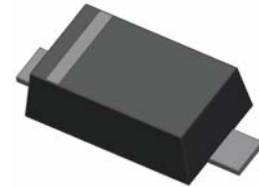


## 500mW SOD-123 SURFACE MOUNT Flat Lead Surface Mount Plastic Package Zener Voltage Regulators

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

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	500	mW
$T_{STG}$	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
$T_{OPR}$	Operating Temperature Range	-65 to +150	$^\circ\text{C}$

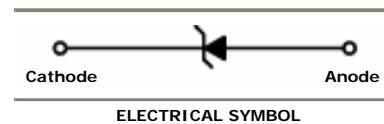
These ratings are limiting values above which the serviceability of the diode may be impaired.



SOD-123 Flat Lead

### Specification Features:

- Wide Zener Voltage Range Selection, 2.4V to 56V
- VZ Tolerance Selection of  $\pm 5\%$
- Flat Lead SOD-123 Plastic Package
- Surface Device Type Mounting
- Moisture Sensitivity Level 1
- Clip Bonding Construction, Good Thermal Capability
- RoHS Compliant
- 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)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) 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					
TCMMSZ5221B	Z2V4	2.28	2.4	2.52	20	30	1200	100	1
TCMMSZ5222B	Z2V5	2.38	2.5	2.63	20	30	1250	100	1
TCMMSZ5223B	Z2V7	2.57	2.7	2.84	20	30	1300	75	1
TCMMSZ5224B	Z2V8	2.66	2.8	2.94	20	30	1400	75	1
TCMMSZ5225B	Z3V0	2.85	3.0	3.15	20	29	1600	50	1
TCMMSZ5226B	Z3V3	3.14	3.3	3.47	20	28	1600	25	1
TCMMSZ5227B	Z3V6	3.42	3.6	3.78	20	24	1700	15	1
TCMMSZ5228B	Z3V9	3.71	3.9	4.10	20	23	1900	10	1
TCMMSZ5229B	Z4V3	4.09	4.3	4.52	20	22	2000	5	1
TCMMSZ5230B	Z4V7	4.47	4.7	4.94	20	19	1900	5	2
TCMMSZ5231B	Z5V1	4.85	5.1	5.36	20	17	1600	5	2
TCMMSZ5232B	Z5V6	5.32	5.6	5.88	20	11	1600	5	3
TCMMSZ5233B	Z6V0	5.70	6.0	6.30	20	7	1600	5	3.5
TCMMSZ5234B	Z6V2	5.89	6.2	6.51	20	7	1000	5	4
TCMMSZ5235B	Z6V8	6.46	6.8	7.14	20	5	750	3	5
TCMMSZ5236B	Z7V5	7.13	7.5	7.88	20	6	500	3	6
TCMMSZ5237B	Z8V2	7.79	8.2	8.61	20	8	500	3	6.5
TCMMSZ5238B	Z8V7	8.27	8.7	9.14	20	8	600	3	6.5
TCMMSZ5239B	Z9V1	8.65	9.1	9.56	20	10	600	3	7
TCMMSZ5240B	Z10V	9.50	10	10.50	20	17	600	3	8
TCMMSZ5241B	Z11V	10.45	11	11.55	20	22	600	2	8.4
TCMMSZ5242B	Z12V	11.40	12	12.60	20	30	600	1	9.1
TCMMSZ5243B	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

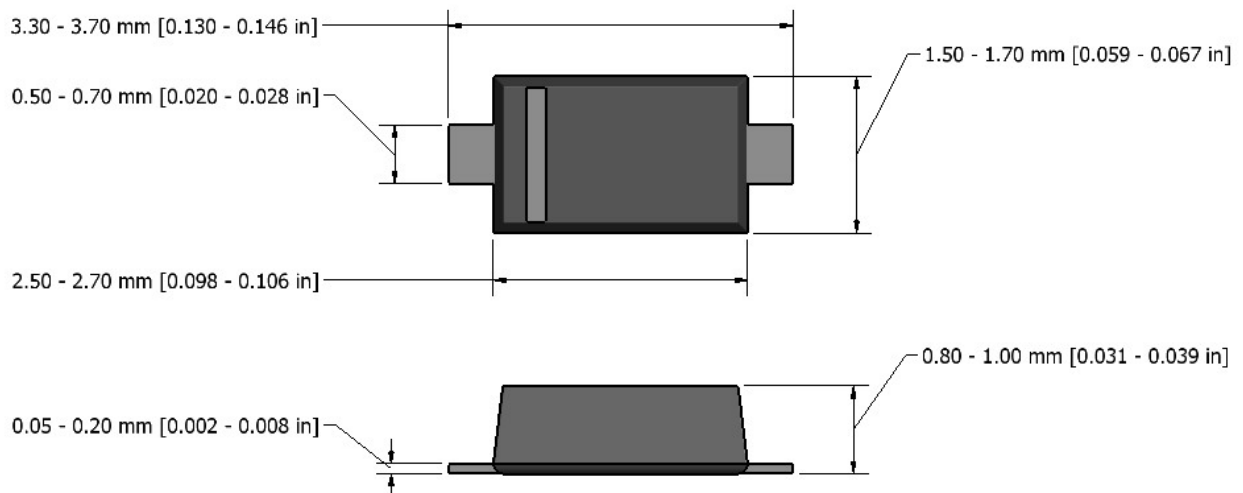
Device Type	Device Marking	$V_Z @ I_{ZT}$ (Volts)			$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
		Min	Nom	Max					
TCMMSZ5244B	Z14V	13.30	14	14.70	9	15	600	0.1	10
TCMMSZ5245B	Z15V	14.25	15	15.75	8.5	16	600	0.1	11
TCMMSZ5246B	Z16V	15.20	16	16.80	7.8	17	600	0.1	12
TCMMSZ5247B	Z17V	16.15	17	17.85	7.4	19	600	0.1	13
TCMMSZ5248B	Z18V	17.10	18	18.90	7	21	600	0.1	14
TCMMSZ5249B	Z19V	18.05	19	19.95	6.6	23	600	0.1	14
TCMMSZ5250B	Z20V	19.00	20	21.00	6.2	25	600	0.1	15
TCMMSZ5251B	Z22V	20.90	22	23.10	5.6	29	600	0.1	17
TCMMSZ5252B	Z24V	22.80	24	25.20	5.2	33	600	0.1	18
TCMMSZ5253B	Z25V	23.75	25	26.25	5	35	600	0.1	19
TCMMSZ5254B	Z27V	25.65	27	28.35	4.6	41	600	0.1	21
TCMMSZ5255B	Z28V	26.60	28	29.40	4.5	44	600	0.1	21
TCMMSZ5256B	Z30V	28.50	30	31.50	4.2	49	600	0.1	23
TCMMSZ5257B	Z33V	31.35	33	34.65	3.8	58	700	0.1	25
TCMMSZ5258B	Z36V	34.20	36	37.80	3.4	70	700	0.1	27
TCMMSZ5259B	Z39V	37.05	39	40.95	3.2	80	800	0.1	30
TCMMSZ5260B	Z43V	40.85	43	45.15	3	93	900	0.1	33
TCMMSZ5261B	Z47V	44.65	47	49.35	2.7	105	1000	0.1	36
TCMMSZ5262B	Z51V	48.45	51	53.55	2.5	125	1100	0.1	39
TCMMSZ5263B	Z56V	53.20	56	58.80	2.2	150	1300	0.1	43

$V_F$  Forward Voltage = 900mV Maximum @  $I_F = 10$  mA for all types

**Notes:**

1. The zener voltage ( $V_Z$ ) is tested under pulse condition of 15mS. The measured  $V_Z$  is guaranteed to be within specification with device junction in thermal equilibrium.
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.


**Flat Lead SOD-123 Package Outline**



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.

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