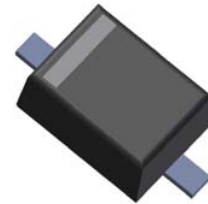


200mW SOD-323 SURFACE MOUNT Small Outline Flat Lead Plastic Package Zener Voltage Regulators

Green Product



SOD-323 Flat Lead

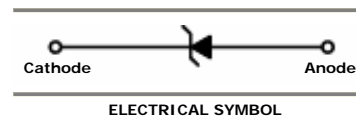
Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
T_{STG}	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
T_{OPR}	Operating Temperature Range	-65 to +150	$^\circ\text{C}$

These ratings are limiting values above which the serviceability of the diode may be impaired.

Specification Features:

- Wide Zener Voltage Range Selection, 3.0V to 75V
- VZ Tolerance Selection of $\pm 5\%$
- Flat Lead SOD-323 Small Outline Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode



Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	Device Marking	$V_Z @ I_{ZT}$ (Volts)			I_{ZT} (mA)	$Z_{ZT} @ I_{ZT}$ (Ω) Max	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ (Ω) Max	$I_R @ V_R$ (μA) Max	V_R (Volts)
		Min	Nom	Max					
MMSZ5221BSW	Z2V4	2.28	2.4	2.52	20	30	1200	100	1
MMSZ5222BSW	Z2V5	2.38	2.5	2.63	20	30	1250	100	1
MMSZ5223BSW	Z2V7	2.57	2.7	2.84	20	30	1300	75	1
MMSZ5224BSW	Z2V8	2.66	2.8	2.94	20	30	1400	75	1
MMSZ5225BSW	Z3V0	2.85	3.0	3.15	20	29	1600	50	1
MMSZ5226BSW	Z3V3	3.14	3.3	3.47	20	28	1600	25	1
MMSZ5227BSW	Z3V6	3.42	3.6	3.78	20	24	1700	15	1
MMSZ5228BSW	Z3V9	3.71	3.9	4.10	20	23	1900	10	1
MMSZ5229BSW	Z4V3	4.09	4.3	4.52	20	22	2000	5	1
MMSZ5230BSW	Z4V7	4.47	4.7	4.94	20	19	1900	5	2
MMSZ5231BSW	Z5V1	4.85	5.1	5.36	20	17	1600	5	2
MMSZ5232BSW	Z5V6	5.32	5.6	5.88	20	11	1600	5	3
MMSZ5233BSW	Z6V0	5.70	6.0	6.30	20	7	1600	5	3.5
MMSZ5234BSW	Z6V2	5.89	6.2	6.51	20	7	1000	5	4
MMSZ5235BSW	Z6V8	6.46	6.8	7.14	20	5	750	3	5
MMSZ5236BSW	Z7V5	7.13	7.5	7.88	20	6	500	3	6
MMSZ5237BSW	Z8V2	7.79	8.2	8.61	20	8	500	3	6.5
MMSZ5238BSW	Z8V7	8.27	8.7	9.14	20	8	600	3	6.5
MMSZ5239BSW	Z9V1	8.65	9.1	9.56	20	10	600	3	7
MMSZ5240BSW	Z10V	9.50	10	10.50	20	17	600	3	8
MMSZ5241BSW	Z11V	10.45	11	11.55	20	22	600	2	8.4
MMSZ5242BSW	Z12V	11.40	12	12.60	20	30	600	1	9.1
MMSZ5243BSW	Z13V	12.35	13	13.65	9.5	13	600	0.5	9.9

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	Device Marking	$V_Z @ I_{ZT}$ (Volts)			I_{ZT} (mA)	$Z_{ZT} @ I_{ZT}$ (Ω) Max	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ (Ω) Max	$I_R @ V_R$ (μA) Max	V_R (Volts)
		Min	Nom	Max					
MMSZ5244BSW	Z14V	13.30	14	14.70	9	15	600	0.1	10
MMSZ5245BSW	Z15V	14.25	15	15.75	8.5	16	600	0.1	11
MMSZ5246BSW	Z16V	15.20	16	16.80	7.8	17	600	0.1	12
MMSZ5247BSW	Z17V	16.15	17	17.85	7.4	19	600	0.1	13
MMSZ5248BSW	Z18V	17.10	18	18.90	7	21	600	0.1	14
MMSZ5249BSW	Z19V	18.05	19	19.95	6.6	23	600	0.1	14
MMSZ5250BSW	Z20V	19.00	20	21.00	6.2	25	600	0.1	15
MMSZ5251BSW	Z22V	20.90	22	23.10	5.6	29	600	0.1	17
MMSZ5252BSW	Z24V	22.80	24	25.20	5.2	33	600	0.1	18
MMSZ5253BSW	Z25V	23.75	25	26.25	5	35	600	0.1	19
MMSZ5254BSW	Z27V	25.65	27	28.35	4.6	41	600	0.1	21
MMSZ5255BSW	Z28V	26.60	28	29.40	4.5	44	600	0.1	21
MMSZ5256BSW	Z30V	28.50	30	31.50	4.2	49	600	0.1	23
MMSZ5257BSW	Z33V	31.35	33	34.65	3.8	58	700	0.1	25
MMSZ5258BSW	Z36V	34.20	36	37.80	3.4	70	700	0.1	27
MMSZ5259BSW	Z39V	37.05	39	40.95	3.2	80	800	0.1	30
MMSZ5260BSW	Z43V	40.85	43	45.15	3	93	900	0.1	33
MMSZ5261BSW	Z47V	44.65	47	49.35	2.7	105	1000	0.1	36
MMSZ5262BSW	Z51V	48.45	51	53.55	2.5	125	1100	0.1	39
MMSZ5263BSW	Z56V	53.20	56	58.80	2.2	150	1300	0.1	43
MMSZ5264BSW	Z60V	57.00	60	63.00	2.1	170	1400	0.1	46
MMSZ5265BSW	Z62V	58.90	62	65.10	2.0	185	1400	0.1	47
MMSZ5266BSW	Z68V	64.60	68	71.40	1.8	230	1600	0.1	52
MMSZ5267BSW	Z75V	71.25	75	78.75	1.7	270	1700	0.1	56

 V_F Forward Voltage = 900mV Maximum @ $I_F = 10\text{ mA}$ for all types

Notes:

1. The zener voltage (V_Z) is tested under pulse condition of 1mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$.
3. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK} .
4. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Tak Cheong Electronics representative.

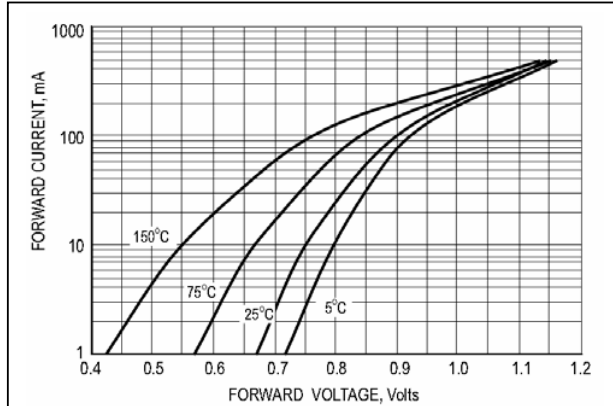
RATING AND CHARACTERISTIC CURVES


Fig.1 TYPICAL FORWARD VOLTAGE

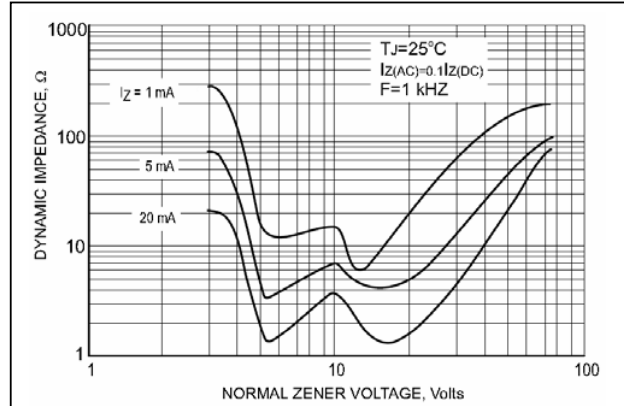


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

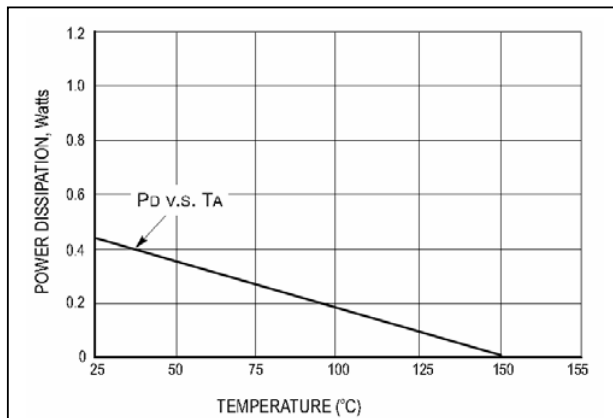


Fig.3 MAXIMUM NONREPETITIVE SURGE

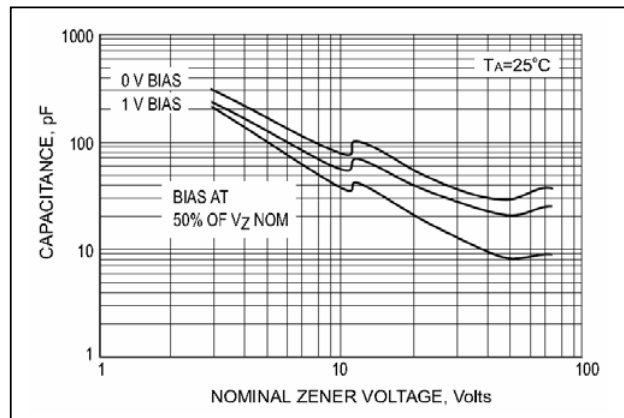


Fig.4 TYPICAL CAPACITANCE

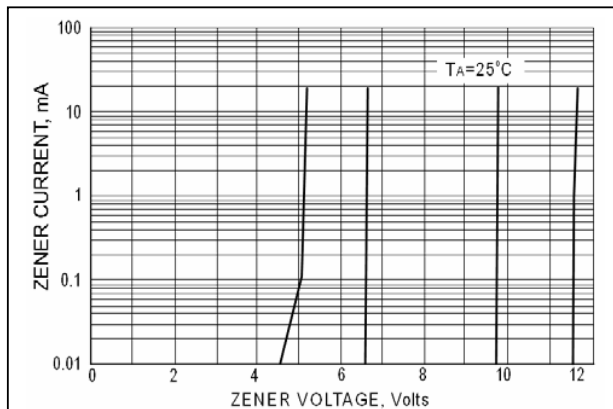


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

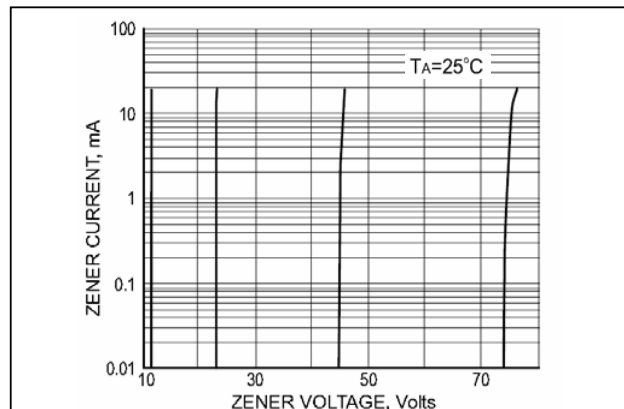
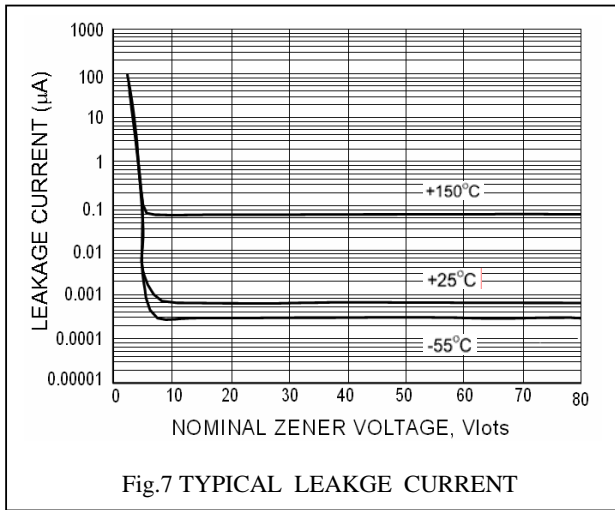
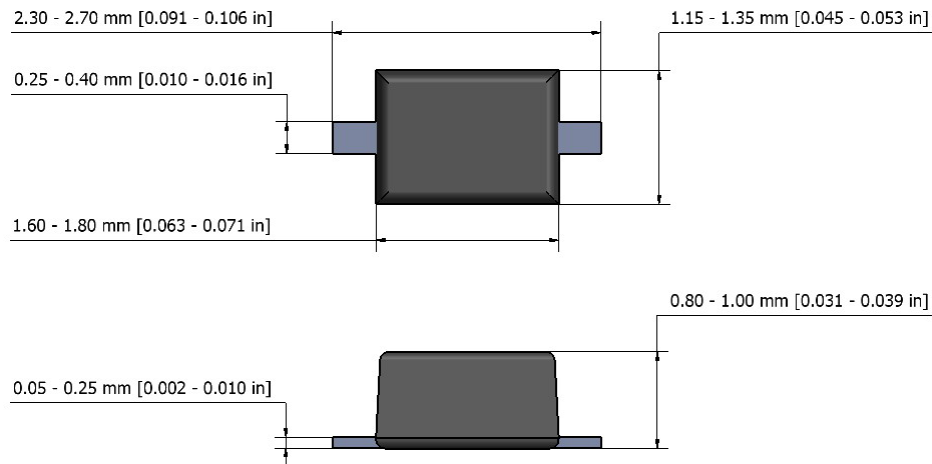


Fig.6 ZENER BREAKDOWN CHARACTERISTICS




SOD-323 Package Outline

NOTE: The above package outline is similar to JEITA SC-90.

This datasheet presents technical data of Tak Cheong's Zener Diodes. Complete specifications for the individual devices are provided in the form of datasheets. A comprehensive Selector Guide is included to simplify the task of choosing the best set of components required for a specific application. For additional information, please visit our website <http://www.takcheong.com>.

Although information in this datasheet has been carefully checked, no responsibility for the inaccuracies can be assumed by Tak Cheong. Please consult your nearest Tak Cheong's sales office for further assistance.

Tak Cheong reserves the right to make changes without further notice to any products herein to further improve reliability, function or design, cost and productivity.

TAK CHEONG® and  are registered trademarks of Tak Cheong Electronics (Holdings) Co., Ltd.