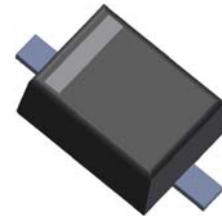


## 200mW SOD-323 SURFACE MOUNT Small Outline Flat Lead Plastic Package Zener Voltage Regulators

Green Product



SOD-323 Flat Lead

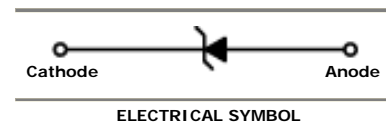
### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

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, 4.3V to 75V
- VZ Tolerance Selection of  $\pm 2\%$
- 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 SYMBOL

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

Device Type	Device Marking	$V_Z @ I_{ZT}$ (Volts)			$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
		Min	Nom	Max					
MMSZ5229CSW	229C	4.214	4.3	4.386	20	22	2000	5	1
MMSZ5230CSW	230C	4.606	4.7	4.794	20	19	1900	5	2
MMSZ5231CSW	231C	4.998	5.1	5.202	20	17	1600	5	2
MMSZ5232CSW	232C	5.488	5.6	5.712	20	11	1600	5	3
MMSZ5233CSW	233C	5.88	6.0	6.12	20	7	1600	5	3.5
MMSZ5234CSW	234C	6.076	6.2	6.324	20	7	1000	5	4
MMSZ5235CSW	235C	6.664	6.8	6.936	20	5	750	3	5
MMSZ5236CSW	236C	7.35	7.5	7.65	20	6	500	3	6
MMSZ5237CSW	237C	8.036	8.2	8.364	20	8	500	3	6.5
MMSZ5238CSW	238C	8.526	8.7	8.874	20	8	600	3	6.5
MMSZ5239CSW	239C	8.918	9.1	9.282	20	10	600	3	7
MMSZ5240CSW	240C	9.8	10	10.2	20	17	600	3	8
MMSZ5241CSW	241C	10.78	11	11.22	20	22	600	2	8.4
MMSZ5242CSW	242C	11.76	12	12.24	20	30	600	1	9.1
MMSZ5243CSW	243C	12.74	13	13.26	9.5	13	600	0.5	9.9
MMSZ5244CSW	244C	13.72	14	14.28	9	15	600	0.1	10
MMSZ5245CSW	245C	14.7	15	15.3	8.5	16	600	0.1	11
MMSZ5246CSW	246C	15.68	16	16.32	7.8	17	600	0.1	12
MMSZ5247CSW	247C	16.66	17	17.34	7.4	19	600	0.1	13
MMSZ5248CSW	248C	17.64	18	18.36	7	21	600	0.1	14
MMSZ5249CSW	249C	18.62	19	19.38	6.6	23	600	0.1	14
MMSZ5250CSW	250C	19.6	20	20.4	6.2	25	600	0.1	15

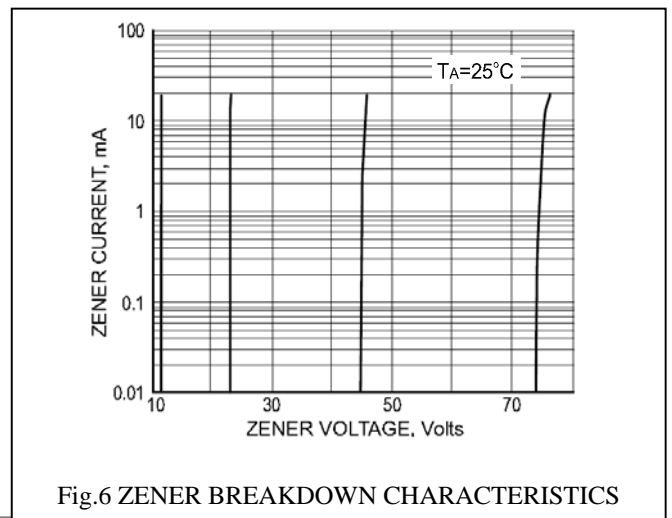
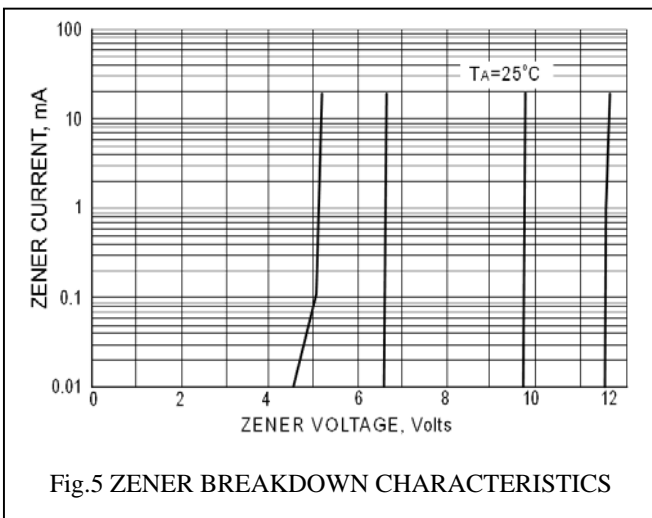
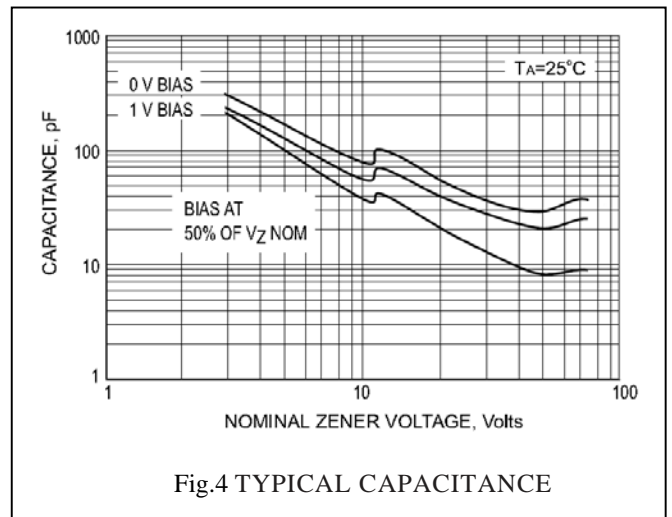
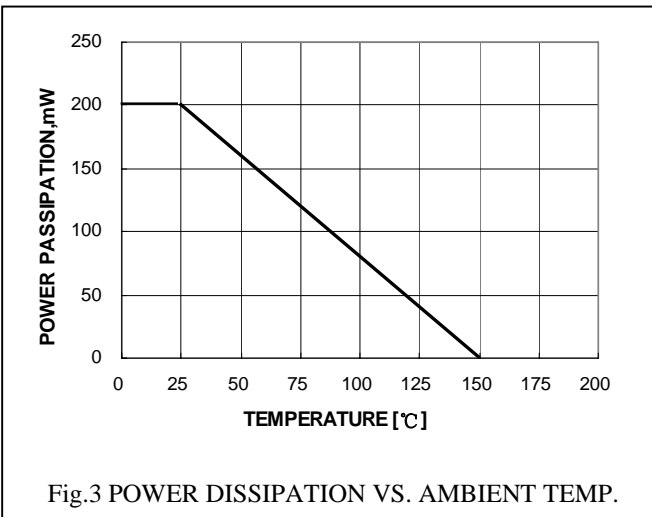
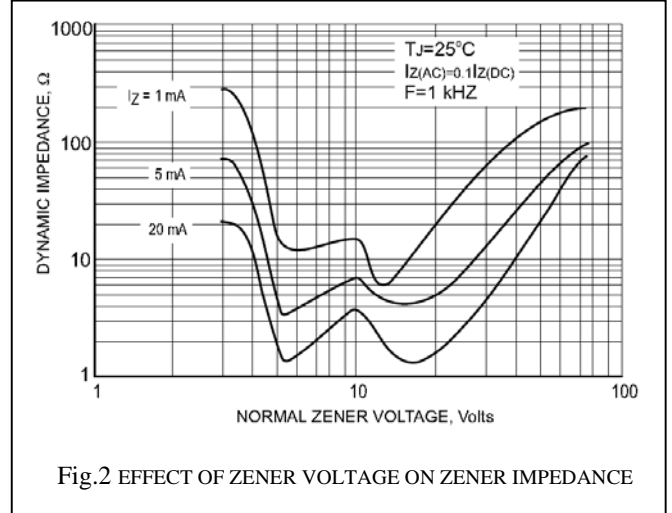
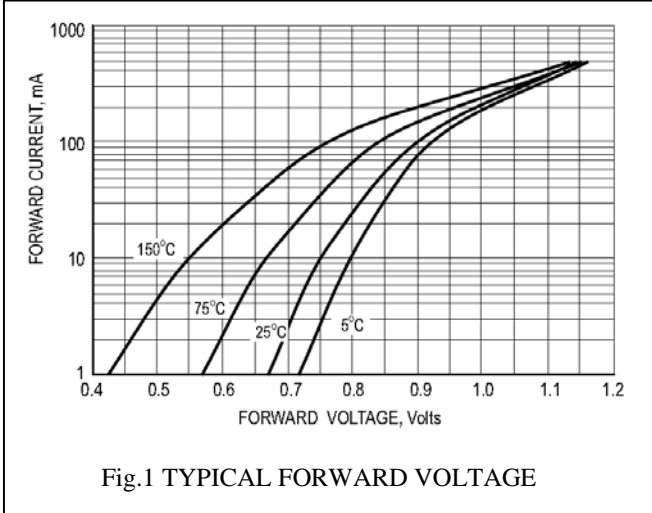
**Electrical Characteristics**
 $T_A = 25^\circ\text{C}$  unless otherwise noted

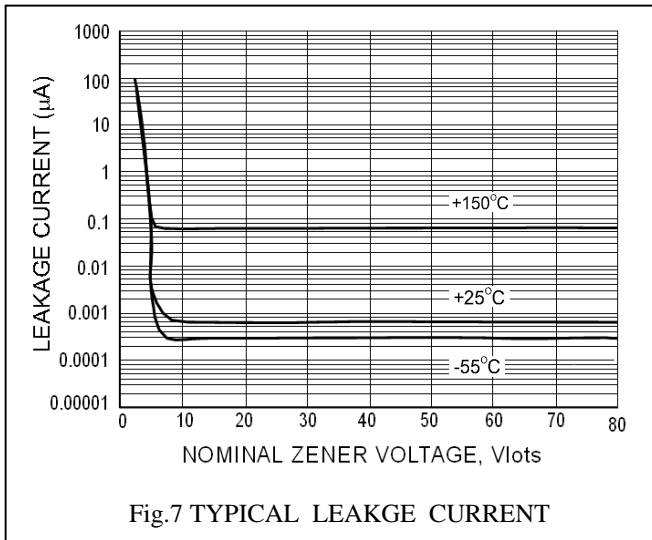
Device Type	Device Marking	$V_Z @ I_{ZT}$ (Volts)			$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
		Min	Nom	Max					
MMSZ5251CSW	251C	21.56	22	22.44	5.6	29	600	0.1	17
MMSZ5252CSW	252C	23.52	24	24.48	5.2	33	600	0.1	18
MMSZ5253CSW	253C	24.5	25	25.5	5	35	600	0.1	19
MMSZ5254CSW	254C	26.46	27	27.54	4.6	41	600	0.1	21
MMSZ5255CSW	255C	27.44	28	28.56	4.5	44	600	0.1	21
MMSZ5256CSW	256C	29.4	30	30.6	4.2	49	600	0.1	23
MMSZ5257CSW	257C	32.34	33	33.66	3.8	58	700	0.1	25
MMSZ5258CSW	258C	35.28	36	36.72	3.4	70	700	0.1	27
MMSZ5259CSW	259C	38.22	39	39.78	3.2	80	800	0.1	30
MMSZ5260CSW	260C	42.14	43	43.86	3	93	900	0.1	33
MMSZ5261CSW	261C	46.06	47	47.94	2.7	105	1000	0.1	36
MMSZ5262CSW	262C	49.98	51	52.02	2.5	125	1100	0.1	39
MMSZ5263CSW	263C	54.88	56	57.12	2.2	150	1300	0.1	43
MMSZ5264CSW	264C	58.8	60	61.2	2.1	170	1400	0.1	46
MMSZ5265CSW	265C	60.76	62	63.24	2.0	185	1400	0.1	47
MMSZ5266CSW	266C	66.64	68	69.36	1.8	230	1600	0.1	52
MMSZ5267CSW	267C	73.5	75	76.5	1.7	270	1700	0.1	56

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

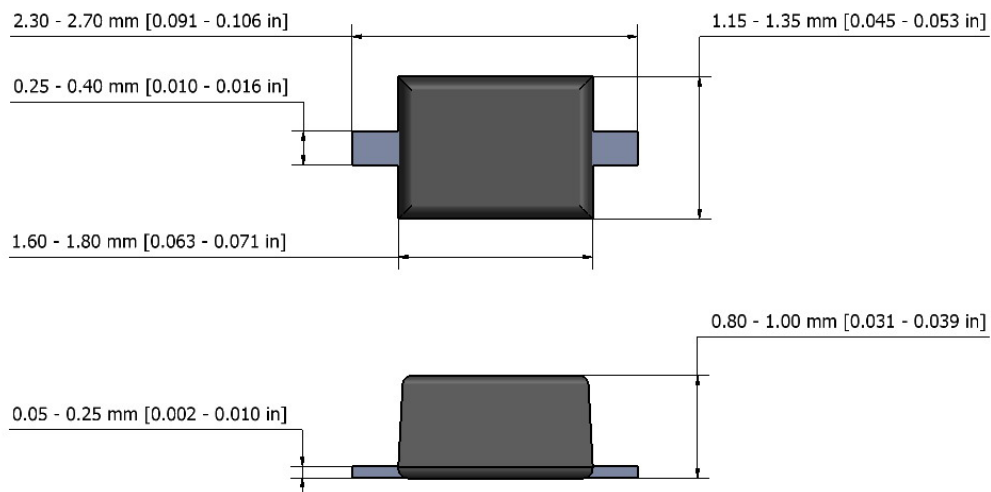
**Notes:**

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  $\pm 2\%$ .
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.

**TYPICAL CHARACTERISTIC CURVES**




### SOD-323 Package Outline



NOTES:

1. The above package outline is similar to JEITA SC-90.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

## **NOTICE**

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.takcheong.com>, or consult your nearest Tak Cheong's sales office for further assistance.