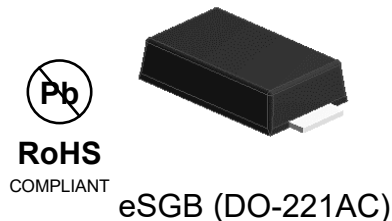


1.5W,9.1 - 100V Zener Diodes

Features

- Low leakage current
- Available in unidirectional
- Glass passivated junction
- Zener voltage tolerance is $\pm 5\%$
- Total power dissipation: Max 1.5W
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- AEC-Q101 qualified



Applications

Protection from high voltage, high energy transients, voltage stabilization and automotive applications.

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}	1.5	W
Maximum instantaneous forward voltage at 200mA	V_F	1.2	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R_{thJA}	85	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	R_{thJC}	15	$^\circ\text{C/W}$
Thermal Resistance, Junction to Lead	R_{thJL}	18	$^\circ\text{C/W}$

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)
AL1N5924	A5924	8.65	9.1	9.56	41.2	4	500	0.5	5	7.0	164
AL1N5925	A5925	9.50	10	10.50	37.5	4.5	500	0.25	5	8.0	150
AL1N5926	A5926	10.45	11	11.55	34.1	5.5	550	0.25	1	8.4	136
AL1N5927	A5927	11.40	12	12.60	31.2	6.5	550	0.25	1	9.1	125
AL1N5928	A5928	12.35	13	13.65	28.8	7	550	0.25	1	9.9	115
AL1N5929	A5929	14.25	15	15.75	25.0	9	600	0.25	1	11.4	100
AL1N5930	A5930	15.20	16	16.80	23.4	10	600	0.25	1	12.2	93
AL1N5931	A5931	17.10	18	18.90	20.8	12	650	0.25	1	13.7	83
AL1N5932	A5932	19.00	20	21.00	18.7	14	650	0.25	1	15.2	75
AL1N5933	A5933	20.90	22	23.10	17.0	17.5	650	0.25	1	16.7	68
AL1N5934	A5934	22.80	24	25.20	15.6	19	700	0.25	1	18.2	62
AL1N5935	A5935	25.65	27	28.35	13.9	23	700	0.25	1	20.6	55
AL1N5936	A5936	28.50	30	31.50	12.5	28	750	0.25	1	22.8	50
AL1N5937	A5937	31.35	33	34.65	11.4	33	800	0.25	1	25.1	45
AL1N5938	A5938	34.20	36	37.80	10.4	38	850	0.25	1	27.4	41
AL1N5939	A5939	37.05	39	40.95	9.6	45	900	0.25	1	29.7	38
AL1N5940	A5940	40.85	43	45.15	8.7	53	950	0.25	1	32.7	34
AL1N5941	A5941	44.65	47	49.35	8.0	67	1000	0.25	1	35.8	31
AL1N5942	A5942	48.45	51	53.55	7.3	70	1100	0.25	1	38.8	29
AL1N5943	A5943	53.20	56	58.80	6.7	86	1300	0.25	1	42.6	26
AL1N5944	A5944	58.90	62	65.10	6.0	100	1500	0.25	1	47.1	24
AL1N5945	A5945	64.60	68	71.40	5.5	120	1700	0.25	1	51.7	22
AL1N5946	A5946	71.25	75	78.75	5.0	140	2000	0.25	1	56.0	20
AL1N5947	A5947	77.90	82	86.10	4.6	160	2500	0.25	1	62.2	18
AL1N5948	A5948	86.45	91	95.55	4.1	200	3000	0.25	1	69.2	16
AL1N5949	A5949	95.0	100	105.0	3.7	250	3100	0.25	1	76.0	15

Ratings and Characteristics Curves (T_A = 25°C unless otherwise note)

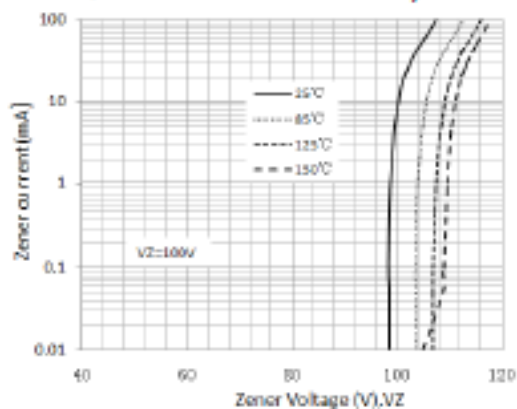


Figure 1. Typical Zener Voltage

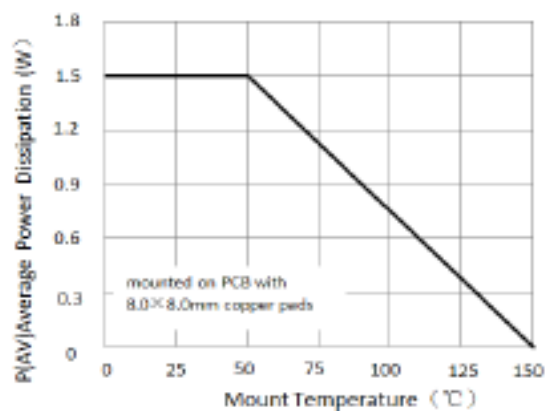


Figure 2. Steady State POWER Derating

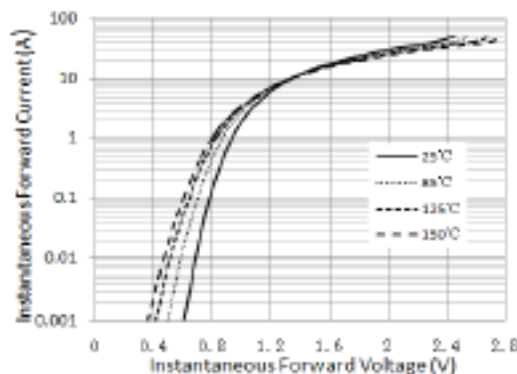


Figure 3. Typical Instantaneous Forward Characteristics

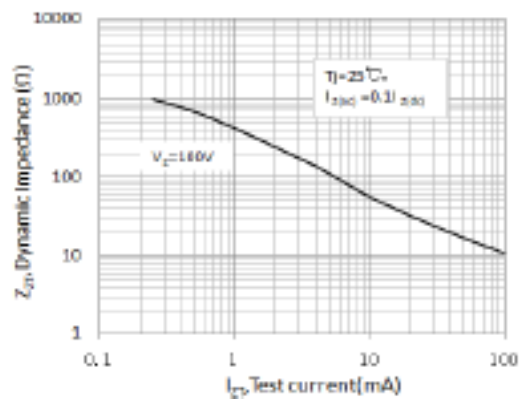


Figure 4. Typical Zener Impedance

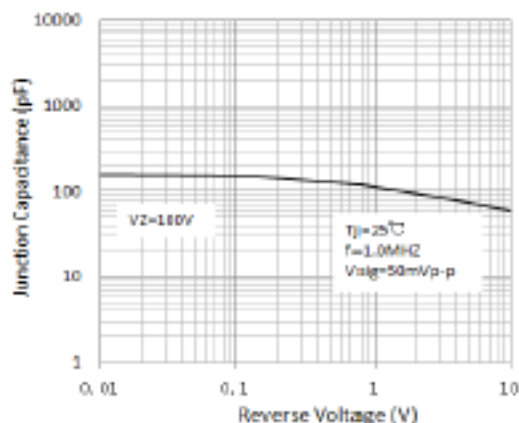
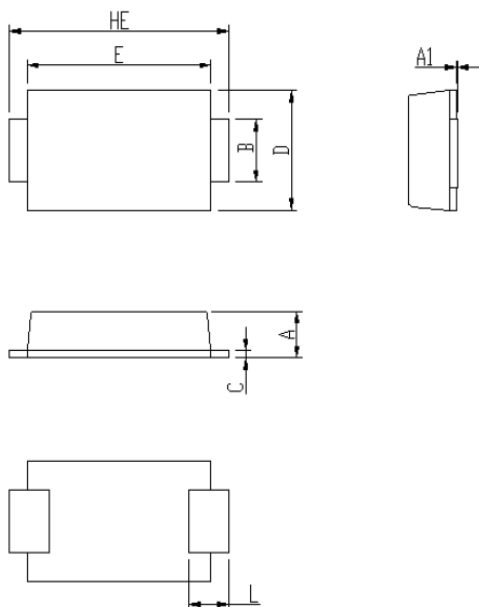


Figure 5. Typical Junction Capacitance

Package Outline Dimensions

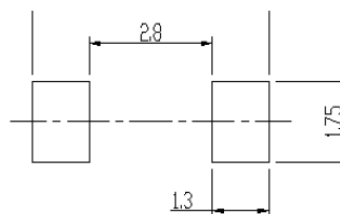
in inches (millimeters)

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



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