

# L1N4738 thru LZ1200

Surface Mount Zener Diodes

Vz Range: 8.2 to 200V Power Dissipation: 1W

## Features

- Total power dissipation: max 1.0W
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s
- Low profile, typical thickness 1.0mm
- For use in stabilizing and clipping circuits with high power rating
- Zener voltage tolerance is ±5%



Package: eSGB(SMAF)



**RoHS**  
COMPLIANT

## Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Zener Current		See Next Table	
Power Dissipation at T <sub>A</sub> =75°C	P <sub>tot</sub>	1	W
Maximum Instantaneous Forward Voltage at 200mA	V <sub>F</sub>	1.2	V
Thermal Resistance Junction to Ambient	R <sub>thja</sub>	85	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

Note: 1), The thermal resistance from junction to ambient, case or mount, mounted on P.C.B with 5×5mm copper pads, 2 OZ, FR4 PCB

## Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

Part Number	Zener Voltage			Test Current	Dynamic Impedance	Knee Current	Knee Impedance	Reverse Current	Reverse Voltage	Max.DC Current
	V <sub>Z</sub> /V			I <sub>ZT</sub>	Z <sub>ZT</sub>	I <sub>ZK</sub>	Z <sub>ZK</sub>	I <sub>R</sub> (Max)	V <sub>R</sub>	I <sub>ZM</sub>
	V <sub>Z</sub> (Min)	V <sub>Z</sub> (Nominal)	V <sub>Z</sub> (Max)	mA	Ω	mA	Ω	μA <sub>dc</sub>	V	mA
L1N4738	7.79	8.2	8.61	31	4.5	0.5	700	10	6.5	110
L1N4739	8.65	9.1	9.56	28	5	0.5	700	10	7	100
L1N4740	9.5	10	10.5	25	7	0.25	700	10	8	91
L1N4741	10.45	11	11.55	23	8	0.25	700	5	8.4	83
L1N4742	11.4	12	12.6	21	9	0.25	700	5	9.1	76
L1N4743	12.35	13	13.65	19	10	0.25	700	5	9.9	69
L1N4744	14.25	15	15.75	17	14	0.25	700	5	11.4	61
L1N4745	15.2	16	16.8	15.5	16	0.25	700	5	12.2	57
L1N4746	17.1	18	18.9	14	20	0.25	750	5	13.7	50
L1N4747	19	20	21	12.5	22	0.25	750	5	15.2	45

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Part Number	Zener Voltage			Test Current	Dynamic Impedance	Knee Current	Knee Impedance	Reverse Current	Reverse Voltage	Max.DC Current
	V <sub>Z</sub> /V			I <sub>ZT</sub>	Z <sub>ZT</sub>	I <sub>ZK</sub>	Z <sub>ZK</sub>	I <sub>R</sub> (Max)	V <sub>R</sub>	I <sub>ZM</sub>
	V <sub>Z</sub> (Min)	V <sub>Z</sub> (Nominal)	V <sub>Z</sub> (Max)	mA	Ω	mA	Ω	μA <sub>dc</sub>	V	mA
L1N4748	20.9	22	23.1	11.5	23	0.25	750	5	16.7	41
L1N4749	22.8	24	25.2	10.5	25	0.25	750	5	18.2	38
L1N4750	25.65	27	28.35	9.5	35	0.25	750	5	20.6	34
L1N4751	28.5	30	31.5	8.5	40	0.25	1000	5	22.8	30
L1N4752	31.35	33	34.65	7.5	45	0.25	1000	5	25.1	27
L1N4753	34.2	36	37.8	7	50	0.25	1000	5	27.4	25
L1N4754	37.05	39	40.95	6.5	60	0.25	1000	5	29.7	23
L1N4755	40.85	43	45.15	6	70	0.25	1500	5	32.7	22
L1N4756	44.65	47	49.35	5.5	80	0.25	1500	5	35.8	19
L1N4757	48.45	51	53.55	5	95	0.25	1500	5	38.8	18
L1N4758	53.2	56	58.8	4.5	110	0.25	2000	5	42.6	16
L1N4759	58.9	62	65.1	4	125	0.25	2000	5	47.1	14
L1N4760	64.6	68	71.4	3.7	150	0.25	2000	5	51.7	13
L1N4761	71.25	75	78.8	3.3	175	0.25	2000	5	56	12
L1N4762	77.9	82	86.1	3	200	0.25	3000	5	62.2	11
L1N4763	86.45	91	95.6	2.8	250	0.25	3000	5	69.2	10
L1N4764	95	100	105	2.5	350	0.25	3000	5	76	9
LZ1110	104.5	110	115.5	2.3	450	0.25	4000	5	83.6	8.6
LZ1120	114	120	126	2	550	0.25	4500	5	91.2	7.8
LZ1130	123.5	130	136.5	1.9	700	0.25	5000	5	98.8	7
LZ1150	142.5	150	157.5	1.7	1000	0.25	6000	5	114	6.4
LZ1160	152	160	168	1.6	1100	0.25	6500	5	121.6	5.8
LZ1180	171	180	189	1.4	1200	0.25	7000	5	136.8	5.2
LZ1200	190	200	210	1.2	1900	0.25	9990	5	152	4.7

## Ratings and Characteristics Curves

(T<sub>A</sub> = 25°C unless otherwise noted)

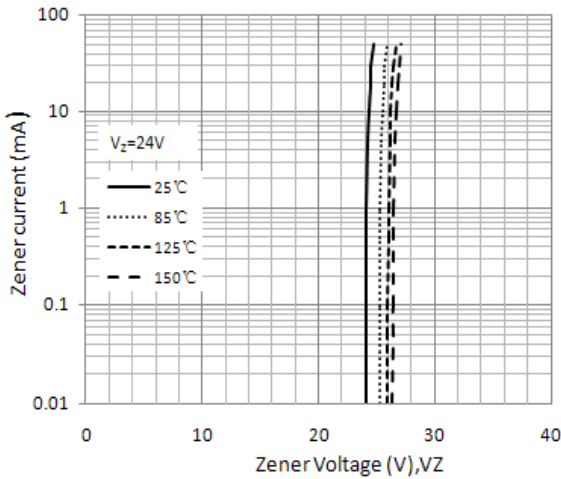


Figure 1. Typical Zener Voltage

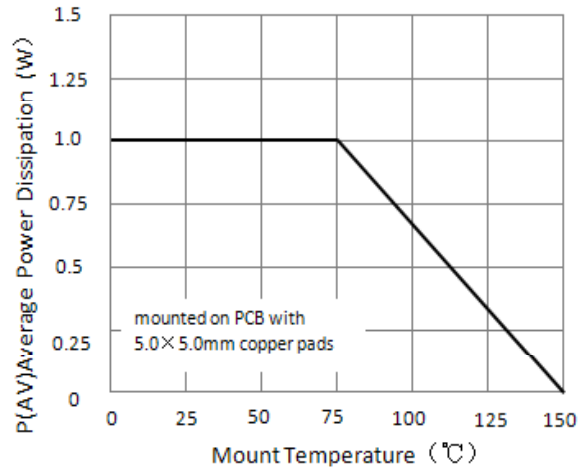


Figure 2. Steady State Power Derating

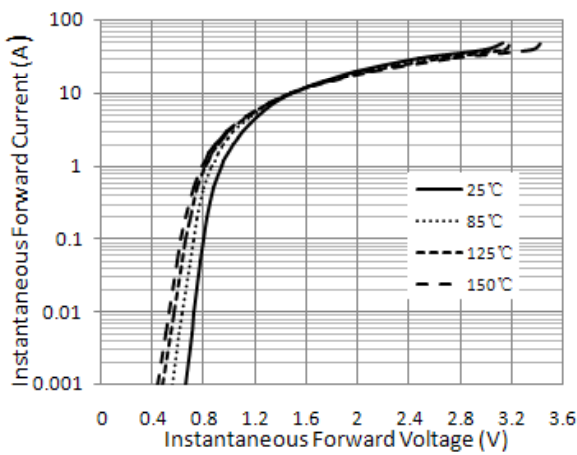


Figure 3. Typical Instantaneous Forward Characteristics

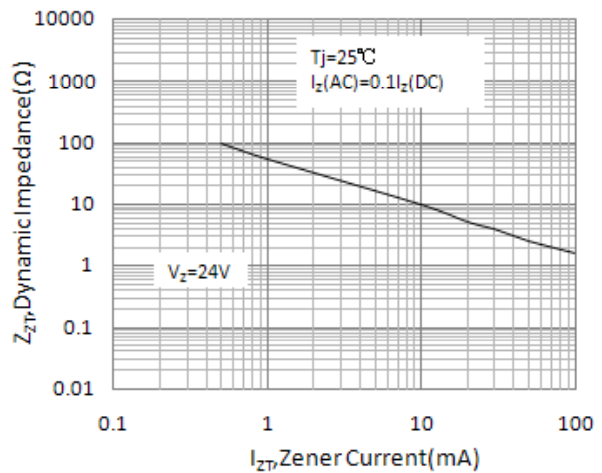


Figure 4. Typical Zener Impedance

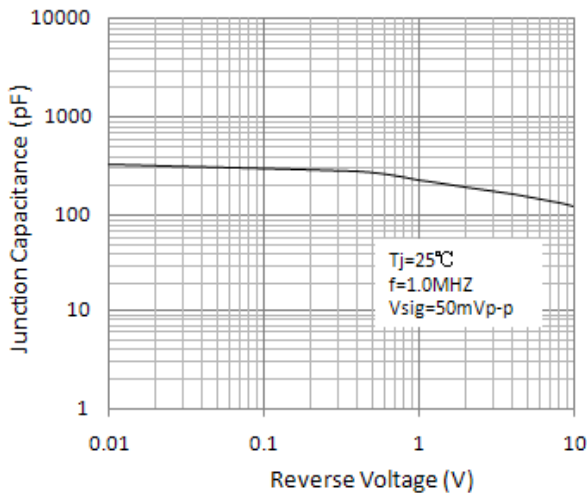


Figure 5. Typical Junction Capacitance

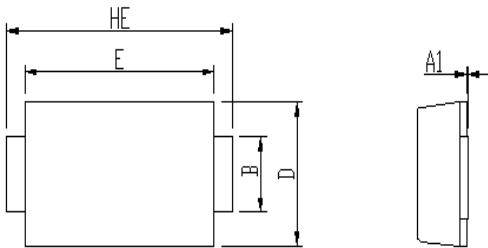
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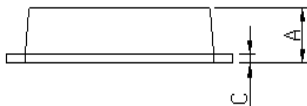
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## Package Outline Dimensions

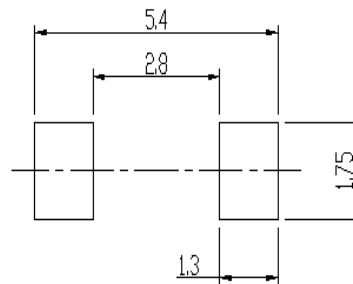
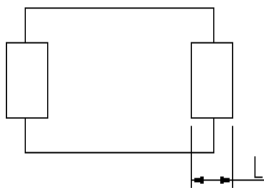
eSGB(SMAF)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
A1	0	0.1	0.000	0.004
B	1.25	1.45	0.049	0.057
C	0.1	0.25	0.004	0.010
D	2.6	2.8	0.102	0.110
E	4.1	4.3	0.161	0.169
L	0.7	1.1	0.028	0.043
HE	4.8	5.2	0.189	0.205



Soldering footprint



## Packing Information

Packing Quantities:

Reel size	Quantity/reel	Quantity/inner Box	Quantity/Carton
7"	3K	21K	84K
13"	10K	20K	180K

Tape & Reel Specification:

