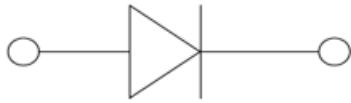


Small Signal Zener Diodes



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[1]	$R_{\theta JA}$	$^\circ\text{C} / \text{W}$	340

[1] Device mounted on an Printed-Circuit Board (PCB), single-sided copper, tin-plated, mounting pad for cathode $5 \times 5 \text{ mm}^2$

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMSZ5221BHQ THRU MMSZ5261BHQ	F2	Approximate 0.01	3000	30000	120000	7" reel



MMSZ5221BHQ THRU MMSZ5261BHQ

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

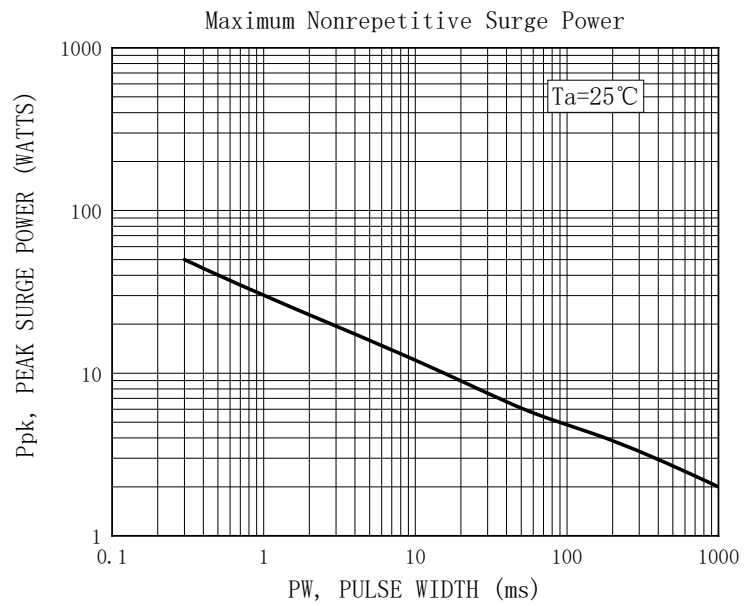
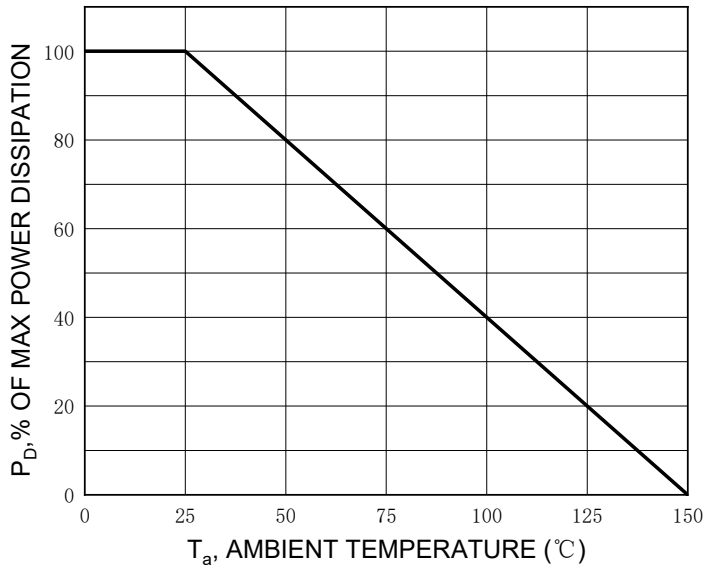
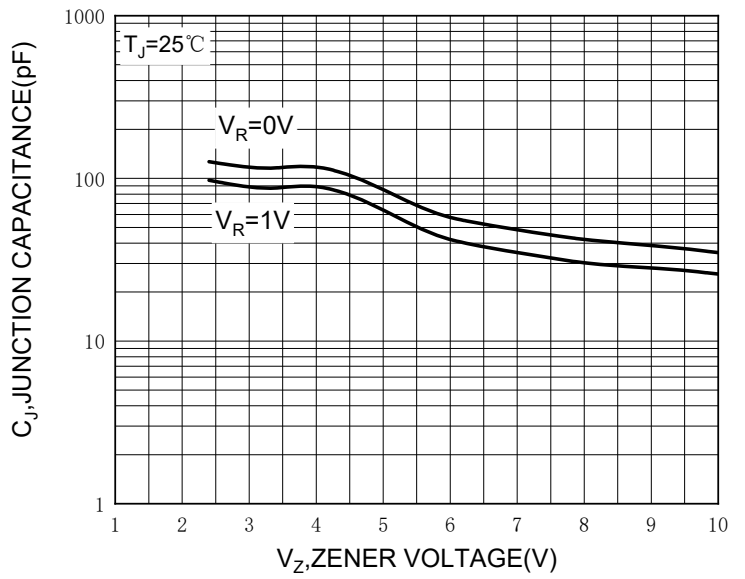
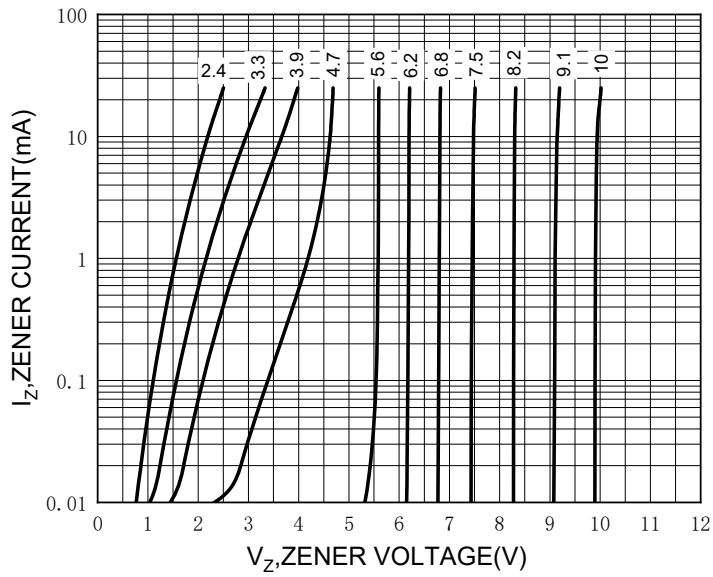
Type Number	Device Marking	V _z at I _{zt} (V)			I _{zt} mA	Z _{zt} (Ω)		Z _{zk} (Ω)		I _R (μA)@V _R	
		min.	typ.	max.		I _{zt} (mA)	max.	I _{zk} (mA)	max.	uA	V _R (V)
MMSZ5221BHQ	C1	2.28	2.4	2.52	20	20	30	0.25	1200	100	1.0
MMSZ5222BHQ	C2	2.38	2.5	2.63	20	20	30	0.25	1250	100	1.0
MMSZ5223BHQ	C3	2.57	2.7	2.84	20	20	30	0.25	1300	75	1.0
MMSZ5225BHQ	C5	2.85	3.0	3.15	20	20	29	0.25	1600	50	1.0
MMSZ5226BHQ	G1	3.14	3.3	3.47	20	20	28	0.25	1600	25	1.0
MMSZ5227BHQ	G2	3.42	3.6	3.78	20	20	24	0.25	1700	15	1.0
MMSZ5228BHQ	G3	3.71	3.9	4.10	20	20	23	0.25	1900	10	1.0
MMSZ5229BHQ	G4	4.09	4.3	4.52	20	20	22	0.25	2000	5	1.0
MMSZ5230BHQ	G5	4.47	4.7	4.94	20	20	19	0.25	1900	5	2.0
MMSZ5231BHQ	E1	4.85	5.1	5.36	20	20	17	0.25	1600	5	2.0
MMSZ5232BHQ	E2	5.32	5.6	5.88	20	20	11	0.25	1600	5	3.0
MMSZ5234BHQ	E4	5.89	6.2	6.51	20	20	7	0.25	1000	5	4.0
MMSZ5235BHQ	E5	6.46	6.8	7.14	20	20	5	0.25	750	3	5.0
MMSZ5236BHQ	F1	7.13	7.5	7.88	20	20	6	0.25	500	3	6.0
MMSZ5237BHQ	F2	7.79	8.2	8.61	20	20	8	0.25	500	3	6.5
MMSZ5239BHQ	F4	8.65	9.1	9.56	20	20	10	0.25	600	3	7.0
MMSZ5240BHQ	F5	9.50	10	10.50	20	20	17	0.25	600	3	8.0
MMSZ5241BHQ	H1	10.45	11	11.55	20	20	22	0.25	600	2	8.4
MMSZ5242BHQ	H2	11.40	12	12.60	20	20	30	0.25	600	1	9.1
MMSZ5243BHQ	H3	12.35	13	13.65	9.5	9.5	13	0.25	600	0.5	9.9
MMSZ5245BHQ	H5	14.25	15	15.75	8.5	8.5	16	0.25	600	0.1	11.0
MMSZ5246BHQ	J1	15.20	16	16.80	7.8	7.8	17	0.25	600	0.1	12.0
MMSZ5248BHQ	J3	17.10	18	18.90	7	7	21	0.25	600	0.1	14.0
MMSZ5250BHQ	J5	19.00	20	21.00	6.2	6.2	25	0.25	600	0.1	15.0
MMSZ5251BHQ	K1	20.90	22	23.10	5.6	5.6	29	0.25	600	0.1	17.0
MMSZ5252BHQ	K2	22.80	24	25.20	5.2	5.2	33	0.25	600	0.1	18.0
MMSZ5254BHQ	K4	25.65	27	28.35	4.6	4.6	41	0.25	600	0.1	21.0
MMSZ5256BHQ	M1	28.50	30	31.50	4.2	4.2	49	0.25	600	0.1	23.0
MMSZ5257BHQ	M2	31.35	33	34.65	3.8	3.8	58	0.25	700	0.1	25.0
MMSZ5258BHQ	M3	34.20	36	37.80	3.4	3.4	70	0.25	700	0.1	27.0
MMSZ5259BHQ	M4	37.05	39	40.95	3.2	3.2	80	0.25	800	0.1	30.0
MMSZ5260BHQ	M5	40.85	43	45.15	3	3	93	0.25	900	0.1	33.0
MMSZ5261BHQ	N1	44.65	47	49.35	2.7	2.7	105	0.25	1000	0.1	36.0



MMSZ5221BHQ THRU MMSZ5261BHQ

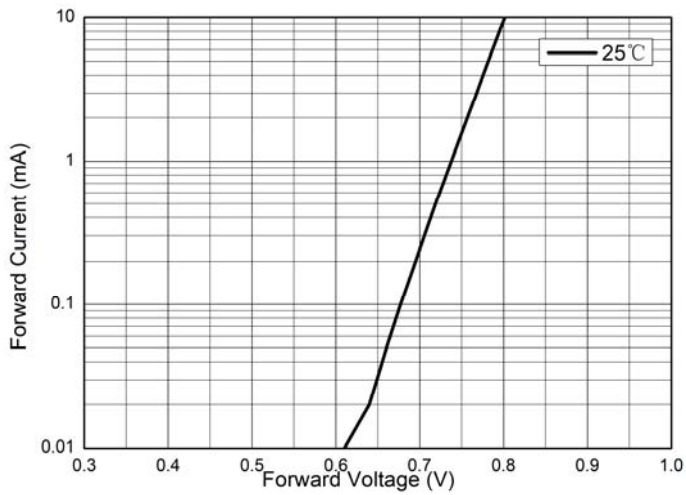
■ Characteristics (Typical)

ZENER BREAKDOWN CHARACTERISTICS

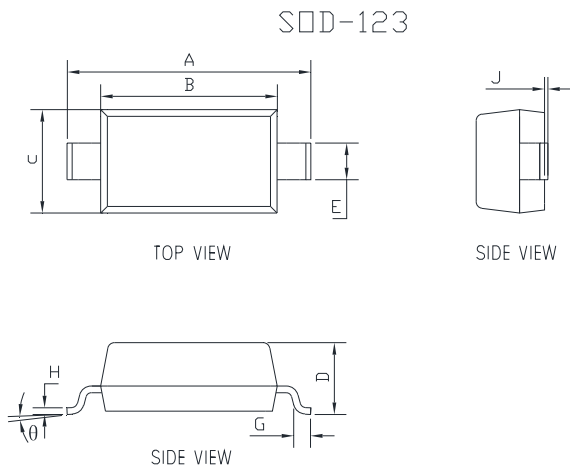




MMSZ5221BHQ THRU MMSZ5261BHQ



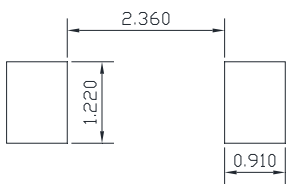
■ Outline Dimensions



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
θ	0	8°	0	8°

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

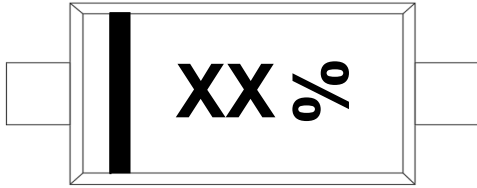


UNIT: mm

SUGGESTED SOLDER PAD LAYOUT



■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black
4. XX is Marking code ; % is a date code, rotated 90° counterclockwise

*Date Code vary depending upon production date



MMSZ5221BHQ THRU MMSZ5261BHQ

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