

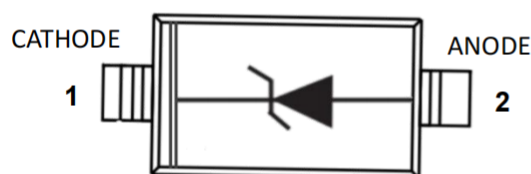
Features

- 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

MMSZ52xxBT1G-TP Series

500m Watt Zener Voltage Regulators

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Electrical Characteristics ($T_A = 25$ Unless otherwise noted, $V_F = 0.9$ V Max. @ $I_F = 10$ mA)

Device	Zener Voltage				Zener Impedance			Leakage Current	
	V_Z (Volts)			@ I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R	
	Min	Nom	Max	mA	Ω	Ω	mA	μA	Volts
MMSZ5221BT1G-TP	2.28	2.4	2.52	20	30	1200	0.25	100	1
MMSZ5222BT1G-TP	2.38	2.5	2.63	20	30	1250	0.25	100	1
MMSZ5223BT1G-TP	2.57	2.7	2.84	20	30	1300	0.25	75	1
MMSZ5224BT1G-TP	2.66	2.8	2.94	20	30	1400	0.25	75	1
MMSZ5225BT1G-TP	2.85	3.0	3.15	20	29	1600	0.25	50	1
MMSZ5226BT1G-TP	3.14	3.3	3.47	20	28	1600	0.25	25	1
MMSZ5227BT1G-TP	3.42	3.6	3.78	20	24	1700	0.25	15	1
MMSZ5228BT1G-TP	3.71	3.9	4.10	20	23	1900	0.25	10	1
MMSZ5229BT1G-TP	4.09	4.3	4.52	20	22	2000	0.25	5	1
MMSZ5230BT1G-TP	4.47	4.7	4.94	20	19	1900	0.25	5	2
MMSZ5231BT1G-TP	4.85	5.1	5.36	20	17	1600	0.25	5	2
MMSZ5232BT1G-TP	5.32	5.6	5.88	20	11	1600	0.25	5	3
MMSZ5233BT1G-TP	5.70	6.0	6.30	20	7	1600	0.25	5	3.5
MMSZ5234BT1G-TP	5.89	6.2	6.51	20	7	1000	0.25	5	4
MMSZ5235BT1G-TP	6.46	6.8	7.14	20	5	750	0.25	3	5
MMSZ5236BT1G-TP	7.13	7.5	7.88	20	6	500	0.25	3	6
MMSZ5237BT1G-TP	7.79	8.2	8.61	20	8	500	0.25	3	6.5
MMSZ5238BT1G-TP	8.27	8.7	9.14	20	8	600	0.25	3	6.5
MMSZ5239BT1G-TP	8.65	9.1	9.56	20	10	600	0.25	3	7
MMSZ5240BT1G-TP	9.50	10	10.50	20	17	600	0.25	3	8
MMSZ5241BT1G-TP	10.45	11	11.55	20	22	600	0.25	2	8.4
MMSZ5242BT1G-TP	11.40	12	12.60	20	30	600	0.25	1	9.1
MMSZ5243BT1G-TP	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9
MMSZ5244BT1G-TP	13.30	14	14.70	9.0	15	600	0.25	0.1	10
MMSZ5245BT1G-TP	14.25	15	15.75	8.5	16	600	0.25	0.1	11
MMSZ5246BT1G-TP	15.20	16	16.80	7.8	17	600	0.25	0.1	12
MMSZ5247BT1G-TP	16.15	17	17.85	7.4	19	600	0.25	0.1	13

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Electrical Characteristics ($T_A = 25^\circ\text{C}$ Unless otherwise noted, $V_F = 0.9\text{ V Max.}$ @ $I_F = 10\text{ mA}$)

Device	Zener Voltage				Zener Impedance			Leakage Current	
	V_Z (Volts)			@ I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R	
	Min	Nom	Max	mA	Ω	Ω	mA	μA	Volts
MMSZ5248BT1G-TP	17.10	18	18.90	7.0	21	600	0.25	0.1	14
MMSZ5250BT1G-TP	19.00	20	21.00	6.2	25	600	0.25	0.1	15
MMSZ5251BT1G-TP	20.90	22	23.10	5.6	29	600	0.25	0.1	17
MMSZ5252BT1G-TP	22.80	24	25.20	5.2	33	600	0.25	0.1	18
MMSZ5253BT1G-TP	23.75	25	26.25	5.0	35	600	0.25	0.1	19
MMSZ5254BT1G-TP	25.65	27	28.35	4.6	41	600	0.25	0.1	21
MMSZ5255BT1G-TP	26.60	28	29.40	4.5	44	600	0.25	0.1	21
MMSZ5256BT1G-TP	28.50	30	31.50	4.2	49	600	0.25	0.1	23
MMSZ5257BT1G-TP	31.35	33	34.65	3.8	58	700	0.25	0.1	25
MMSZ5258BT1G-TP	34.20	36	37.80	3.4	70	700	0.25	0.1	27
MMSZ5259BT1G-TP	37.05	39	40.95	3.2	80	800	0.25	0.1	30
MMSZ5260BT1G-TP	40.85	43	45.15	3.0	93	900	0.25	0.1	33
MMSZ5261BT1G-TP	44.65	47	49.35	2.7	105	1000	0.25	0.1	36
MMSZ5262BT1G-TP	48.45	51	53.55	2.5	125	1100	0.25	0.1	39
MMSZ5263BT1G-TP	53.20	56	58.80	2.2	150	1300	0.25	0.1	43
MMSZ5264BT1G-TP	57.00	60	63.00	2.1	170	1400	0.25	0.1	46
MMSZ5265BT1G-TP	58.90	62	65.10	2.0	185	1400	0.25	0.1	47
MMSZ5266BT1G-TP	64.60	68	71.40	1.8	230	1600	0.25	0.1	52
MMSZ5267BT1G-TP	71.25	75	78.75	1.7	270	1700	0.25	0.1	56
MMSZ5268BT1G-TP	77.90	82	86.10	1.5	330	2000	0.25	0.1	62
MMSZ5269BT1G-TP	82.65	87	91.35	1.4	370	2200	0.25	0.1	68
MMSZ5270BT1G-TP	86.45	91	95.55	1.4	400	2300	0.25	0.1	69
MMSZ5272BT1G-TP	104.5	110	115.5	1.1	750	3000	0.25	0.1	84

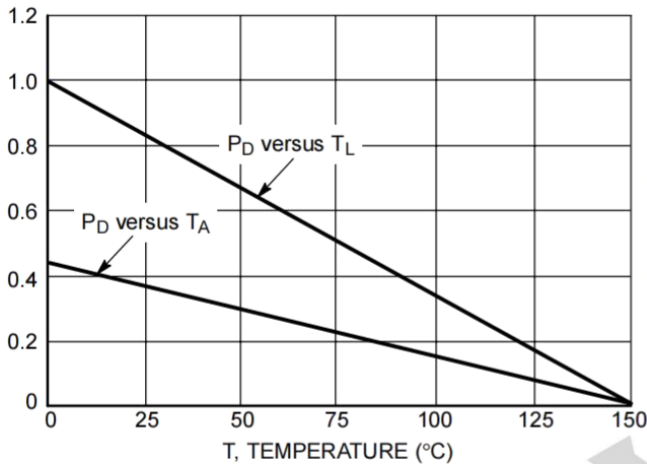
1. The type numbers shown have a standard tolerance of $\pm 5\%$ on the nominal Zener voltage.
2. Nominal Zener voltage is measured with the device junction in thermal equilibrium at $T_L = 30^\circ\text{C} \pm 1^\circ\text{C}$.
3. Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the ac current applied

MMSZ52xxBT1G-TP Series

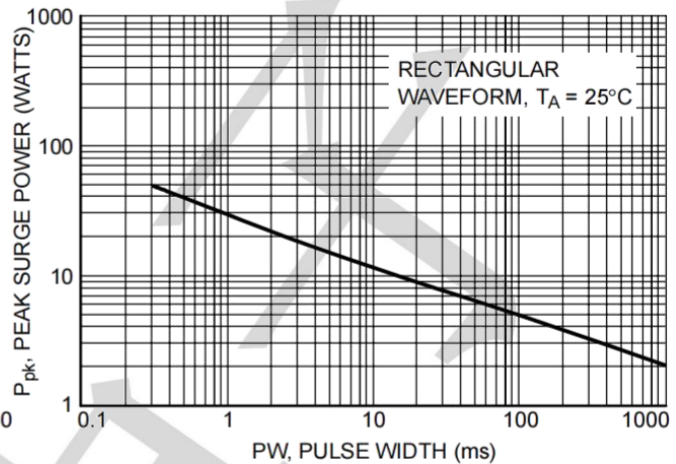
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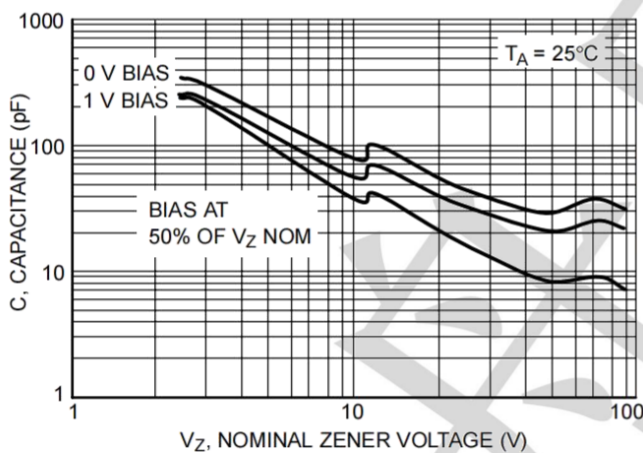
Typical Characteristics Curves



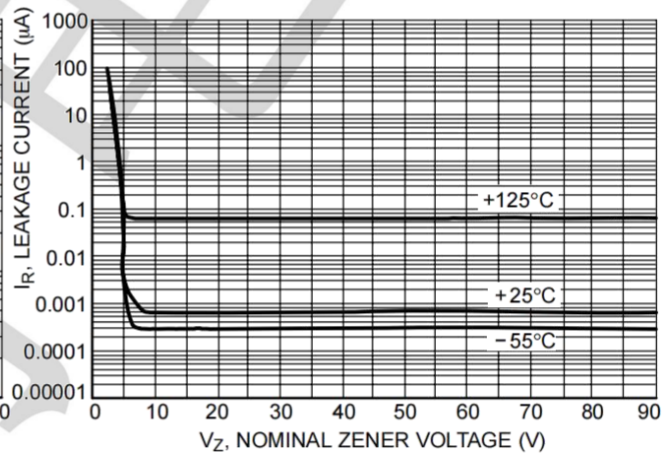
Steady State Power Derating



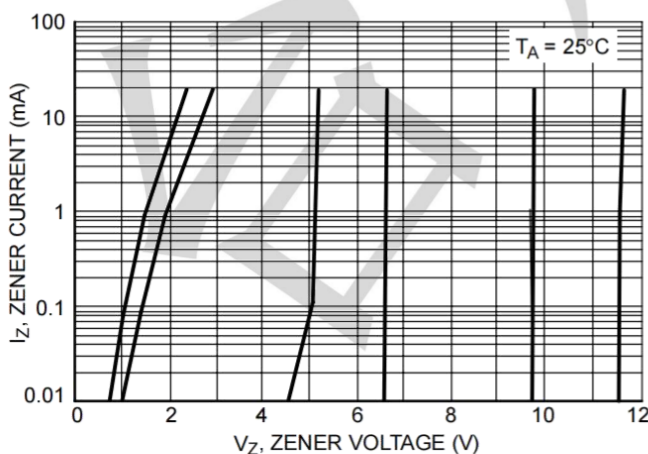
Maximum Nonrepetitive Surge Power



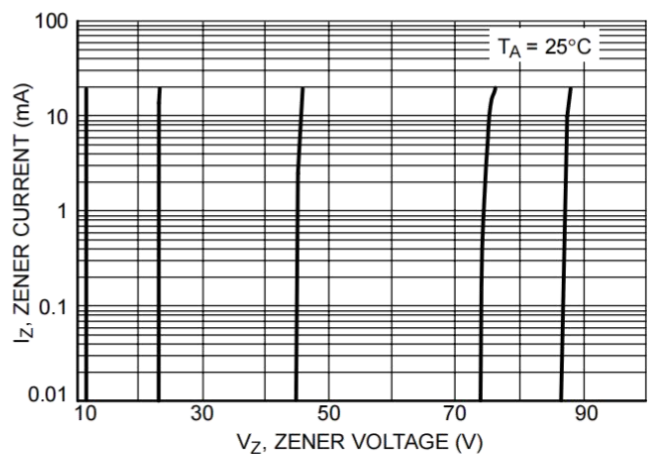
Typical Capacitance



Typical Leakage Current



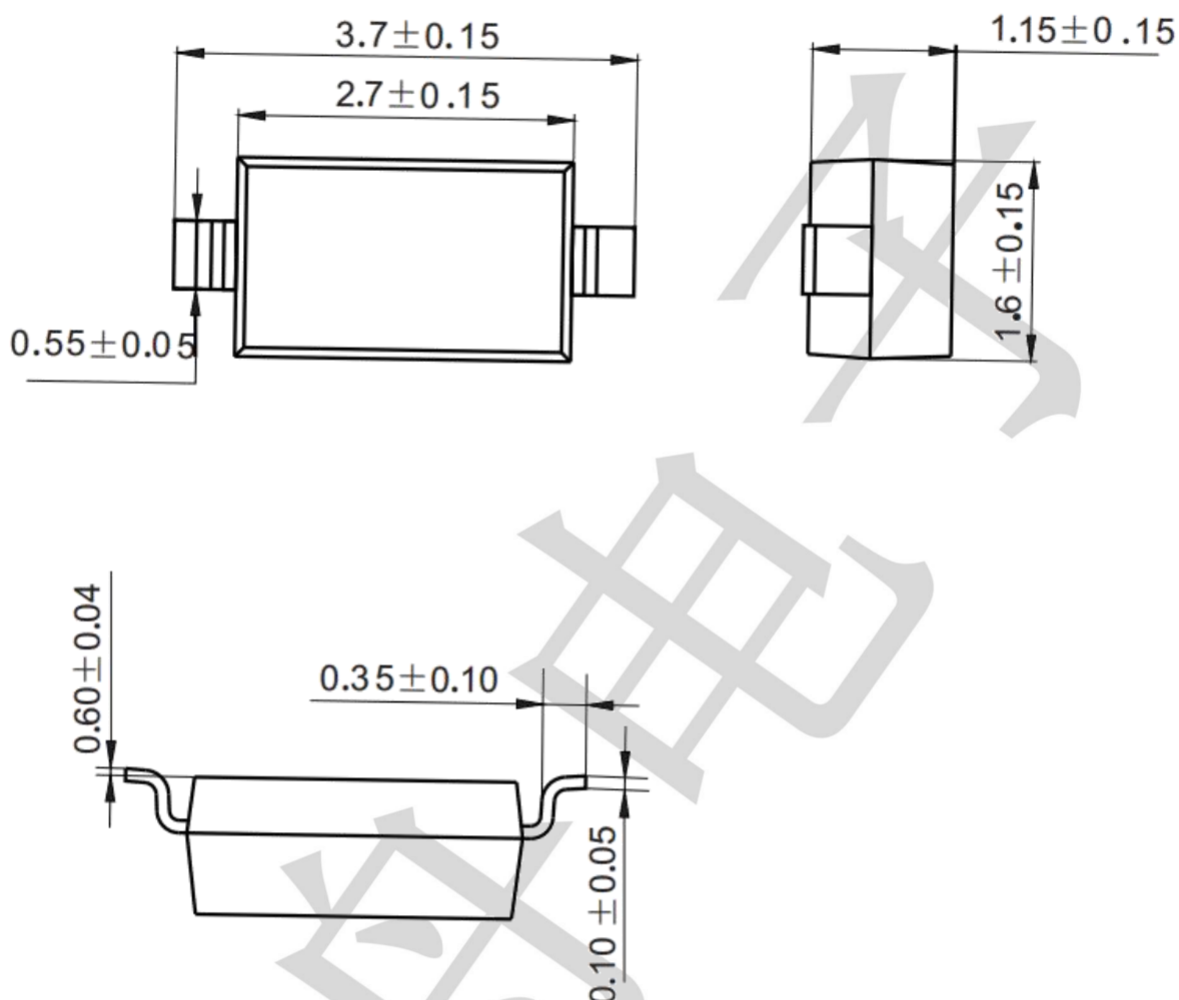
Zener Voltage versus Zener Current
(V_Z Up to 12 V)



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

Package Outline Dimensions (unit: mm)

SOD123



Mounting Pad Layout (unit: mm)

