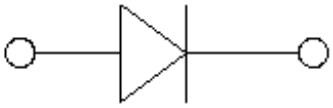
Zener Diodes



Features

- Moisture sensitivity level 1
- Zener voltage 5.1V~36V

Application

- Linear voltage regulator
- DC regulator
- Small-signal surge protection

Mechanical data

- **Package**: SOD-123
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Forward voltage @ I_F=10mA	V_F	V	0.9
Power dissipation	P_D	mW	500
Maximum regulator current	I_{ZM}	mA	P_D/ V_Z
Junction temperature	T_J	℃	-55 to +150
Storage temperature	T_{STG}	℃	-55 to +150

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Type number	Device marking	V_Z @ I_{ZT} (V)			Z_{ZT}(Ω)		Z_{ZK}(Ω)		I_R(μA) @V_R	
		Min.	Typ.	Max.	I_{zt}(ma)	Max.	I_{zk}(ma)	Max.	Max	V_R(V)
MMSZ5231C	2E1	5.0	5.1	5.2	20	17	0.25	1600	5	2.0
MMSZ5232C	2E2	5.49	5.6	5.71	20	11	0.25	1600	5	3.0
MMSZ5234C	2E4	6.08	6.2	6.32	20	7	0.25	1000	5	4.0
MMSZ5235C	2E5	6.66	6.8	6.94	20	5	0.25	750	3	5.0
MMSZ5236C	2F1	7.35	7.5	7.65	20	6	0.25	500	3	6.0
MMSZ5237C	2F2	8.04	8.2	8.36	20	8	0.25	500	3	6.0
MMSZ5239C	2F4	8.92	9.1	9.28	20	10	0.25	600	3	6.5
MMSZ5240C	2F5	9.8	10	10.2	20	17	0.25	600	3	8.0
MMSZ5241C	2H1	10.78	11	11.22	20	22	0.25	600	3	8.4
MMSZ5242C	2H2	11.76	12	12.24	20	30	0.25	600	2	9.1
MMSZ5243C	2H3	12.74	13	13.26	9.5	13	0.25	600	1	9.9
MMSZ5244C	2H4	13.7	14	14.3	9	15	0.25	600	0.5	10.5
MMSZ5245C	2H5	14.7	15	15.3	8.5	16	0.25	600	0.5	11.0
MMSZ5246C	2J1	15.68	16	16.3	7.8	17	0.25	600	0.1	12.0
MMSZ5248C	2J3	17.64	18	18.36	7	21	0.25	600	0.1	14.0
MMSZ5250C	2J5	19.6	20	20.4	6.2	25	0.25	600	0.1	15.0
MMSZ5251C	2K1	21.56	22	22.44	5.6	29	0.25	600	0.1	17.0
MMSZ5252C	2K2	23.52	24	24.48	5.2	33	0.25	600	0.1	18.0
MMSZ5254C	2K4	26.46	27	27.54	4.6	41	0.25	600	0.1	21.0
MMSZ5256C	2M1	29.4	30	30.6	4.2	49	0.25	600	0.1	23.0
MMSZ5257C	2M2	32.34	33	33.66	3.8	58	0.25	700	0.1	25.0
MMSZ5258C	2M3	35.28	36	36.72	3.4	70	0.25	700	0.1	27.0

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	RθJ-A(1)	℃/W	250
Thermal resistance, junction-to-case	RθJ-C(1)	℃/W	200

Note:

（1）Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm*9mm copper pad areas

Fig 1：P_D-Ta Curve

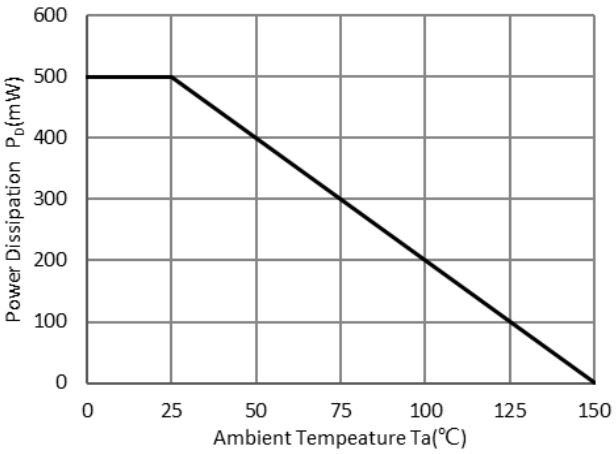


Fig 2：Zener Breakdown Characteristics

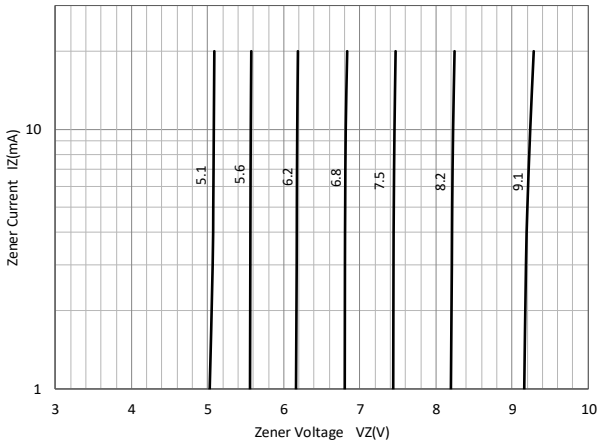


Fig 3：Zener Breakdown Characteristics

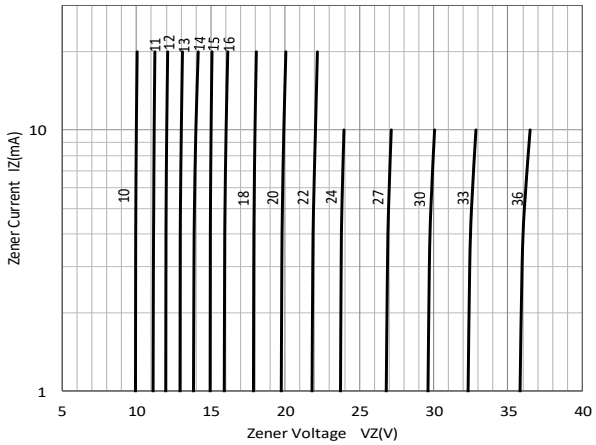


Fig 4：Typical Temperature Coeffient

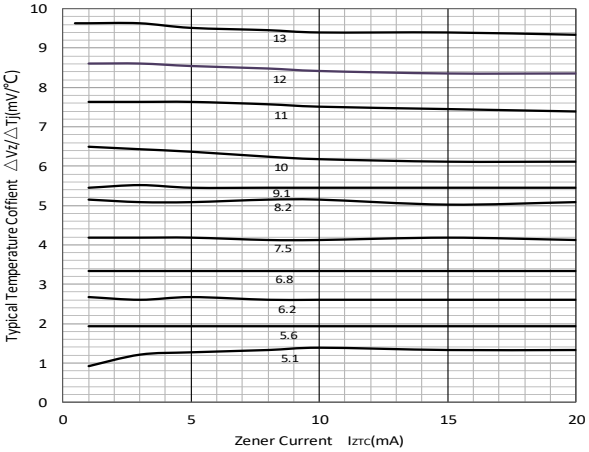


Fig 5：Typical Temperature Coeffient

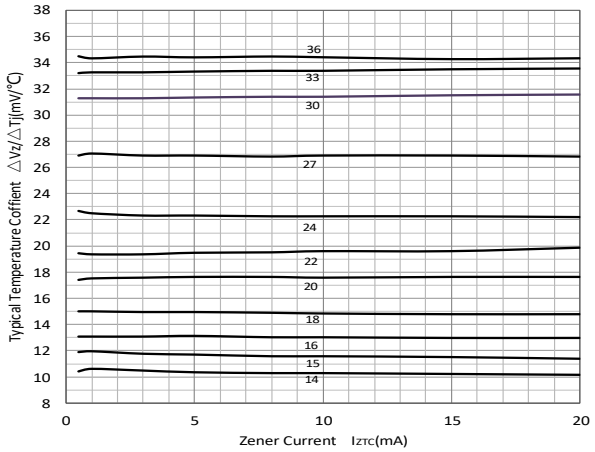
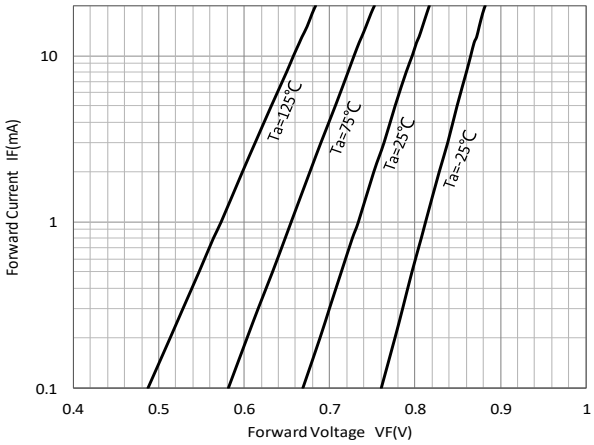


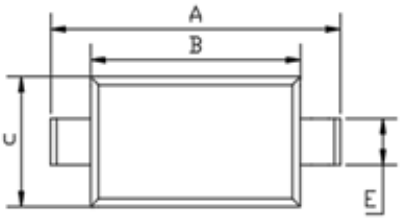
Fig 6：Typical Forward Voltage



■Ordering Information

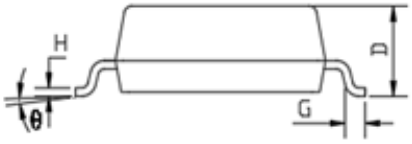
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
MMSZ5231C THRU MMSZ5258C	F2	Approximate 0.011	3000	30000	120000	7” reel
MMSZ5231C THRU MMSZ5258C	F3	Approximate 0.011	10000	/	210000	13” reel

■ Outline Dimensions



TOP VIEW

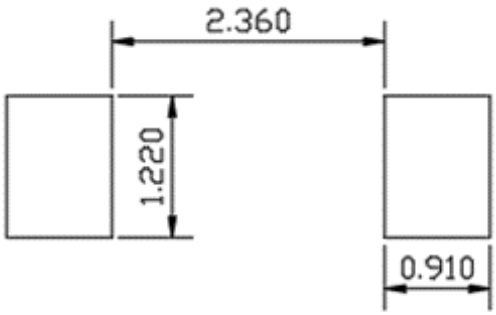
SIDE VIEW



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	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°

■ Suggested Pad Layout



UNIT: mm

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