

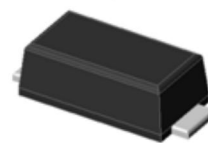
1.5W,5.6 - 200V Zener Diodes

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



RoHS
COMPLIANT



eSGA (SOD-123FL)

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}	1.5	W
Maximum instantaneous forward voltage at 200mA	V_F	1.2	V
Typical Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	100	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Case	$R_{\theta JC}$	20	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Lead	$R_{\theta JL}$	20	$^\circ\text{C/W}$
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	Vz at IZT (V)			IZT (mA)	Maximum zener impedance		IZK (mA)	Maximum reverse leakage at VR (μA)	Test voltage VR (V)	Maximum Zener Current
		Min	Typ	Max		ZZT at IZT (Ω)	ZZK at IZK (Ω)				IZM (mA)
F1N5919	5919	5.32	5.6	5.88	45	5	600	1	5	2	267
F1N5920	5920	5.89	6.2	6.51	41	2	700	1	5	3	241
F1N5921	5921	6.5	6.8	7.14	37	4	1300	1	5	4.2	220
F1N5922	5922	7.2	7.5	7.86	34	4.5	1300	1	5	6	200
F1N5923	5923	7.79	8.2	8.61	31	5.5	1300	0.5	5	6.5	182
F1N5924	5924	8.65	9.1	9.56	41.2	4	500	0.5	5	7.0	164
F1N5925	5925	9.50	10	10.50	37.5	4.5	500	0.25	5	8.0	150
F1N5926	5926	10.45	11	11.55	34.1	5.5	550	0.25	1	8.4	136
F1N5927	5927	11.40	12	12.60	31.2	6.5	550	0.25	1	9.1	125
F1N5928	5928	12.35	13	13.65	28.8	7	550	0.25	1	9.9	115
F1N5929	5929	14.25	15	15.75	25.0	9	600	0.25	1	11.4	100
F1N5930	5930	15.20	16	16.80	23.4	10	600	0.25	1	12.2	93
F1N5931	5931	17.10	18	18.90	20.8	12	650	0.25	1	13.7	83
F1N5932	5932	19.00	20	21.00	18.7	14	650	0.25	1	15.2	75
F1N5933	5933	20.90	22	23.10	17.0	17.5	650	0.25	1	16.7	68
F1N5934	5934	22.80	24	25.20	15.6	19	700	0.25	1	18.2	62
F1N5935	5935	25.65	27	28.35	13.9	23	700	0.25	1	20.6	55
F1N5936	5936	28.50	30	31.50	12.5	28	750	0.25	1	22.8	50
F1N5937	5937	31.35	33	34.65	11.4	33	800	0.25	1	25.1	45
F1N5938	5938	34.20	36	37.80	10.4	38	850	0.25	1	27.4	41
F1N5939	5939	37.05	39	40.95	9.6	45	900	0.25	1	29.7	38
F1N5940	5940	40.85	43	45.15	8.7	53	950	0.25	1	32.7	34
F1N5941	5941	44.65	47	49.35	8.0	67	1000	0.25	1	35.8	31
F1N5942	5942	48.45	51	53.55	7.3	70	1100	0.25	1	38.8	29
F1N5943	5943	53.20	56	58.80	6.7	86	1300	0.25	1	42.6	26
F1N5944	5944	58.90	62	65.10	6.0	100	1500	0.25	1	47.1	24
F1N5945	5945	64.60	68	71.40	5.5	120	1700	0.25	1	51.7	22
F1N5946	5946	71.25	75	78.75	5.0	140	2000	0.25	1	56.0	20
F1N5947	5947	77.90	82	86.10	4.6	160	2500	0.25	1	62.2	18
F1N5948	5948	86.45	91	95.55	4.1	200	3000	0.25	1	69.2	16
F1N5949	5949	95.0	100	105.0	3.7	250	3100	0.25	1	76.0	15
F1N5950	5950	104.5	110	115.5	3.4	300	4000	0.25	1	83.6	13
F1N5951	5951	114.0	120	126.0	3.1	380	4500	0.25	1	91.2	12
F1N5952	5952	123.5	130	136.5	2.9	450	5000	0.25	1	98.8	11
F1N5953	5953	142.5	150	157.5	2.5	600	6000	0.25	1	114.0	10
F1N5954	5954	152.0	160	168.0	2.3	700	6500	0.25	1	121.6	9
F1N5955	5955	171.0	180	189.0	2.1	900	7000	0.25	1	136.8	8
F1N5956	5956	190.0	200	210.0	1.9	1200	8000	0.25	1	152.0	7

Ratings and Characteristics Curves

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

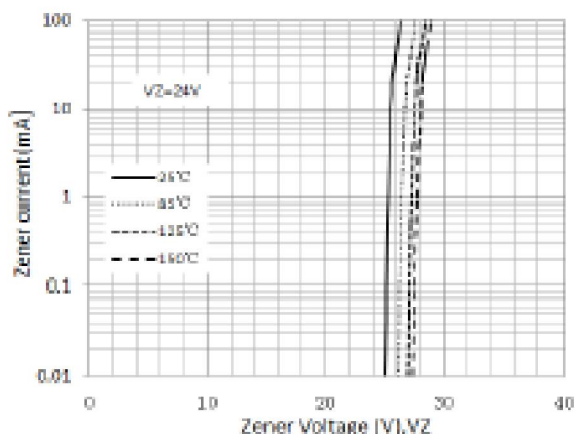


Figure 1. Typical Zener Voltage

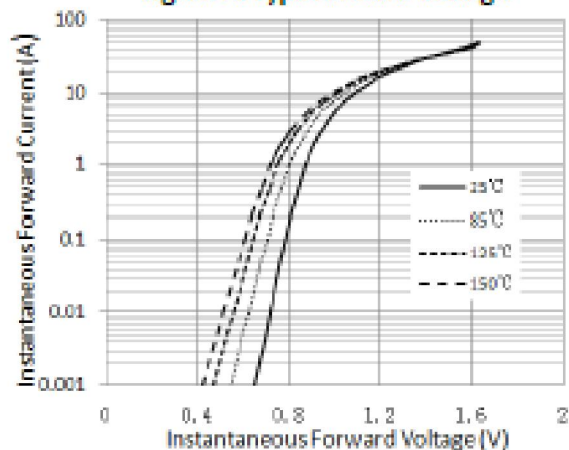


Figure 3. Typical Instantaneous Forward Characteristics

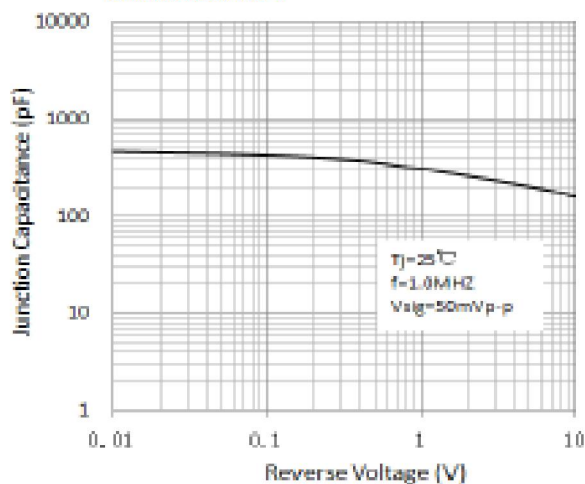


Figure 5. Typical Junction Capacitance

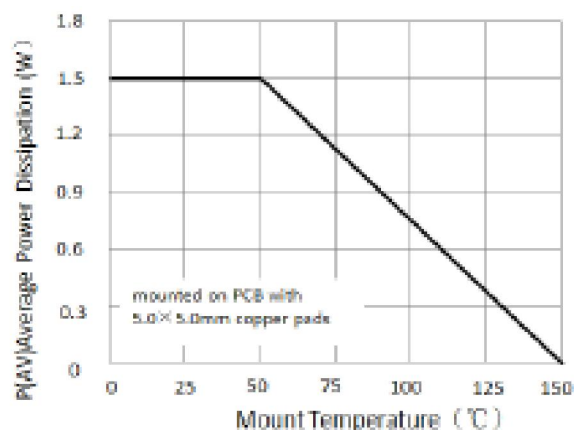


Figure 2. Steady State POWER Derating

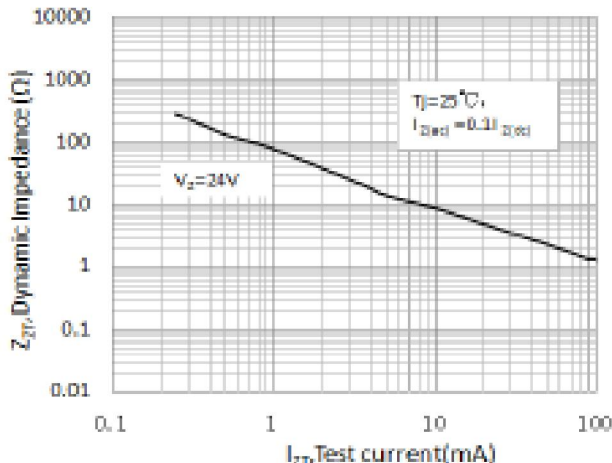
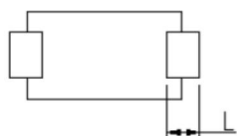
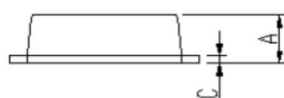
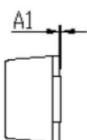
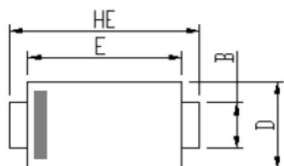


Figure 4. Typical Zener Impedance

Package Outline Dimensions

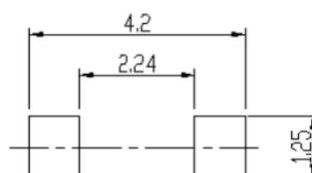
in inches (millimeters)

eSGA (SOD-123FL)



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	0.85	1.05	0.033	0.041
C	0.1	0.25	0.004	0.010
D	1.7	2	0.067	0.079
E	2.9	3.1	0.114	0.122
L	0.43	0.83	0.017	0.033
HE	3.5	3.9	0.138	0.154

Soldering footprint



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.11	Modify document format
Rev.C	2023.12.18	Update product range
Rev.D	2025.07.29	Update low voltage product range

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