

1W,9.1 - 300V Zener Diodes

Features

- Low leakage current
- Available in unidirectional
- Glass passivated junction
- Zener voltage tolerance is $\pm 5\%$
- Total power dissipation: Max 1W
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition



Applications

Protection from high voltage, high energy transients, voltage stabilization.

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)			
Parameter	Symbol	Ratings	Unit
Zener voltage	V_Z	See Next Table	V
Power dissipation at $T_L=75^\circ\text{C}$	P_{tot}	1	W
Maximum instantaneous forward voltage at 200mA	V_F	1.2	V
Typical Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	85	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Case	$R_{\theta JC}$	15	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Lead	$R_{\theta JL}$	18	$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Note:

1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 5×5mm copper pads

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number	Marking	V _Z at I _{ZT} (V)			I _{ZT} (mA)	Maximum zener impedance		I _{ZK} (mA)	Maximum reverse leakage at V _R (μA)	Test voltage V _R (V)	Maximum Zener Current
		Min	Typ	Max		Z _{ZT} at I _{ZT} (Ω)	Z _{ZK} at I _{ZK} (Ω)				I _{ZM} (mA)
L1N4739	4739	8.65	9.1	9.56	28	5	700	0.5	10	7.0	100
L1N4740	4740	9.50	10	10.50	25	7	700	0.25	10	8.0	91
L1N4741	4741	10.45	11	11.55	23	8	700	0.25	5	8.4	83
L1N4742	4742	11.40	12	12.60	21	9	700	0.25	5	9.1	76
L1N4743	4743	12.35	13	13.65	19	10	700	0.25	5	9.9	69
L1N4744	4744	14.25	15	15.75	17	14	700	0.25	5	11.4	61
L1N4745	4745	15.20	16	16.80	15.5	16	700	0.25	5	12.2	57
L1N4746	4746	17.10	18	18.90	14	20	750	0.25	5	13.7	50
L1N4747	4747	19.00	20	21.00	12.5	22	750	0.25	5	15.2	45
L1N4748	4748	20.90	22	23.10	11.5	23	750	0.25	5	16.7	41
L1N4749	4749	22.80	24	25.20	10.5	25	750	0.25	5	18.2	38
L1N4750	4750	25.65	27	28.35	9.5	35	750	0.25	5	20.6	34
L1N4751	4751	28.50	30	31.50	8.5	40	1000	0.25	5	22.8	30
L1N4752	4752	31.35	33	34.65	7.5	45	1000	0.25	5	25.1	27
L1N4753	4753	34.20	36	37.80	7	50	1000	0.25	5	27.4	25
L1N4754	4754	37.05	39	40.95	6.5	60	1000	0.25	5	29.7	23
L1N4755	4755	40.85	43	45.15	6	70	1500	0.25	5	32.7	22
L1N4756	4756	44.65	47	49.35	5.5	80	1500	0.25	5	35.8	19
L1N4757	4757	48.45	51	53.55	5	95	1500	0.25	5	38.8	18
L1N4758	4758	53.20	56	58.80	4.5	110	2000	0.25	5	42.6	16
L1N4759	4759	58.90	62	65.10	4	125	2000	0.25	5	47.1	14
L1N4760	4760	64.60	68	71.40	3.7	150	2000	0.25	5	51.7	13
L1N4761	4761	71.25	75	78.75	3.3	175	2000	0.25	5	56.0	12
L1N4762	4762	77.90	82	86.10	3	200	3000	0.25	5	62.2	11
L1N4763	4763	86.45	91	95.55	2.8	250	3000	0.25	5	69.2	10
L1N4764	4764	95.0	100	105.0	2.5	350	3000	0.25	5	76.0	9
LZ1110	1110	104.5	110	115.5	2.3	450	4000	0.25	5	83.6	8.6
LZ1120	1120	114.0	120	126.0	2	550	4500	0.25	5	91.2	7.8
LZ1130	1130	123.5	130	136.5	1.9	700	5000	0.25	5	98.8	7
LZ1150	1150	142.5	150	157.5	1.7	1000	6000	0.25	5	114.0	6.4
LZ1160	1160	152.0	160	168.0	1.6	1100	6500	0.25	5	121.6	5.8
LZ1180	1180	171.0	180	189.0	1.4	1200	7000	0.25	5	136.8	5.2
LZ1200	1200	190.0	200	210.0	1.2	1900	9990	0.25	5	152.0	4.7
LZ1220	1220	209	220	231	1.1	2500	9990	0.25	10	176	4.2
LZ1240	1240	228	240	252	1.0	3500	9900	0.25	10	192	3.8
LZ1300	1300	285	300	315	0.8	9000	15000	0.25	10	240	3.1

Ratings and Characteristics Curves

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

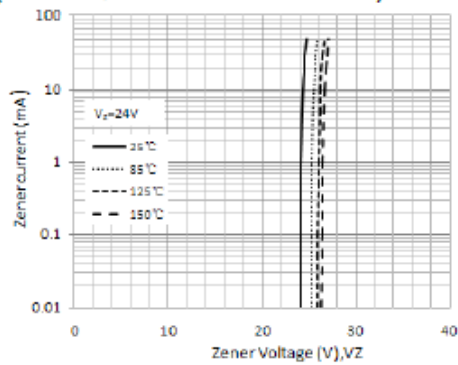


Figure 1. Typical Zener Voltage

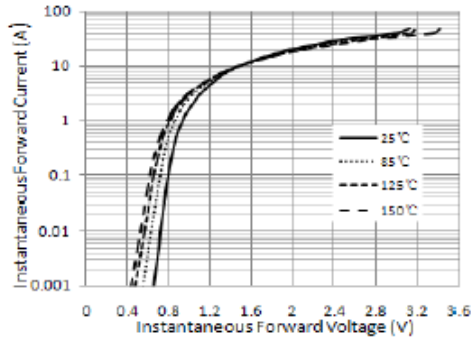


Figure 3. Typical Instantaneous Forward Characteristics

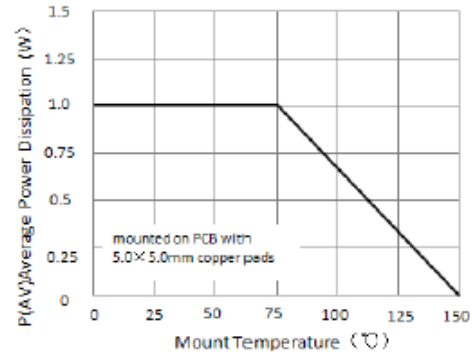


Figure 2. Steady State POWER Derating

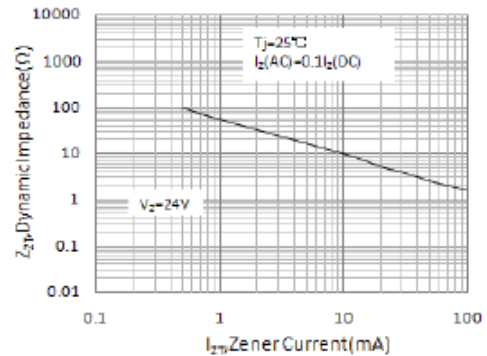


Figure 4. Typical Zener Impedance

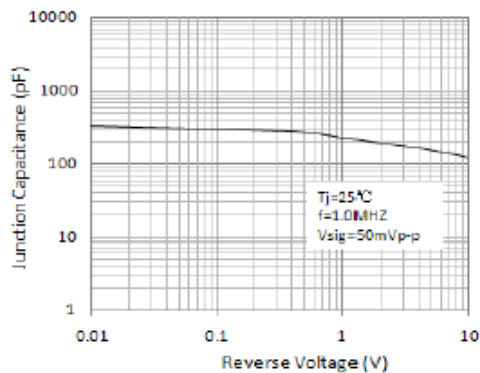
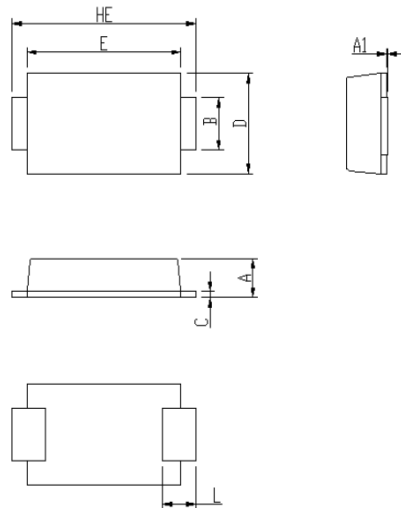


Figure 5. Typical Junction Capacitance

Package Outline Dimensions

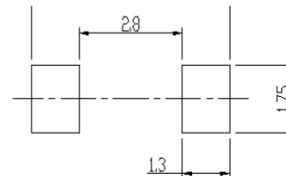
in inches (millimeters)

eSGB (DO-221AC)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.92	1.08	0.036	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



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.12	Modify document format
Rev.C	2023.12.18	Update product range
Rev.D	2023.12.29	Modify package name