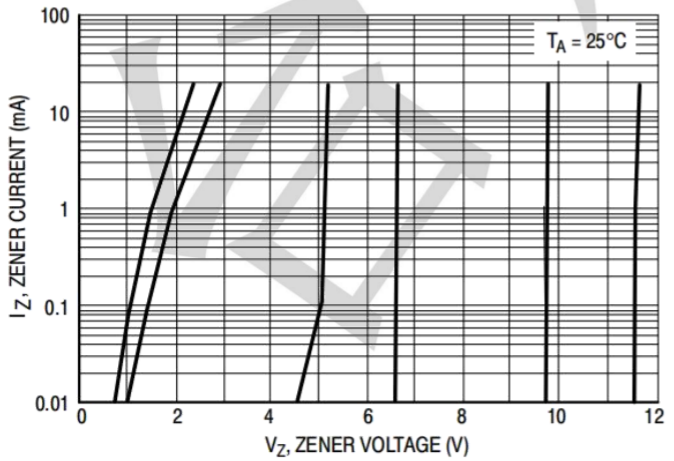

**Maximum Nonrepetitive Surge Power**



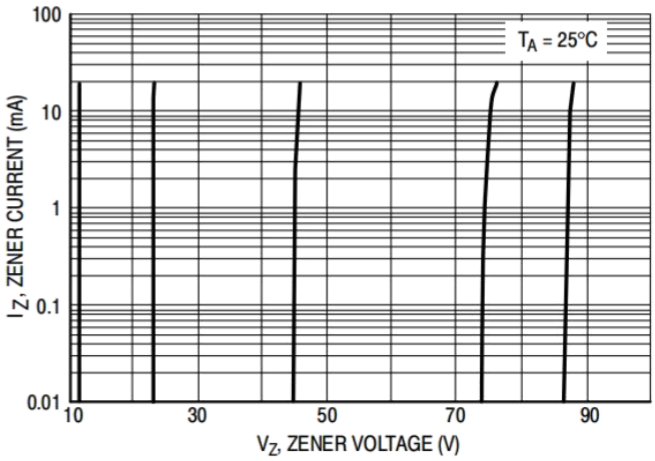

**Typical Capacitance**




**Typical Leakage Current**



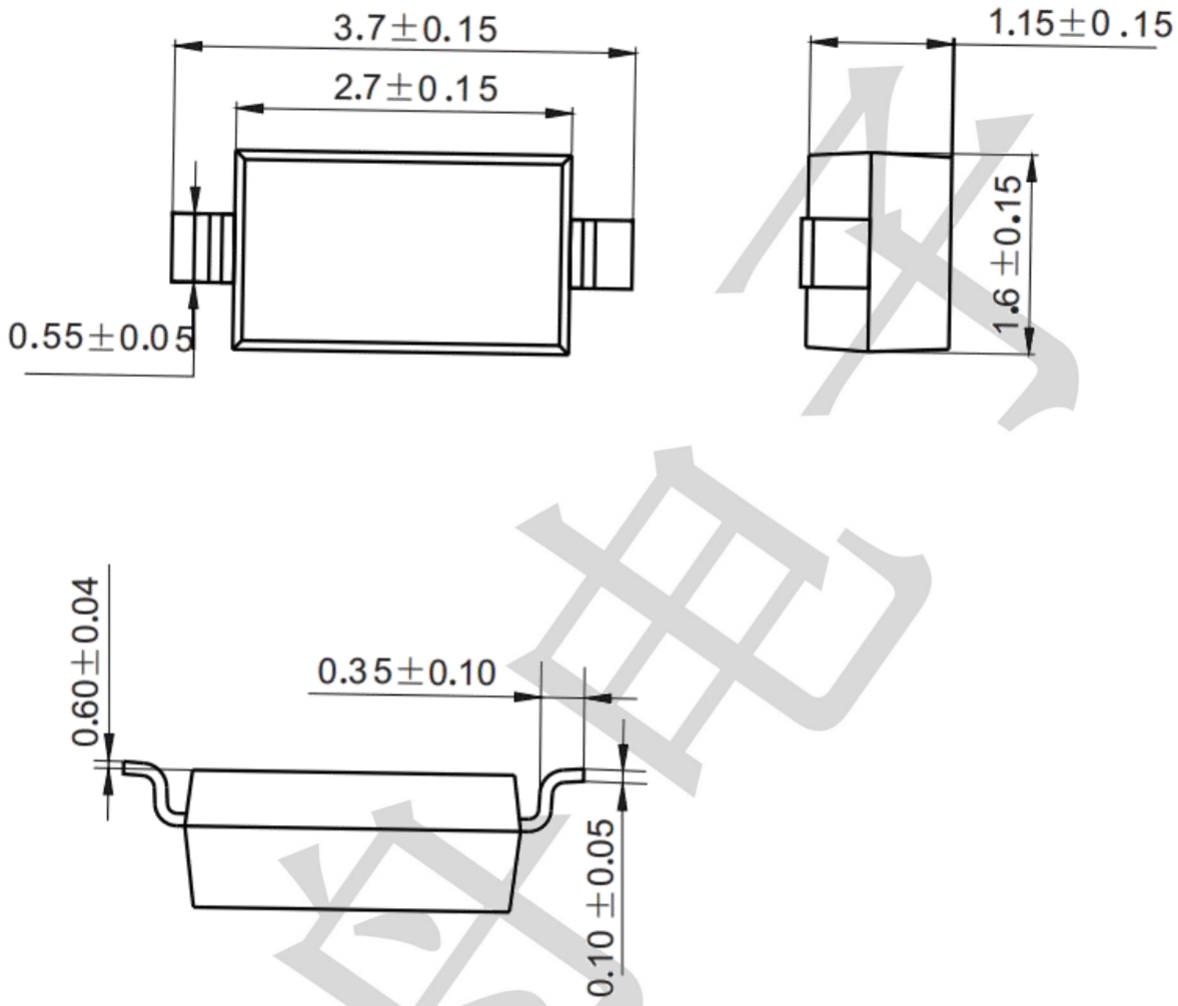

**Zener Voltage versus Zener Current ($V_Z$ Up to 12 V)**

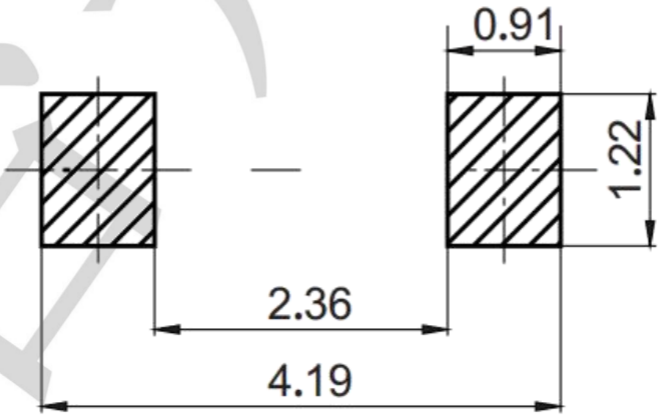



**Zener Voltage versus Zener Current (12 V to 91 V)**

## Package Outline Dimensions (unit: mm)

**SOD123**




## Mounting Pad Layout (unit: mm)