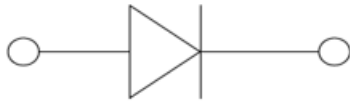


## Small Signal Zener Diodes



**SOD123**

### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Zener Voltage 2.4V~47V
- $V_z$ -tolerance  $\pm 5\%$  approximately
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- General regulation functions

### Mechanical Data

- **Case:** SOD123
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	$P_D$	mW	500
Storage Temperature Range	$T_{stg}$	$^\circ\text{C}$	-55~+150
Junction Temperature	$T_J$	$^\circ\text{C}$	-55~+150
Maximum Regulator Current	$I_{ZM}$	mA	$P_D / V_z$
Maximum Forward Voltage ( $I_F=10\text{mA}$ )	$V_F$	V	0.9
Thermal Resistance Junction to Ambient Air*	$R_{\theta JA}$	$^\circ\text{C} / \text{W}$	340

### ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMSZ5221BQ THRU MMSZ5261BQ	F2	Approximate 0.01	3000	30000	120000	7" reel



# MMSZ5221BQ THRU MMSZ5261BQ

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

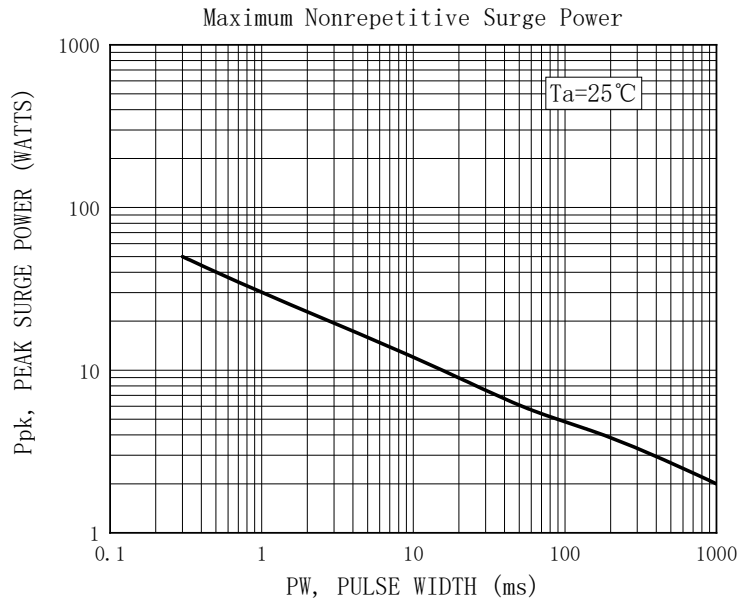
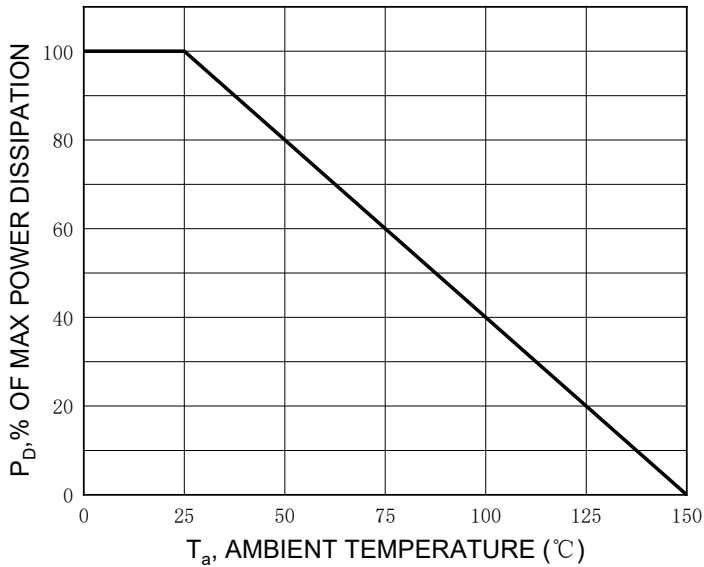
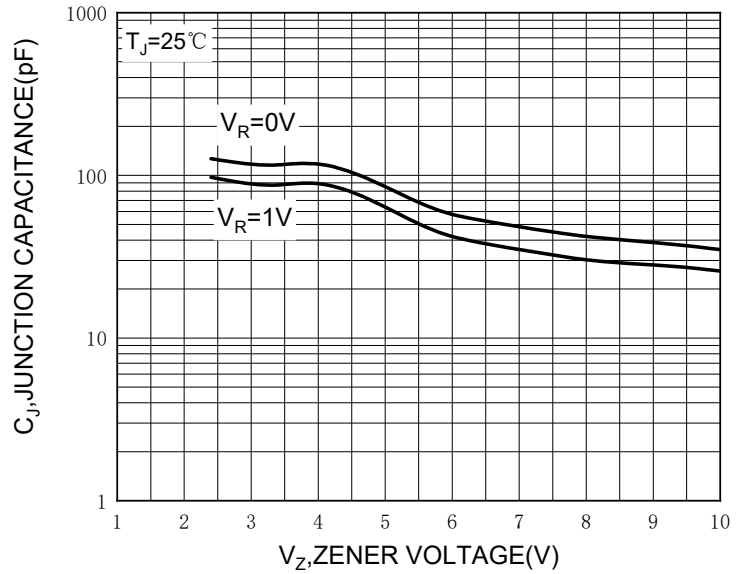
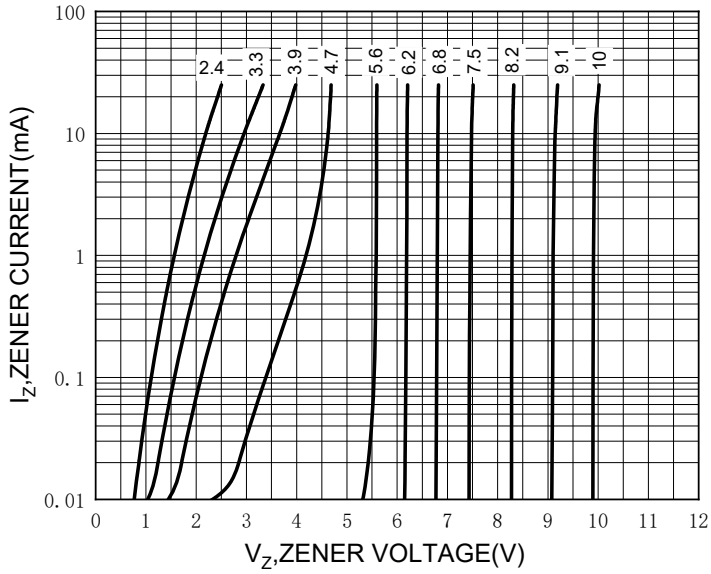
Type Number	Device Marking	V <sub>z</sub> at I <sub>zt</sub> (V)			I <sub>zt</sub>	Z <sub>zt</sub> (Ω)		Z <sub>zk</sub> (Ω)		I <sub>R</sub> (μA)@V <sub>R</sub>	
		min.	typ.	max.	mA	I <sub>zt</sub> (mA)	max.	I <sub>zk</sub> (mA)	max.	uA	V <sub>R</sub> (V)
MMSZ5221BQ	C1	2.28	2.4	2.52	20	20	30	0.25	1200	100	1.0
MMSZ5222BQ	C2	2.38	2.5	2.63	20	20	30	0.25	1250	100	1.0
MMSZ5223BQ	C3	2.57	2.7	2.84	20	20	30	0.25	1300	75	1.0
MMSZ5225BQ	C5	2.85	3.0	3.15	20	20	29	0.25	1600	50	1.0
MMSZ5226BQ	G1	3.14	3.3	3.47	20	20	28	0.25	1600	25	1.0
MMSZ5227BQ	G2	3.42	3.6	3.78	20	20	24	0.25	1700	15	1.0
MMSZ5228BQ	G3	3.71	3.9	4.10	20	20	23	0.25	1900	10	1.0
MMSZ5229BQ	G4	4.09	4.3	4.52	20	20	22	0.25	2000	5	1.0
MMSZ5230BQ	G5	4.47	4.7	4.94	20	20	19	0.25	1900	5	2.0
MMSZ5231BQ	E1	4.85	5.1	5.36	20	20	17	0.25	1600	5	2.0
MMSZ5232BQ	E2	5.32	5.6	5.88	20	20	11	0.25	1600	5	3.0
MMSZ5234BQ	E4	5.89	6.2	6.51	20	20	7	0.25	1000	5	4.0
MMSZ5235BQ	E5	6.46	6.8	7.14	20	20	5	0.25	750	3	5.0
MMSZ5236BQ	F1	7.13	7.5	7.88	20	20	6	0.25	500	3	6.0
MMSZ5237BQ	F2	7.79	8.2	8.61	20	20	8	0.25	500	3	6.5
MMSZ5239BQ	F4	8.65	9.1	9.56	20	20	10	0.25	600	3	7.0
MMSZ5240BQ	F5	9.50	10	10.50	20	20	17	0.25	600	3	8.0
MMSZ5241BQ	H1	10.45	11	11.55	20	20	22	0.25	600	2	8.4
MMSZ5242BQ	H2	11.40	12	12.60	20	20	30	0.25	600	1	9.1
MMSZ5243BQ	H3	12.35	13	13.65	9.5	9.5	13	0.25	600	0.5	9.9
MMSZ5245BQ	H5	14.25	15	15.75	8.5	8.5	16	0.25	600	0.1	11.0
MMSZ5246BQ	J1	15.20	16	16.80	7.8	7.8	17	0.25	600	0.1	12.0
MMSZ5248BQ	J3	17.10	18	18.90	7	7	21	0.25	600	0.1	14.0
MMSZ5250BQ	J5	19.00	20	21.00	6.2	6.2	25	0.25	600	0.1	15.0
MMSZ5251BQ	K1	20.90	22	23.10	5.6	5.6	29	0.25	600	0.1	17.0
MMSZ5252BQ	K2	22.80	24	25.20	5.2	5.2	33	0.25	600	0.1	18.0
MMSZ5254BQ	K4	25.65	27	28.35	4.6	4.6	41	0.25	600	0.1	21.0
MMSZ5256BQ	M1	28.50	30	31.50	4.2	4.2	49	0.25	600	0.1	23.0
MMSZ5257BQ	M2	31.35	33	34.65	3.8	3.8	58	0.25	700	0.1	25.0
MMSZ5258BQ	M3	34.20	36	37.80	3.4	3.4	70	0.25	700	0.1	27.0
MMSZ5259BQ	M4	37.05	39	40.95	3.2	3.2	80	0.25	800	0.1	30.0
MMSZ5260BQ	M5	40.85	43	45.15	3	3	93	0.25	900	0.1	33.0
MMSZ5261BQ	N1	44.65	47	49.35	2.7	2.7	105	0.25	1000	0.1	36.0



# MMSZ5221BQ THRU MMSZ5261BQ

## ■ Characteristics (Typical)

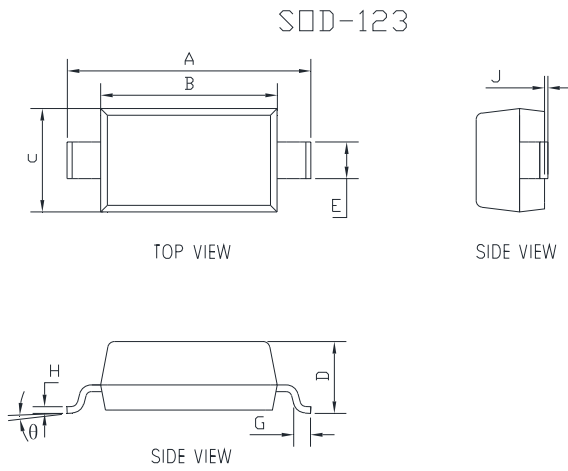
### ZENER BREAKDOWN CHARACTERISTICS



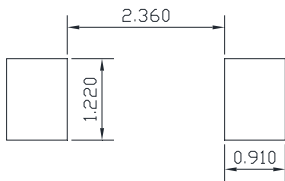


# MMSZ5221BQ THRU MMSZ5261BQ

## ■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.140	0.152	3.550	3.850
B	0.100	0.112	2.550	2.850
C	0.055	0.071	1.400	1.800
D	0.037	0.053	0.950	1.350
E	0.020	0.028	0.510	0.710
G	0.006	0.018	0.150	0.450
H	0.003	0.010	0.080	0.250
J	0.000	0.006	0.000	0.150
$\theta$	0	8°	0	8°



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT



## MMSZ5221BQ THRU MMSZ5261BQ

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