



# MMSZ5221CG THRU MMSZ5259CG

Surface Mount Zener Diode

## Features

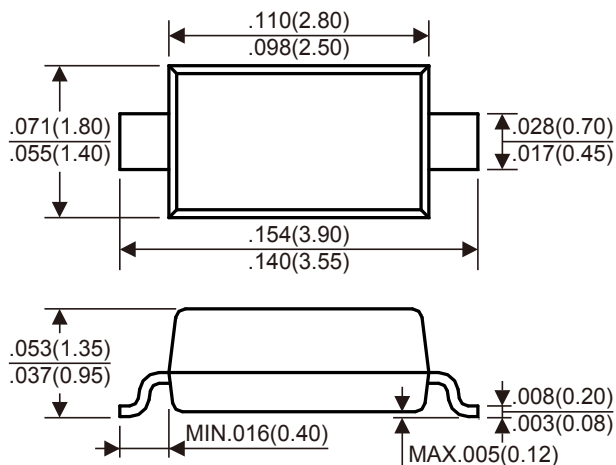
- ★ Ideally suited for automated assembly processes
- ★ High reliability
- ★ High stability
- ★ Low zener impedance
- ★ Zener voltage tolerance is  $\pm 2\%$

## Mechanical Data

- ★ Case: Molded plastic SOD-123
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-750 method 2026
- ★ Polarity: Color band denotes cathode end
- ★ Mounting position: Any

**Zener Voltage 2.4 to 39 V**  
**Power Dissipation 500 mW**

### SOD-123



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	$P_D$	500	mW
Maximum Instantaneous Forward Voltage @ $I_F=10\text{mA}$	$V_F$	0.9	V
Operating Junction Temperature Range	$T_J$	-65 to +150	°C
Storage Temperature Range	$T_{STG}$	-65 to +150	°C

# MMSZ5221CG THRU MMSZ5259CG

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

Part Number	Device Marking Code	Zener Voltage $V_Z@I_{ZT}$				Maximum Zener Impedance			Maximum Reverse Leakage Current $I_R@V_R$	
		Min (V)	Nom (V)	Max (V)	$I_{ZT}$ (mA)	$Z_{ZT}@I_{ZT}$ ( $\Omega$ )	$Z_{ZK}@I_{ZK}$ ( $\Omega$ )	$I_{ZK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	$V_R$ (V)
MMSZ5221CG	2C1	2.35	2.4	2.45	20	30	1200	0.25	100	1
MMSZ5223CG	2C3	2.65	2.7	2.75	20	30	1300	0.25	75	1
MMSZ5225CG	2C5	2.94	3.0	3.06	20	30	1600	0.25	50	1
MMSZ5226CG	2G1	3.23	3.3	3.37	20	28	1600	0.25	25	1
MMSZ5227CG	2G2	3.53	3.6	3.67	20	24	1700	0.25	15	1
MMSZ5228CG	2G3	3.82	3.9	3.98	20	23	1900	0.25	10	1
MMSZ5229CG	2G4	4.21	4.3	4.39	20	22	2000	0.25	5	1
MMSZ5230CG	2G5	4.61	4.7	4.79	20	19	1900	0.25	5	2
MMSZ5231CG	2E1	5.00	5.1	5.20	20	17	1600	0.25	5	2
MMSZ5232CG	2E2	5.49	5.6	5.71	20	11	1600	0.25	5	3
MMSZ5233CG	2E3	5.88	6.0	6.12	20	7	1600	0.25	5	3.5
MMSZ5234CG	2E4	6.08	6.2	6.32	20	7	1000	0.25	5	4
MMSZ5235CG	2E5	6.66	6.8	6.94	20	5	750	0.25	3	5
MMSZ5236CG	2F1	7.35	7.5	7.65	20	6	500	0.25	3	6
MMSZ5237CG	2F2	8.04	8.2	8.36	20	8	500	0.25	3	6.5
MMSZ5238CG	2F3	8.53	8.7	8.87	20	8	600	0.25	3	6.5
MMSZ5239CG	2F4	8.92	9.1	9.28	20	10	600	0.25	3	7
MMSZ5240CG	2F5	9.80	10	10.20	20	17	600	0.25	3	8
MMSZ5241CG	2H1	10.78	11	11.22	20	22	600	0.25	2	8.4
MMSZ5242CG	2H2	11.76	12	12.24	20	30	600	0.25	1	9.1
MMSZ5243CG	2H3	12.74	13	13.26	9.5	13	600	0.25	0.5	9.9
MMSZ5244CG	2H4	13.72	14	14.28	9.0	15	600	0.25	0.1	10
MMSZ5245CG	2H5	14.70	15	15.30	8.5	16	600	0.25	0.1	11
MMSZ5246CG	2J1	15.68	16	16.32	7.8	17	600	0.25	0.1	12
MMSZ5248CG	2J3	17.64	18	18.36	7.0	21	600	0.25	0.1	14
MMSZ5250CG	2J5	19.60	20	20.40	6.2	25	600	0.25	0.1	15
MMSZ5251CG	2K1	21.56	22	22.44	5.6	29	600	0.25	0.1	17
MMSZ5252CG	2K2	23.52	24	24.48	5.2	33	600	0.25	0.1	18
MMSZ5253CG	2K3	24.50	25	25.50	5.0	35	600	0.25	0.1	19
MMSZ5254CG	2K4	26.46	27	27.54	5.0	41	600	0.25	0.1	21
MMSZ5255CG	2K5	27.44	28	28.56	4.5	44	600	0.25	0.1	21
MMSZ5256CG	2M1	29.40	30	30.60	4.2	49	600	0.25	0.1	23
MMSZ5257CG	2M2	32.34	33	33.66	3.8	58	700	0.25	0.1	25
MMSZ5258CG	2M3	35.28	36	36.72	3.4	70	700	0.25	0.1	27
MMSZ5259CG	2M4	38.22	39	39.78	3.2	80	800	0.25	0.1	30

Note : (1) 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  $I_{ZK}$ .

# RATINGS AND CHARACTERISTICS CURVES MMSZ5221CG THRU MMSZ5259CG

FIG.1 - POWER DERATING CURVE

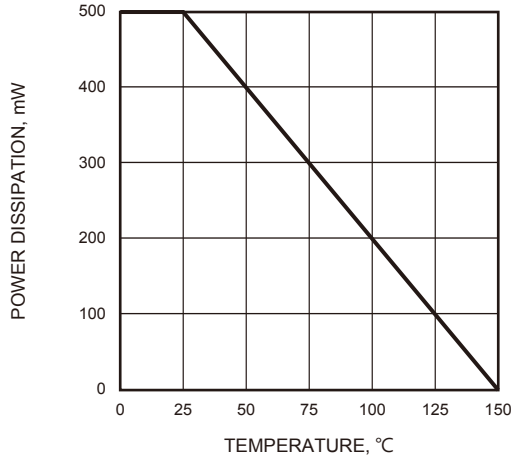


FIG.2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

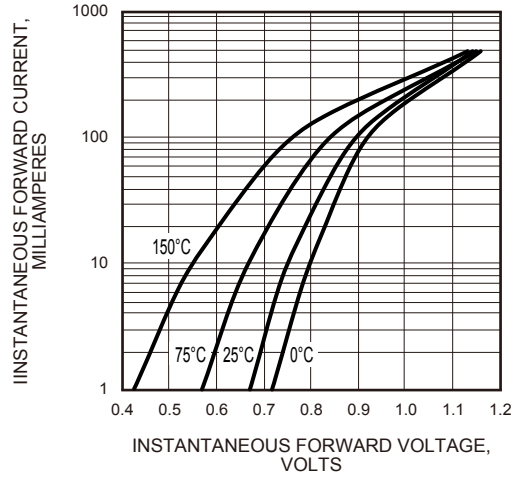


FIG.3 - EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

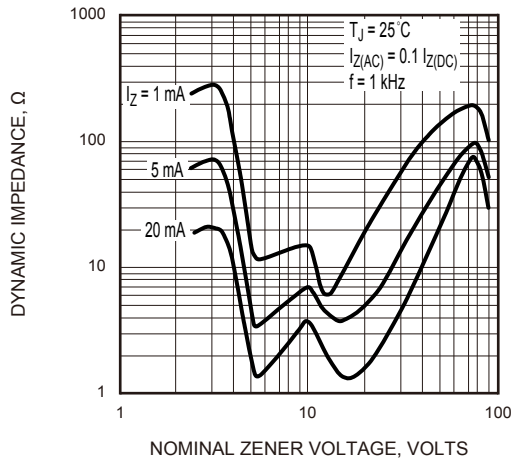


FIG.4 - TYPICAL CAPACITANCE

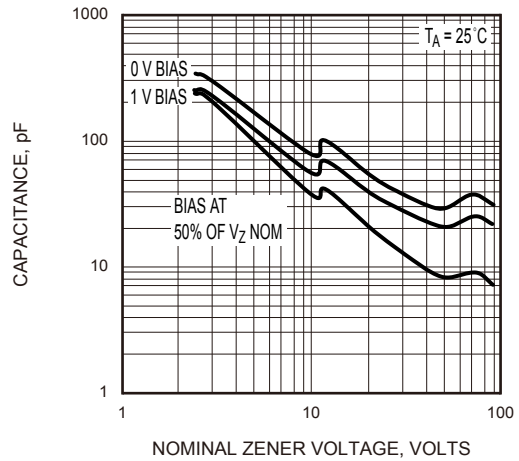


FIG.5 - TYPICAL LEAKAGE CURRENT

