



Micro Commercial Components

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# MMSZ4678 THRU MMSZ4713

## 500mW Silicon Zener Diodes

### Features

- # Zener Voltage 1.8V-30V
- # Very Sharp Reverse Characteristic
- # VZ – tolerance  $\pm 5\%$
- # High Reliability

### Mechanical Data

- # Polarity: Cathode indicated by polarity band
- # Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0

### Maximum Ratings

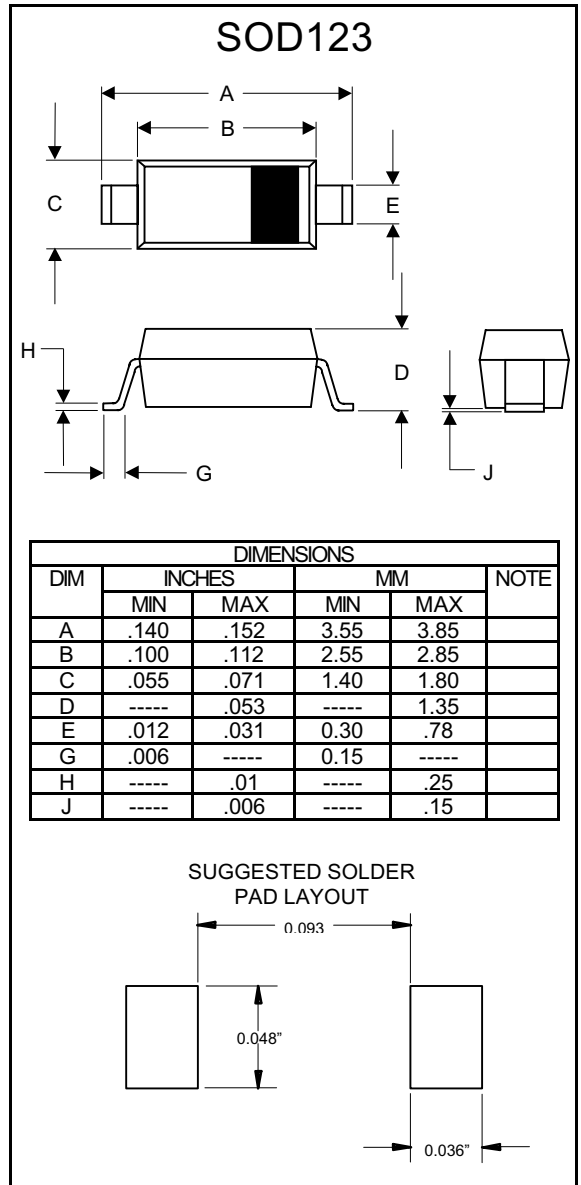
	Symbol	Value	Units
Max. Steady State Power Dissipation at $T_L < 75^\circ\text{C}$ , Lead Length=3/8"	$P_D$	500	mW
Junction Temperature	$T_J$	150	
Storage Temperature Range	$T_{STG}$	-55 to 150	
Thermal Resistance( Junction to Ambient)	$R_{thJA}$	340	K/W

### Electrical Characteristics @ 25°C Unless Otherwise Specified

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

#### NOTE:

- 1) Some part number series have lower JEDEC registered ratings.



# MMSZ4678 thru MMSZ4713

**Electrical Characteristics ( $T_c = 30^\circ\text{C}$  Unless Otherwise Noted,  $V_F = 0.95\text{V}$  Max @  $I_F = 10\text{mA}$  for all types)**

Device	Zener Voltage			@ $I_{ZT}$ u A	Leakage Current		Device Marking
	$V_Z$ (Volts)				$I_R$ @ $V_R$		
	Min	Nom	Max		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	5.0	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	CA
MMSZ4691	5.89	6.2	6.51	50	10	5.0	CV
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	10	6.2	CZ
MMSZ4695	8.265	8.7	9.135	50	10	6.6	DC
MMSZ4696	8.645	9.1	9.555	50	10	6.9	DD
MMSZ4697	9.50	10	10.5	50	10	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
MMSZ4707	19.00	20	21	50	0.01	15.2	DV
MMSZ4711	26.65	27	28.35	50	0.01	20.4	EA
MMSZ4713	28.5	30	31.5	50	0.01	22.8	ED

TYPICAL CHARACTERISTICS

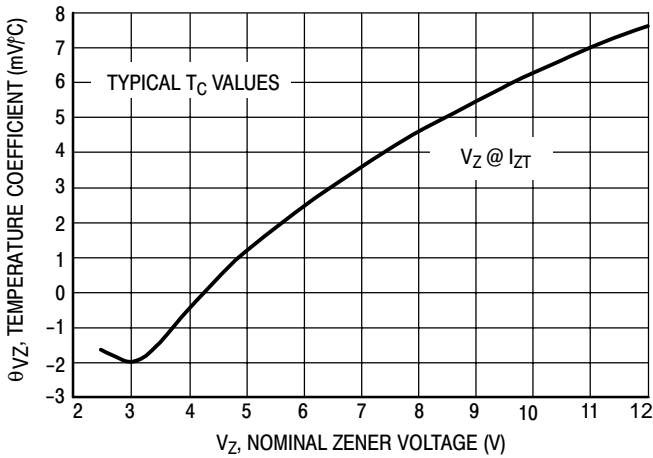


Figure 1. Temperature Coefficients (Temperature Range -55°C to +150°C)

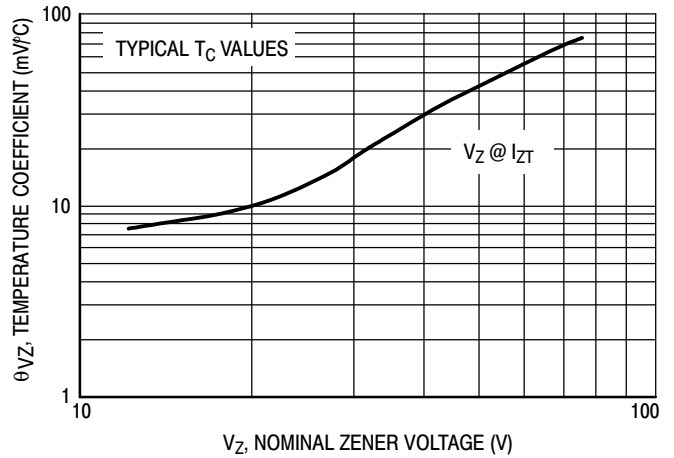


Figure 2. Temperature Coefficients (Temperature Range -55°C to +150°C)

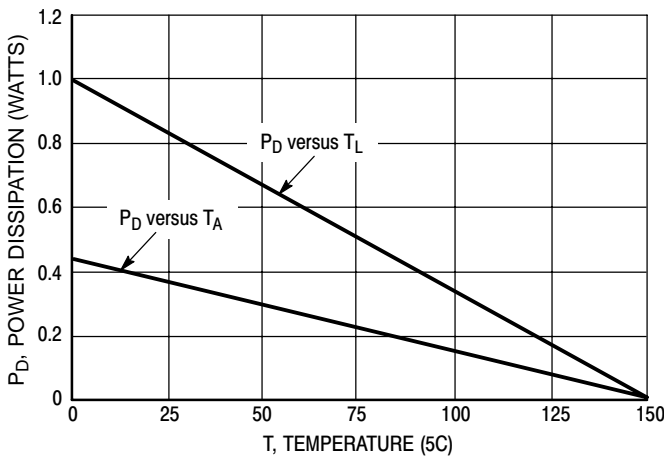


Figure 3. Steady State Power Derating

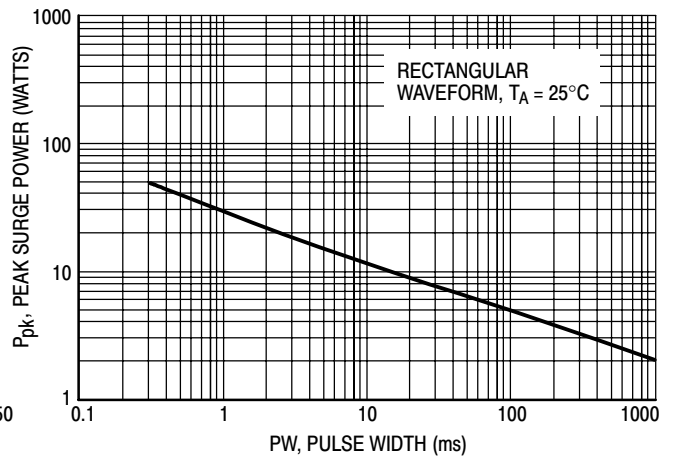


Figure 4. Maximum Nonrepetitive Surge Power

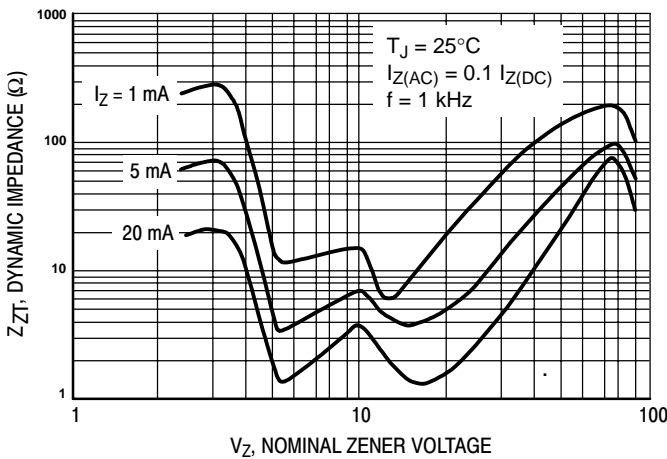


Figure 5. Effect of Zener Voltage on Zener Impedance

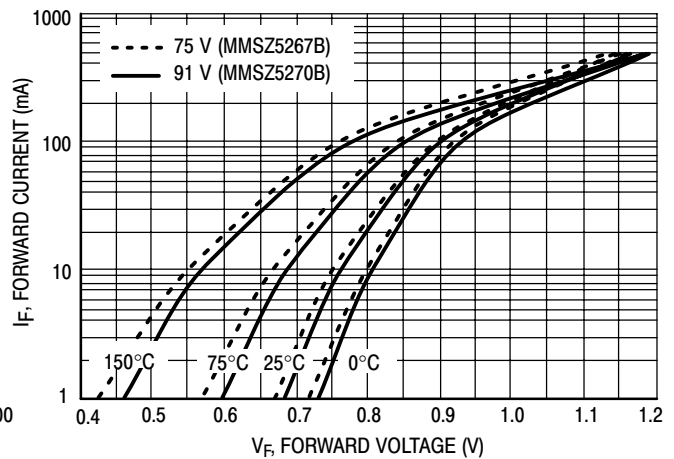
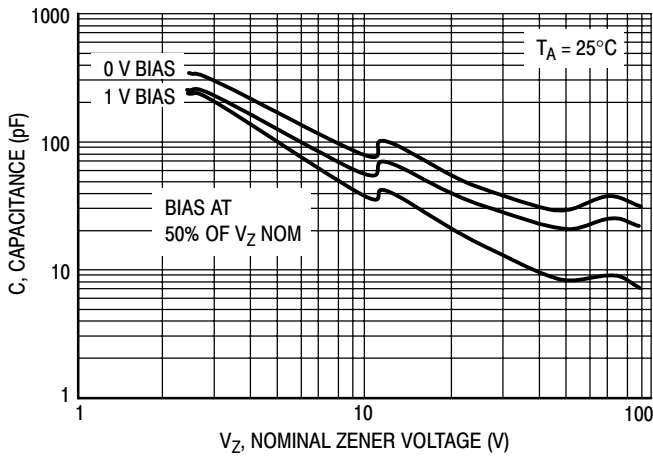
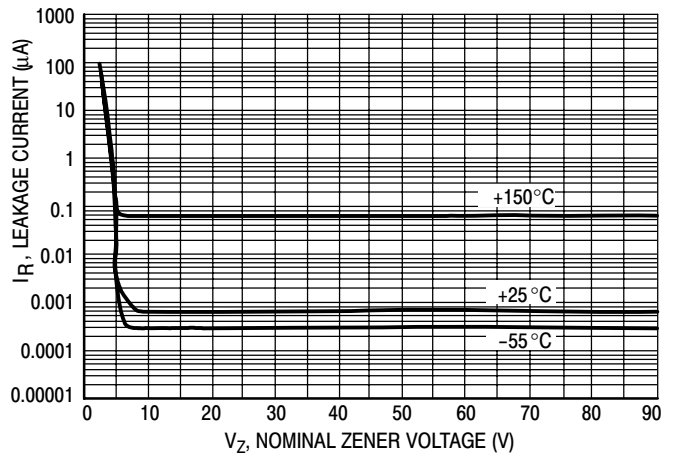


Figure 6. Typical Forward Voltage

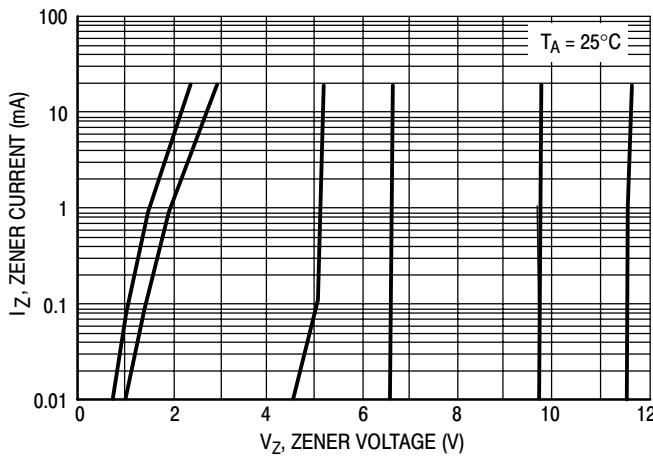
**TYPICAL CHARACTERISTICS**



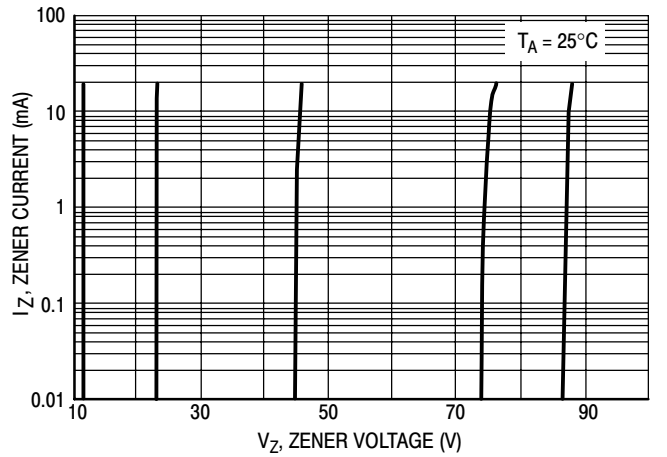
**Figure 7. Typical Capacitance**



**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 91 V)**



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