

## ZENER DIODE

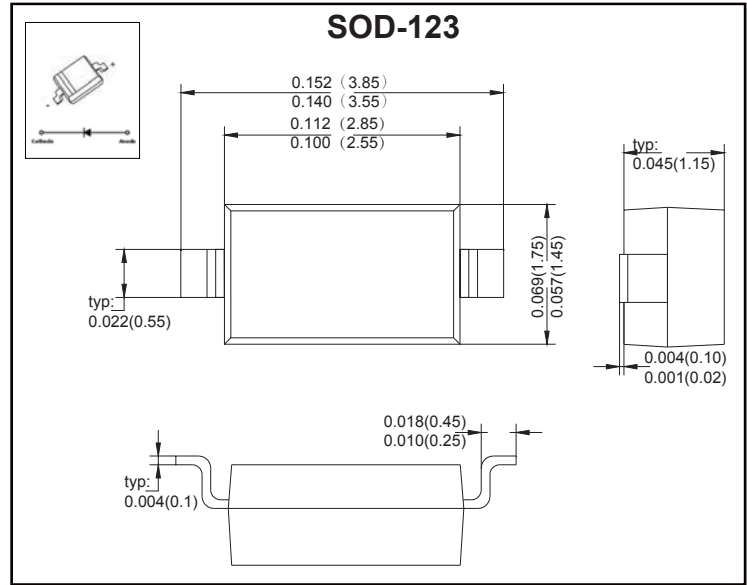
ZENER VOLTAGE RANGE: 2.1 --- 67V  
PEAK PULSE POWER:500mW

### FEATURE

- Low Zener Impedance
- Power Dissipation of 500mW
- High Stability and High Reliability

### MECHANICAL DATA

- Case: SOD-123 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Epoxy UL: 94V-0
- Mounting Position: Any



## MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

Parameters	Symbol	Value	Unit
Power Dissipation	Pd	500 <sup>1)</sup>	mW
forward Voltage @IF=10mA	Vf	0.9 <sup>2)</sup>	V
Thermal Resistance, Junction-to-Ambient	RθJA	340 <sup>3)</sup>	°C/W
Thermal Resistance, Junction-to-Lead	RθJL	150 <sup>3)</sup>	°C/W
Storage temperature range	Ts	-65-+150	°C

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

Type Number	Type Code	Vz1(@Izt)		Izt mA	Zzt@Izt	Zzk		IR	
		Min (V)	Max (V)		Max Ω	Max Ω	Izk mA	Max uA	VR V
MMSZ5221B	C1	2.28	2.52	20	30	1200	0.25	100	1.0
MMSZ5222B	C2	2.38	2.63	20	30	1250	0.25	100	1.0
MMSZ5223B	C3	2.57	2.84	20	30	1300	0.25	75	1.0
MMSZ5224B	C4	2.66	2.94	20	30	1400	0.25	75	1.0
MMSZ5225B	C5	2.85	3.15	20	30	1600	0.25	50	1.0
MMSZ5226B	G1	3.14	3.47	20	28	1600	0.25	25	1.0
MMSZ5227B	G2	3.42	3.78	20	24	1700	0.25	15	1.0
MMSZ5228B	G3	3.71	4.10	20	23	1900	0.25	10	1.0
MMSZ5229B	G4	4.09	4.52	20	22	2000	0.25	5.0	1.0
MMSZ5230B	G5	4.47	4.94	20	19	1900	0.25	5.0	2.0
MMSZ5231B	E1	4.85	5.36	20	17	1600	0.25	5.0	2.0
MMSZ5232B	E2	5.32	5.88	20	11	1600	0.25	5.0	3.0
MMSZ5233B	E3	5.70	6.30	20	7	1600	0.25	5.0	3.5
MMSZ5234B	E4	5.89	6.51	20	7	1000	0.25	5.0	4.0
MMSZ5235B	E5	6.46	7.14	20	5	750	0.25	3	5.0
MMSZ5236B	F1	7.13	7.88	20	6	500	0.25	3	6.0
MMSZ5237B	F2	7.79	8.61	20	8	500	0.25	3	6.5
MMSZ5238B	F3	8.27	9.14	20	8	600	0.25	3	6.5

# Electrical Specification (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Type Number	Type Code	Vz1(@Izt)			Zzt@Izt	Zzk		IR	
		Min	Max	Izt	Max	Max	Izk	Max	VR
		(V)	(V)	mA	$\Omega$	$\Omega$	mA	$\mu\text{A}$	V
MMSZ5239B	F4	8.65	9.56	20	10	600	0.25	3	7.0
MMSZ5240B	F5	9.50	10.50	20	17	600	0.25	3	8.0
MMSZ5241B	H1	10.45	11.55	20	22	600	0.25	2.0	8.4
MMSZ5242B	H2	11.40	12.60	20	30	600	0.25	1.0	9.1
MMSZ5243B	H3	12.35	13.65	9.5	13	600	0.25	0.5	9.9
MMSZ5244B	H4	13.30	14.70	9.0	15	600	0.25	0.1	10
MMSZ5245B	H5	14.25	15.75	8.5	16	600	0.25	0.1	11
MMSZ5246B	J1	15.20	16.80	7.8	17	600	0.25	0.1	12
MMSZ5247B	J2	16.15	17.85	7.5	19	600	0.25	0.1	13
MMSZ5248B	J3	17.10	18.90	7.0	21	600	0.25	0.1	14
MMSZ5249B	J4	18.05	19.95	6.6	23	600	0.25	0.1	14
MMSZ5250B	J5	19.00	21.00	6.2	25	600	0.25	0.1	15
MMSZ5251B	K1	20.90	23.10	5.6	29	600	0.25	0.1	17
MMSZ5252B	K2	22.80	25.20	5.2	33	600	0.25	0.1	18
MMSZ5253B	K3	23.75	26.25	5.0	35	600	0.25	0.1	19
MMSZ5254B	K4	25.65	28.35	5.0	41	600	0.25	0.1	21
MMSZ5255B	K5	26.60	29.40	4.5	44	600	0.25	0.1	21
MMSZ5256B	M1	28.50	31.50	4.2	49	600	0.25	0.1	23
MMSZ5257B	M2	31.35	34.65	3.8	58	700	0.25	0.1	25
MMSZ5258B	M3	34.20	37.80	3.4	70	700	0.25	0.1	27
MMSZ5259B	M4	37.05	40.95	3.2	80	800	0.25	0.1	30
MMSZ5260B	M5	40.85	45.15	3.0	93	900	0.25	0.1	33
MMSZ5261B	N1	44.65	49.35	2.7	105	1000	0.25	0.1	36
MMSZ5262B	N2	48.45	53.55	2.5	125	1100	0.25	0.1	39
MMSZ5263B	N3	53.20	58.80	2.2	150	1300	0.25	0.1	43
MMSZ5264B	N4	57.00	63.00	2.1	170	1400	0.25	0.1	46
MMSZ5265B	N5	58.90	65.10	2.0	185	1400	0.25	0.1	47
MMSZ5266B	P1	64.60	71.40	1.8	230	1600	0.25	0.1	52
MMSZ5267B	P2	71.25	78.75	1.7	270	1700	0.25	0.1	56

- Notes: 1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>.  
2. Short duration test pulse used to minimize self-heating effect.  
3. f = 1kHz.

# RATINGS AND CHARACTERISTIC CURVES

## Typical Characteristics

Breakdown characteristics

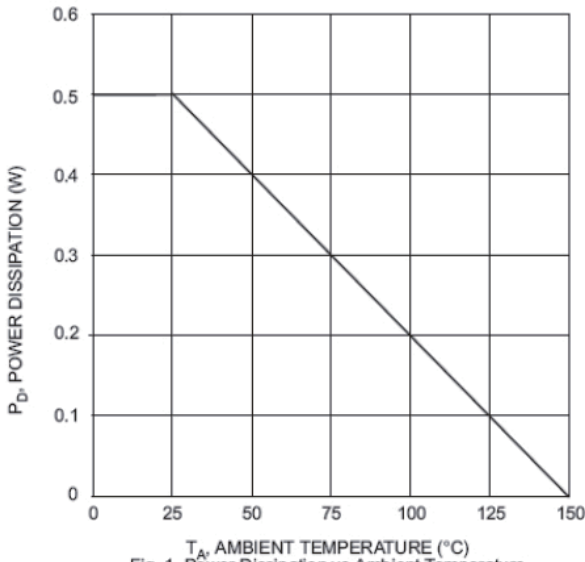
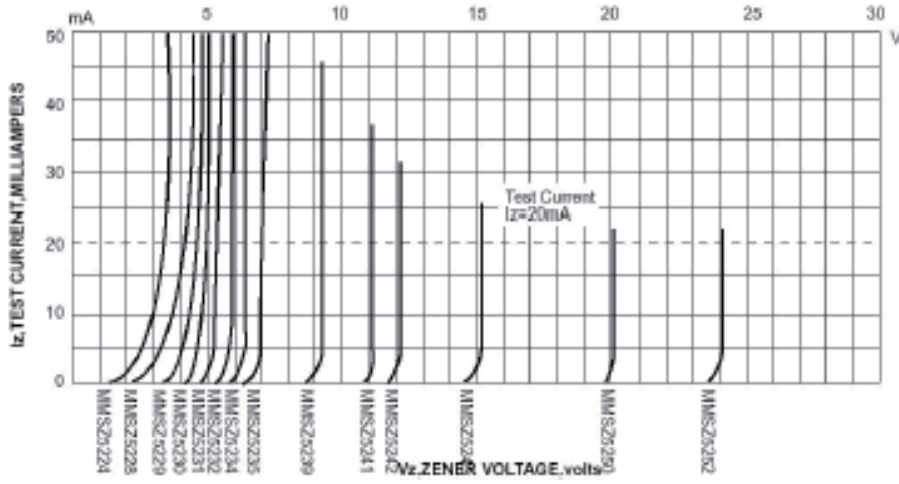


Fig. 1 Power Dissipation vs Ambient Temperature

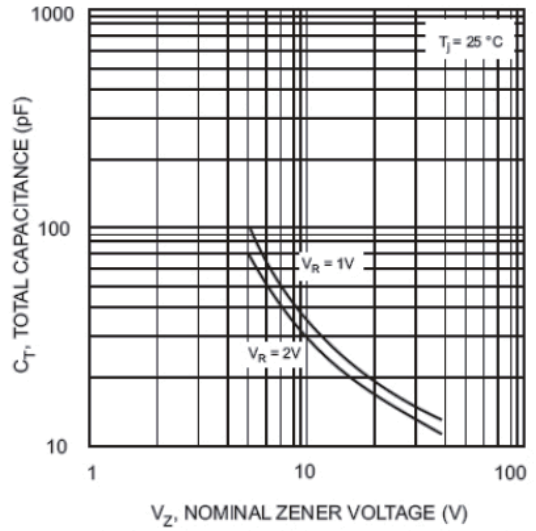


Fig. 2 Total Capacitance vs Nominal Zener Voltage

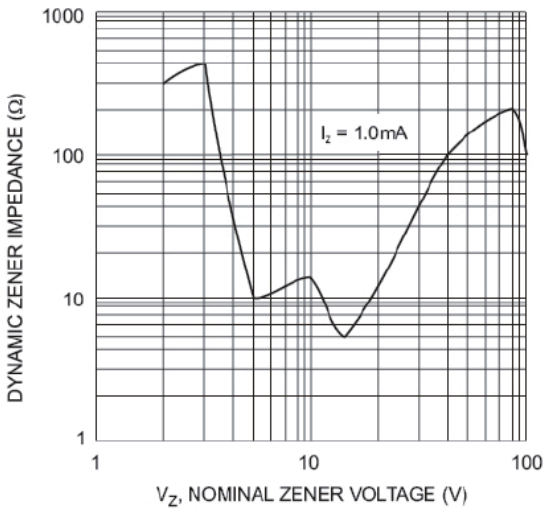


Fig. 3 Zener Voltage vs. Zener Impedance

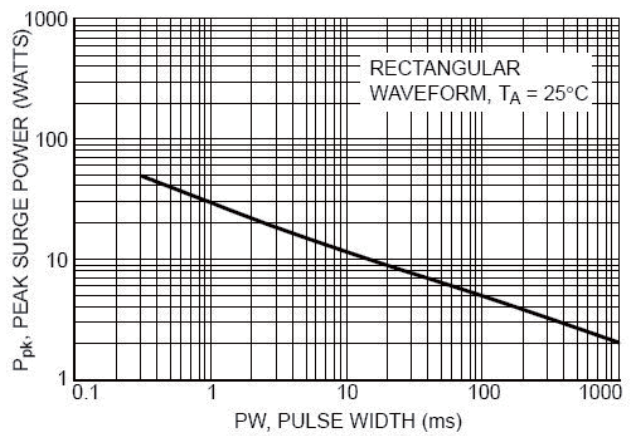


Fig. 4. Maximum Nonrepetitive Surge Power