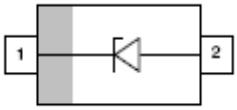
MMSZ5225~MMSZ5272

Surface Mount Zener Diodes

Features

- For surface mounted applications in order to optimize board space
- Wide zener voltage range selection : 3V to 62V
- High reliability
- Pb free version and RoHS compliant
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



SOD-123

Mechanical Date

- **Case:** JEDEC SOD-123 Molded plastic body over chip
- **Terminals:** Solder plated, solderable per MIL-STD-750 Method 2026
- **Polarity:** Types the band by laser denotes the cathode
- **Weight:** 0.0063gram

Maximum Ratings & Thermal Characteristics

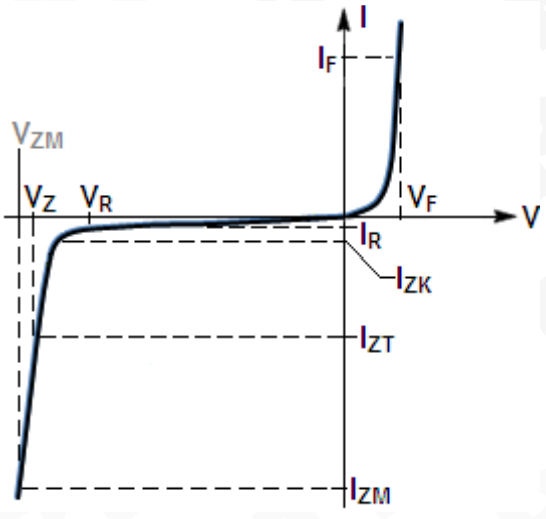
(T_A = 25 °C unless otherwise noted)

Items	Symbol	Value	Unit
Power dissipation	P_D	500	mW
Typical thermal resistance, junction to ambient(1)	$R_{\theta JA}$	416	°C / W
Junction temperature	T_J	150	℃
Storage temperature range	T_{STG}	–55 to +150	℃

Note 1: Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Zener (DC)current at specified test point
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Zener (DC)current near breakdown knee
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_{ZM}	Maximum Zener current
V_{ZM}	Maximum Zener voltage
P_D	Maximum steady-state power dissipation(=I_{ZM}×V_{ZM})
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F



MMSZ5225~MMSZ5272

Surface Mount Zener Diodes

Electrical Characteristics (T_A = 25°C unless otherwise noted, V_F = 0.9 V Max. @ I_F = 10 mA for all types)

DEVICE	Marking Code	Zener Voltage		Zener Impedance			Leakage Current	
		V_Z(Volts)(1)	@I_{ZT}	Z_{ZT}@I_{ZT}	Z_{ZK} @I_{ZK}		I_R @V_R	
		(V)	mA	Ω	Ω	mA	μA	Volts
MMSZ5225	C5	3	20	30	1600	0.25	50	1.0
MMSZ5226	D1	3.3	20	28	1600	0.25	25	2.0
MMSZ5227	D2	3.6	20	24	1700	0.25	15	3.0
MMSZ5228	D3	3.9	20	23	1900	0.25	10	4.0
MMSZ5229	D4	4.3	20	22	2000	0.25	5	5.0
MMSZ5230	D5	4.7	20	19	1900	0.25	5	2.0
MMSZ5231	E1	5.1	20	17	1600	0.25	5	2.0
MMSZ5232	E2	5.6	20	11	1600	0.25	5	3.0
MMSZ5233	E3	6	20	7	1600	0.25	5	3.5
MMSZ5234	E4	6.2	20	7	1000	0.25	5	4.0
MMSZ5235	E5	6.8	20	5	750	0.25	3	5.0
MMSZ5236	F1	7.5	20	6	500	0.25	3	6.0
MMSZ5237	F2	8.2	20	8	500	0.25	3	6.5
MMSZ5238	F3	8.7	20	8	600	0.25	3	6.5
MMSZ5239	F4	9.1	20	10	600	0.25	3	7.0
MMSZ5240	F5	10	20	17	600	0.25	3	8.0
MMSZ5241	H1	11	20	22	600	0.25	2	8.4
MMSZ5242	H2	12	20	30	600	0.25	1	9.1
MMSZ5243	H3	13	9.5	13	600	0.25	0.5	9.9
MMSZ5244	H4	14	9	15	600	0.25	0.1	10.0
MMSZ5245	H5	15	8.5	16	600	0.25	0.1	11.0
MMSZ5246	J1	16	7.8	17	600	0.25	0.1	12.0
MMSZ5247	J2	17	7.4	19	600	0.25	0.1	13.0
MMSZ5248	J3	18	7	21	600	0.25	0.1	14.0
MMSZ5249	J4	19	6.6	23	600	0.25	0.1	14.0
MMSZ5250	J5	20	6.2	25	600	0.25	0.1	15.0
MMSZ5251	K1	22	5.6	29	600	0.25	0.1	17.0
MMSZ5252	K2	24	5.2	33	600	0.25	0.1	18.0
MMSZ5253	K3	25	5	35	600	0.25	0.1	19.0
MMSZ5254	K4	27	4.6	41	600	0.25	0.1	21.0
MMSZ5255	K5	28	4.5	44	600	0.25	0.1	21.0
MMSZ5256	M1	30	4.2	49	600	0.25	0.1	23.0
MMSZ5257	M2	33	3.8	58	700	0.25	0.1	25.0
MMSZ5258	M3	36	3.4	70	700	0.25	0.1	27.0
MMSZ5259	M4	39	3.2	80	800	0.25	0.1	30.0
MMSZ5260	M5	43	3	93	900	0.25	0.1	33.0
MMSZ5261	N1	47	2.7	105	1000	0.25	0.1	36.0
MMSZ5262	N2	51	2.5	125	1100	0.25	0.1	39.0
MMSZ5263	N3	56	2.2	150	1300	0.25	0.1	43.0
MMSZ5264	N4	60	2.1	170	1400	0.25	0.1	46.0
MMSZ5265	N5	62	2	185	1400	0.25	0.1	47.0

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DEVICE	Marking Code	Zener Voltage		Zener Impedance			Leakage Current	
		V_Z(Volts)(1)	@I_{ZT}	Z_{ZT}@I_{ZT}	Z_{ZK} @I_{ZK}		I_R @V_R	
		(V)	mA	Ω	Ω	mA	μA	Volts
MMSZ5266	P1	68	1.8	230	1600	0.25	0.1	52.0
MMSZ5267	P2	75	1.7	270	1700	0.25	0.1	56.0
MMSZ5268	P3	82	1.5	330	2000	0.25	0.1	62.0
MMSZ5269	P4	87	1.4	370	2200	0.25	0.1	68.0
MMSZ5270	P5	91	1.4	400	2300	0.25	0.1	69.0
MMSZ5272	R2	110	1.1	750	3000	0.25	0.1	84.0

Note1 : VZ tolerance is ±5%with a "B"suffix(e.g.:MMSZ5225B) or ±2% with "C"suffix(e.g.:MMSZ5225C)

Typical Characteristics

Fig.1 Typical Forward Characteristics

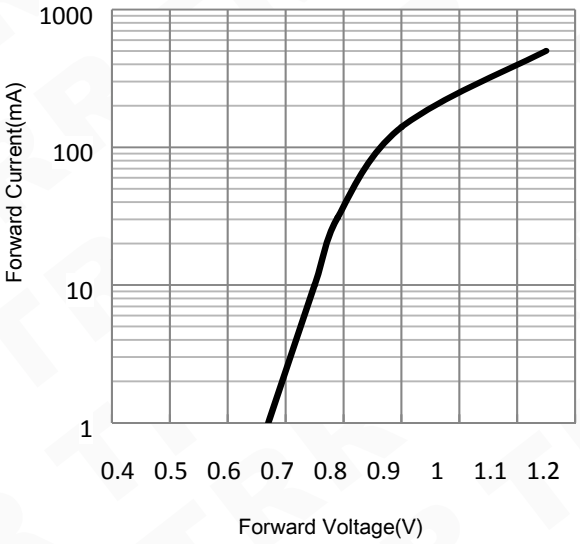


Fig.2 Steady State Power Derating

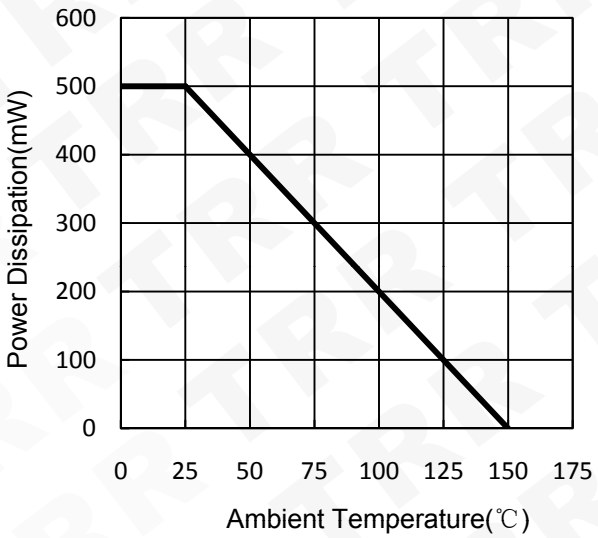


Fig.3 Zener Breakdown Characteristics

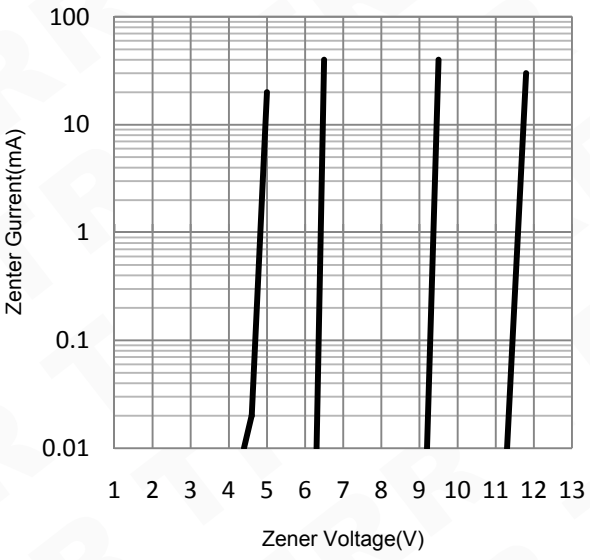
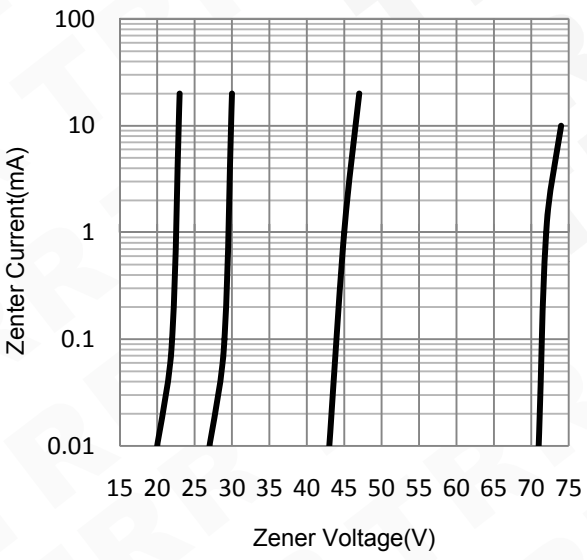
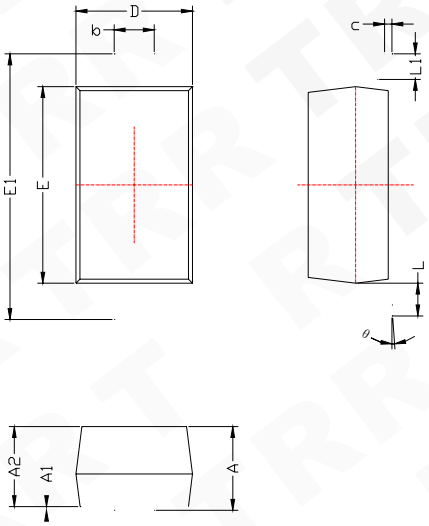


Fig.4 Zener Breakdown characteristics



Package Outline



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500REF	
L1	0.250	0.450
θ	0°	8°

Dimensions in millimeters and(inches)

Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage.or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.

  $I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .

  I_{FSM} : This rating specifies the non-repetitive peak current. This is only applied for an abnormal operation, which the general during the lifespan of the device.

  T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 125°C.