



Micro Commercial Components



Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

MMSZ4678 THRU MMSZ4716

500mW Silicon Zener Diodes

Features

- Zener Voltage 1.8V-39V
- Very Sharp Reverse Characteristic
- VZ – tolerance $\pm 5\%$
- High Reliability
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Mechanical Data

- Halogen free available upon request by adding suffix "-HF"
- Polarity: Cathode indicated by polarity band
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

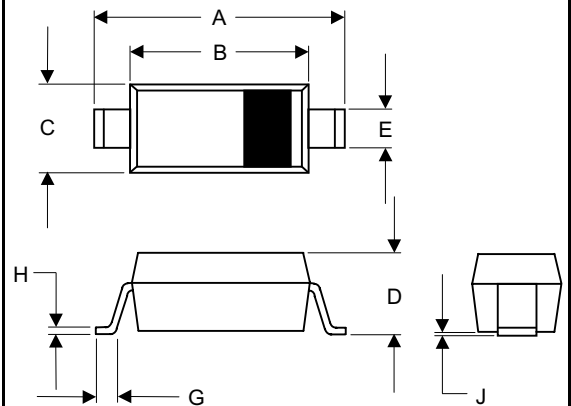
Maximum Ratings

| | Symbol | Value | Units |
|--|------------|------------|------------------|
| Max. Steady State Power Dissipation at $T_L < 75^\circ\text{C}$, Lead Length=3/8" | P_D | 500 | mW |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to 150 | $^\circ\text{C}$ |
| Thermal Resistance(Junction to Ambient) | R_{thJA} | 340 | K/W |

Electrical Characteristics @ 25°C Unless Otherwise Specified

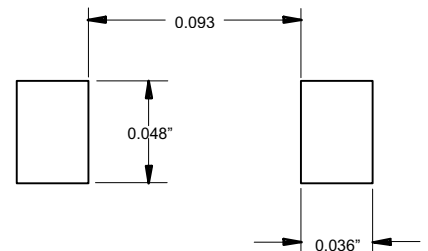
| | Symbol | Maximum | Unit |
|--|--------|---------|------|
| Max. Forward Voltage @ $I_F=10\text{mA}$ | V_F | 0.95 | V |

SOD-123



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|-------|-------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | .140 | .152 | 3.55 | 3.85 | |
| B | .100 | .112 | 2.55 | 2.85 | |
| C | .055 | .071 | 1.40 | 1.80 | |
| D | ----- | .053 | ----- | 1.35 | |
| E | .012 | .031 | 0.30 | .78 | |
| G | .006 | ----- | 0.15 | ----- | |
| H | ----- | .01 | ----- | .25 | |
| J | ----- | .006 | ----- | .15 | |

SUGGESTED SOLDER PAD LAYOUT



MMSZ4678 thru MMSZ4716

Electrical Characteristics (T_i= 30°C Unless Otherwise Noted, V_F=0.95V Max @ I_F=10mA for all types)

| Device | Zener Voltage | | | @I _{ZT} | Leakage Current | | Device Marking |
|----------|------------------------|------|-------|------------------|--------------------------------|-------|----------------|
| | V _Z (Volts) | | | | I _R @V _R | | |
| | Min | Nom | Max | u A | u A | Volts | |
| MMSZ4678 | 1.71 | 1.8 | 1.89 | 50 | 7.5 | 1.0 | CC |
| MMSZ4679 | 1.90 | 2.0 | 2.10 | 50 | 5.0 | 1.0 | CD |
| MMSZ4680 | 2.09 | 2.2 | 2.31 | 50 | 4.0 | 1.0 | CE |
| MMSZ4681 | 2.28 | 2.40 | 2.52 | 50 | 2.0 | 1.0 | CF |
| MMSZ4682 | 2.565 | 2.7 | 2.835 | 50 | 1.0 | 1.0 | CH |
| MMSZ4683 | 2.85 | 3.0 | 3.15 | 50 | 0.8 | 1.0 | CJ |
| MMSZ4684 | 3.135 | 3.3 | 3.465 | 50 | 7.5 | 1.5 | CK |
| MMSZ4685 | 3.42 | 3.6 | 3.78 | 50 | 7.5 | 2.0 | CM |
| MMSZ4686 | 3.705 | 3.9 | 4.095 | 50 | 5.0 | 2.0 | CN |
| MMSZ4687 | 4.085 | 4.3 | 4.515 | 50 | 4.0 | 2.0 | CP |
| MMSZ4688 | 4.465 | 4.7 | 4.935 | 50 | 10 | 3.0 | CT |
| MMSZ4689 | 4.845 | 5.1 | 5.355 | 50 | 10 | 3.0 | CU |
| MMSZ4690 | 5.32 | 5.6 | 5.88 | 50 | 10 | 4.0 | CV |
| MMSZ4691 | 5.89 | 6.2 | 6.51 | 50 | 10 | 5.0 | 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 | 9.50 | 10 | 10.5 | 50 | 1 | 7.6 | DE |
| MMSZ4698 | 10.45 | 11 | 11.55 | 50 | 0.05 | 8.4 | DF |
| MMSZ4699 | 11.40 | 12 | 12.6 | 50 | 0.05 | 9.1 | DH |
| MMSZ4700 | 12.35 | 13 | 13.65 | 50 | 0.05 | 9.8 | DJ |
| MMSZ4701 | 13.30 | 14 | 14.7 | 50 | 0.05 | 10.6 | DK |
| MMSZ4702 | 14.25 | 15 | 15.75 | 50 | 0.05 | 11.4 | DM |
| MMSZ4703 | 15.20 | 16 | 16.8 | 50 | 0.05 | 12.1 | DN |
| MMSZ4704 | 16.15 | 17 | 17.85 | 50 | 0.05 | 12.9 | DP |
| MMSZ4705 | 17.10 | 18 | 18.9 | 50 | 0.05 | 13.6 | DT |
| MMSZ4706 | 18.05 | 19 | 19.95 | 50 | 0.05 | 14.4 | DU |
| MMSZ4707 | 19.00 | 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 | 19.0 | 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 | 25.0 | 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 |

MMSZ4678 thru MMSZ4716

TYPICAL CHARACTERISTICS

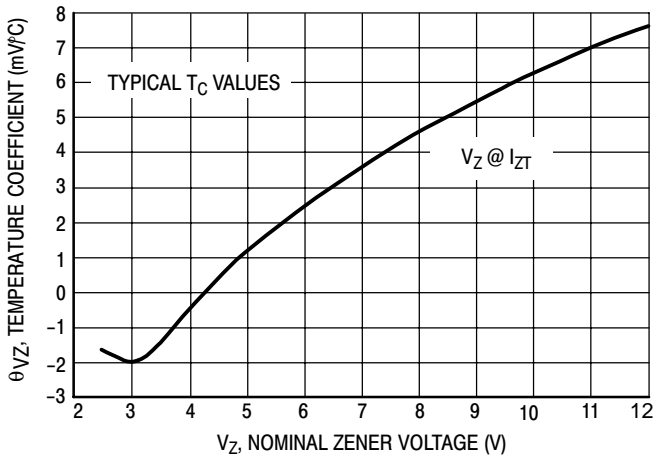


Figure 1. Temperature Coefficients
(Temperature Range -55°C to +150°C)

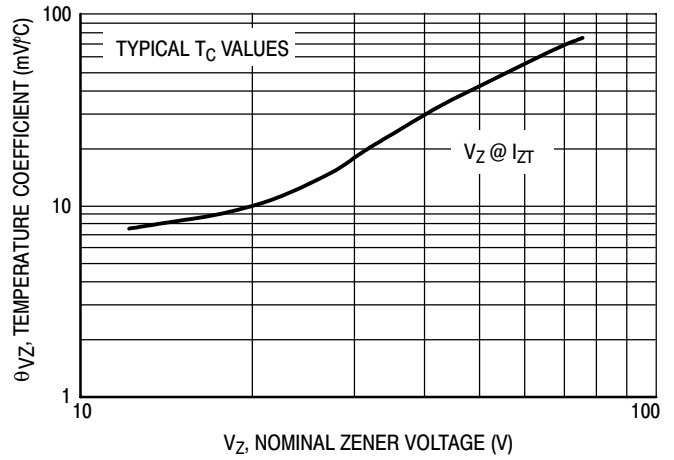


Figure 2. Temperature Coefficients
(Temperature Range -55°C to +150°C)

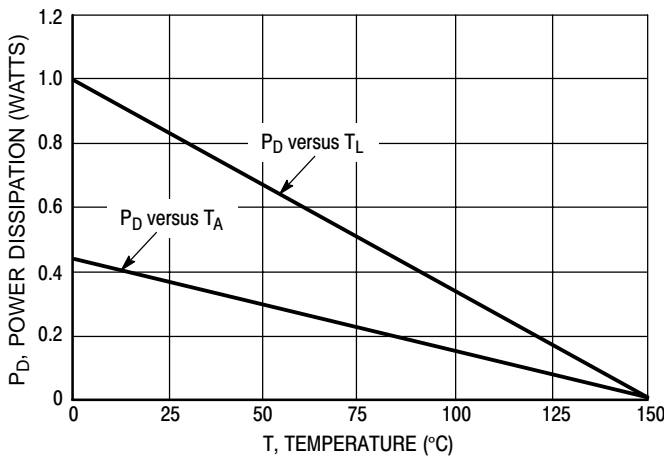


Figure 3. Steady State Power Derating

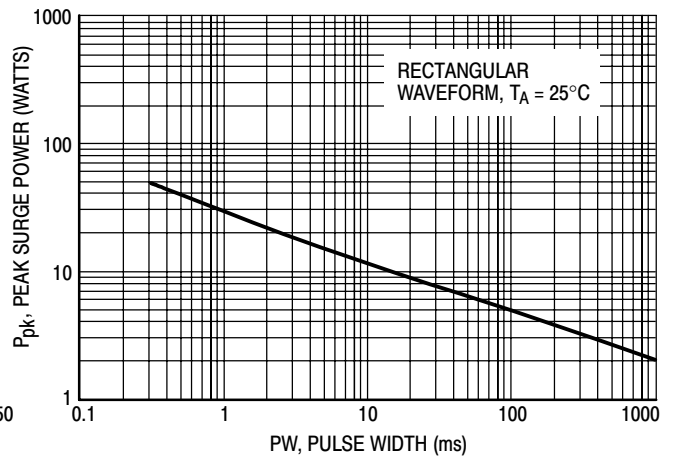


Figure 4. Maximum Nonrepetitive Surge Power

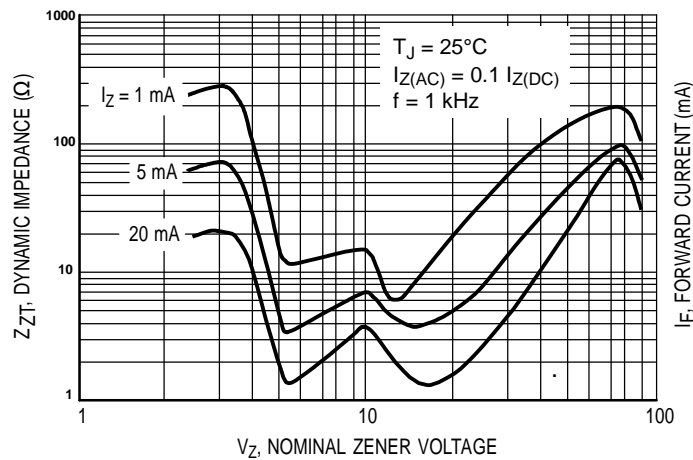


Figure 5. Effect of Zener Voltage on Zener Impedance

MMSZ4678 thru MMSZ4716

TYPICAL CHARACTERISTICS

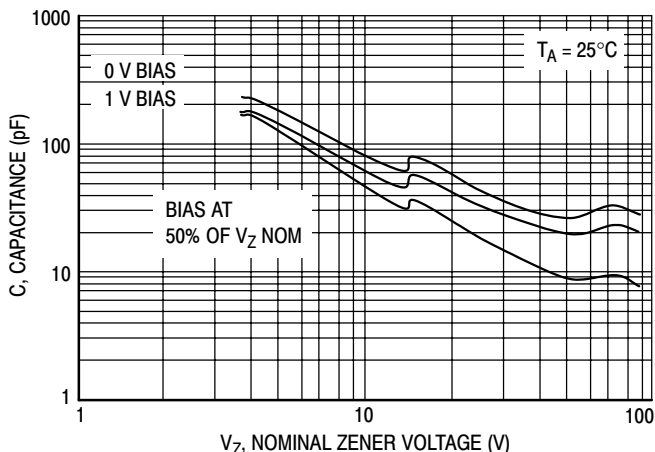


Figure 7. Typical Capacitance

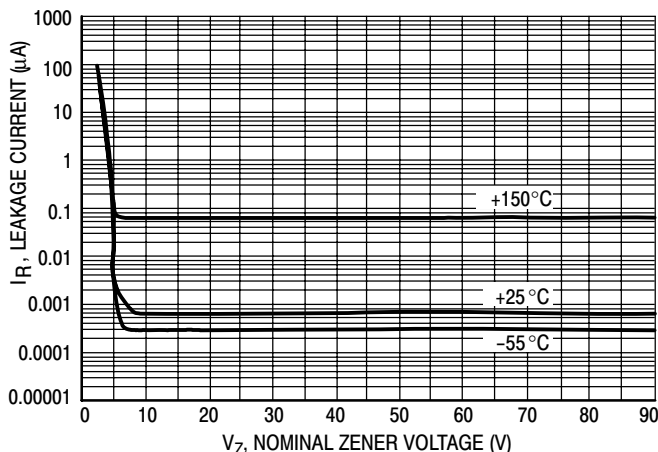


Figure 8. Typical Leakage Current

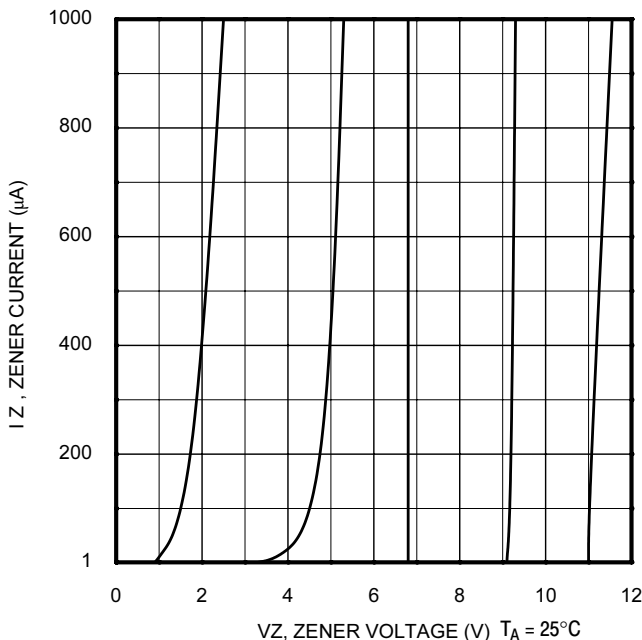


Figure 9. Zener Voltage versus Zener Current (V_Z Up to 12 V)

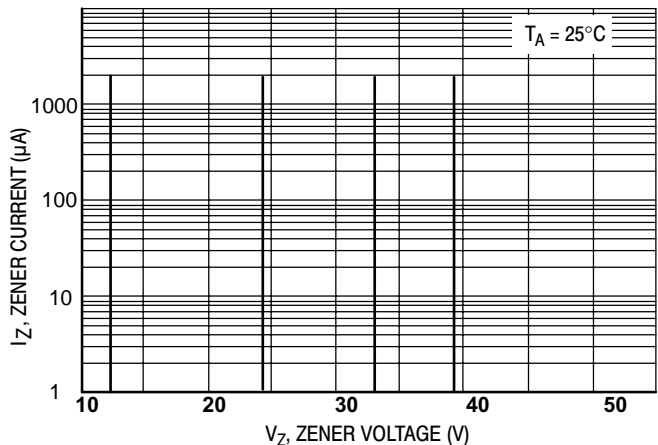


Figure 10. Zener Voltage versus Zener Current (12 V to 39 V)



Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

| |
|--|
| ***IMPORTANT NOTICE*** |
| <p>Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . Micro Commercial Components Corp . does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold Micro Commercial Components Corp . and all the companies whose products are represented on our website, harmless against all damages.</p> |
| ***LIFE SUPPORT*** |
| <p>MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.</p> |
| ***CUSTOMER AWARENESS*** |
| <p>Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.</p> |