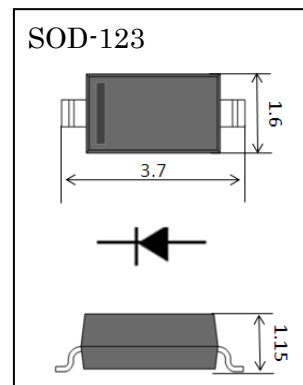


DATA SHEET

MMSZ4678 THRU MMSZ4716 Series

- ◇ Constant Voltage control
 - ◇ Wide Voltage Range Selection 1.8V to 39V
 - ◇ RoHS compliant / Green EMC
 - ◇ Matte Tin (Sn) Lead finish
 - ◇ Cathode Band / Device marking
- Refer to table list



Absolute Maximum Ratings (Ta = 25 °C)

| Symbol | Parameter | Value | Units |
|-----------|---------------------------|-------------|-------|
| P_D | Power Dissipation | 500 | mW |
| T_J | Junction Temperature | 150 | °C |
| T_{STG} | Storage Temperature | -55 to +125 | °C |
| I_{ZM} | Maximum Regulator Current | P_D/V_Z | mA |

Electrical Characteristics (Ta = 25 °C)

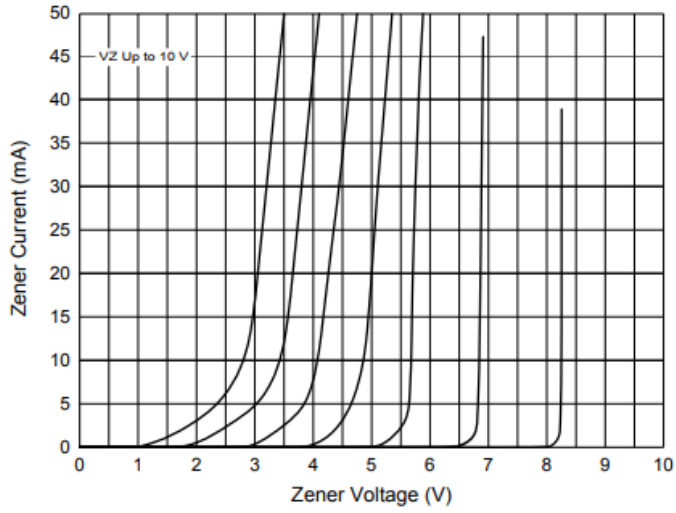
| Device | Zener Voltage | | | I_{ZT} | Leakage Current | | Marking |
|----------|------------------------|-----|-------|----------|-----------------|-------|---------|
| | $V_Z @ I_{ZT}$ (Volts) | | | | $I_R @ V_R$ | V_R | |
| | Min | Nom | Max | u A | u A | Volts | |
| MMSZ4678 | 1.71 | 1.8 | 1.89 | 50 | 7.5 | 1 | CC |
| MMSZ4679 | 1.9 | 2 | 2.1 | 50 | 5 | 1 | CD |
| MMSZ4680 | 2.09 | 2.2 | 2.31 | 50 | 4 | 1 | CE |
| MMSZ4681 | 2.28 | 2.4 | 2.52 | 50 | 2 | 1 | CF |
| MMSZ4682 | 2.565 | 2.7 | 2.835 | 50 | 1 | 1 | CH |
| MMSZ4683 | 2.85 | 3 | 3.15 | 50 | 0.8 | 1 | CJ |
| MMSZ4684 | 3.135 | 3.3 | 3.465 | 50 | 7.5 | 1.5 | CK |
| MMSZ4685 | 3.42 | 3.6 | 3.78 | 50 | 7.5 | 2 | CM |
| MMSZ4686 | 3.705 | 3.9 | 4.095 | 50 | 5 | 2 | CN |
| MMSZ4687 | 4.085 | 4.3 | 4.515 | 50 | 4 | 2 | CP |
| MMSZ4688 | 4.465 | 4.7 | 4.935 | 50 | 10 | 3 | CT |
| MMSZ4689 | 4.845 | 5.1 | 5.355 | 50 | 10 | 3 | CU |
| MMSZ4690 | 5.32 | 5.6 | 5.88 | 50 | 10 | 4 | CV |
| MMSZ4691 | 5.89 | 6.2 | 6.51 | 50 | 10 | 5 | CA |
| MMSZ4692 | 6.46 | 6.8 | 7.14 | 50 | 10 | 5.1 | CX |

| | | | | | | | |
|----------|-------|-----|-------|----|------|------|----|
| MMSZ4693 | 7.125 | 7.5 | 7.875 | 50 | 10 | 5.7 | CY |
| MMSZ4694 | 7.79 | 8.2 | 8.61 | 50 | 1 | 6.2 | CZ |
| MMSZ4695 | 8.265 | 8.7 | 9.135 | 50 | 1 | 6.6 | DC |
| MMSZ4696 | 8.645 | 9.1 | 9.555 | 50 | 1 | 6.9 | DD |
| MMSZ4697 | 9.5 | 10 | 10.5 | 50 | 1 | 7.6 | DE |
| MMSZ4698 | 10.45 | 11 | 11.55 | 50 | 0.05 | 8.4 | DF |
| MMSZ4699 | 11.4 | 12 | 12.6 | 50 | 0.05 | 9.1 | DH |
| MMSZ4700 | 12.35 | 13 | 13.65 | 50 | 0.05 | 9.8 | DJ |
| MMSZ4701 | 13.3 | 14 | 14.7 | 50 | 0.05 | 10.6 | DK |
| MMSZ4702 | 14.25 | 15 | 15.75 | 50 | 0.05 | 11.4 | DM |
| MMSZ4703 | 15.2 | 16 | 16.8 | 50 | 0.05 | 12.1 | DN |
| MMSZ4704 | 16.15 | 17 | 17.85 | 50 | 0.05 | 12.9 | DP |
| MMSZ4705 | 17.1 | 18 | 18.9 | 50 | 0.05 | 13.6 | DT |
| MMSZ4706 | 18.05 | 19 | 19.95 | 50 | 0.05 | 14.4 | DU |
| MMSZ4707 | 19 | 20 | 21 | 50 | 0.01 | 15.2 | DV |
| MMSZ4708 | 20.9 | 22 | 23.1 | 50 | 0.01 | 16.7 | DA |
| MMSZ4709 | 22.8 | 24 | 25.2 | 50 | 0.01 | 18.2 | DX |
| MMSZ4710 | 23.75 | 25 | 26.25 | 50 | 0.01 | 19 | DY |
| MMSZ4711 | 25.65 | 27 | 28.35 | 50 | 0.01 | 20.4 | EA |
| MMSZ4712 | 26.6 | 28 | 29.4 | 50 | 0.01 | 21.2 | EC |
| MMSZ4713 | 28.5 | 30 | 31.5 | 50 | 0.01 | 22.8 | ED |
| MMSZ4714 | 31.35 | 33 | 34.65 | 50 | 0.01 | 25 | EE |
| MMSZ4715 | 34.2 | 36 | 37.8 | 50 | 0.01 | 27.3 | EF |
| MMSZ4716 | 37.05 | 39 | 40.95 | 50 | 0.01 | 29.6 | EH |

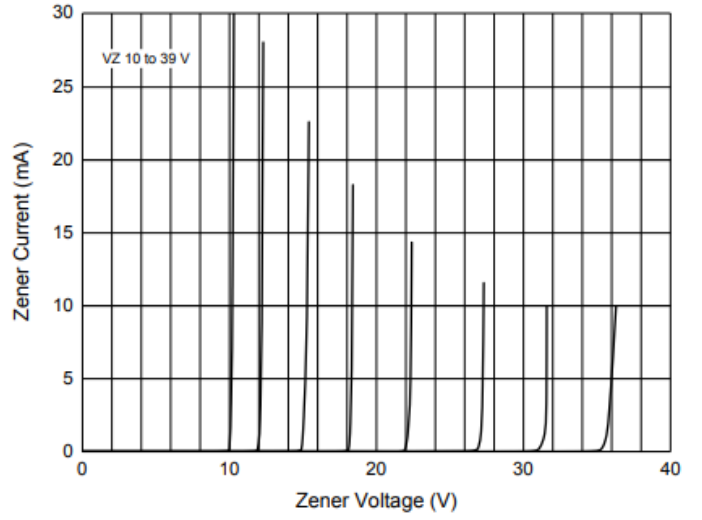
*1 Pulse width = 10 ms

Curve Characteristics

Typical Zener Breakdown



Typical Zener Breakdown



Ordering Information

| Device | Package | Shipping | Tape wide | Emboss pitch | Tape specification | Notes |
|---------------|---------|---------------------------------|-----------|--------------|--------------------|-------|
| MMSZ46 Series | SOD123 | Tape & Reel 3000pcs /7" Reel | 8 mm | 4 mm | Conductive | |

Package Dimensions

Package outline : SOD-123

| Unit | A | A1 | A2 | b | c | D | E | E1 | L | L1 | θ |
|------|------|------|------|------|------|------|------|------|---------------|------|----------|
| Max. | 1.25 | 0.10 | 1.15 | 0.65 | 0.15 | 1.70 | 2.80 | 3.85 | 0.500 REF. | 0.45 | 8° |
| Min. | 1.05 | 0.00 | 1.05 | 0.45 | 0.08 | 1.50 | 2.60 | 3.55 | | 0.25 | 0° |

SOD123 Package Outline

Land Pattern Recommendation

Note:

1. Halogen free,EMC
2. Pb free solder
3. Lead thickness includes solder plating
4. Lead frame: A42
5. Other Tolerance: ± 0.05
6. Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions
7. Unit: mm

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