

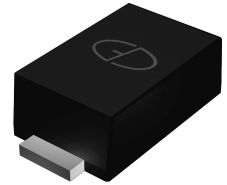
F1N4738 thru FZ1200

Surface Mount Zener Diodes

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

Features

- Total power dissipation:max1.0W
- 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 $\pm 5\%$



Package: eSGA
(SOD-123FL)



RoHS
COMPLIANT

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Zener Current		See Next Table	
Power Dissipation at Ta=75°C	P _{tot}	1	W
Maximum Instantaneous Forward Voltage at 200mA	V _F	1.2	V
Thermal Resistance Junction to Ambient	R _{thja}	100	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-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_A = 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 _Z /V			I _{ZT}	Z _{ZT}	I _{ZK}	Z _{ZK}	I _R (Max)	V _R	I _{ZM}
	V _Z (Min)	V _Z (Nominal)	V _Z (Max)	mA	Ω	mA	Ω	μA _{dc}	V	mA
F1N4738	7.79	8.2	8.61	31	4.5	0.5	700	10	6.5	110
F1N4739	8.65	9.1	9.56	28	5	0.5	700	10	7	100
F1N4740	9.5	10	10.5	25	7	0.25	700	10	8	91
F1N4741	10.45	11	11.55	23	8	0.25	700	5	8.4	83
F1N4742	11.4	12	12.6	21	9	0.25	700	5	9.1	76
F1N4743	12.35	13	13.65	19	10	0.25	700	5	9.9	69
F1N4744	14.25	15	15.75	17	14	0.25	700	5	11.4	61

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Electrical Characteristics (T_A = 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 _Z /V			I _{ZT}	Z _{ZT}	I _{ZK}	Z _{ZK}	I _R (Max)	V _R	I _{ZM}
	Vz(Min)	Vz(Nominal)	Vz(Max)	mA	Ω	mA	Ω	μAdc	V	mA
F1N4745	15.2	16	16.8	15.5	16	0.25	700	5	12.2	57
F1N4746	17.1	18	18.9	14	20	0.25	750	5	13.7	50
F1N4747	19	20	21	12.5	22	0.25	750	5	15.2	45
F1N4748	20.9	22	23.1	11.5	23	0.25	750	5	16.7	41
F1N4749	22.8	24	25.2	10.5	25	0.25	750	5	18.2	38
F1N4750	25.65	27	28.35	9.5	35	0.25	750	5	20.6	34
F1N4751	28.5	30	31.5	8.5	40	0.25	1000	5	22.8	30
F1N4752	31.35	33	34.65	7.5	45	0.25	1000	5	25.1	27
F1N4753	34.2	36	37.8	7	50	0.25	1000	5	27.4	25
F1N4754	37.05	39	40.95	6.5	60	0.25	1000	5	29.7	23
F1N4755	40.85	43	45.15	6	70	0.25	1500	5	32.7	22
F1N4756	44.65	47	49.35	5.5	80	0.25	1500	5	35.8	19
F1N4757	48.45	51	53.55	5	95	0.25	1500	5	38.8	18
F1N4758	53.2	56	58.8	4.5	110	0.25	2000	5	42.6	16
F1N4759	58.9	62	65.1	4	125	0.25	2000	5	47.1	14
F1N4760	64.6	68	71.4	3.7	150	0.25	2000	5	51.7	13
F1N4761	71.25	75	78.8	3.3	175	0.25	2000	5	56	12
F1N4762	77.9	82	86.1	3	200	0.25	3000	5	62.2	11
F1N4763	86.45	91	95.6	2.8	250	0.25	3000	5	69.2	10
F1N4764	95	100	105	2.5	350	0.25	3000	5	76	9
FZ1110	104.5	110	115.5	2.3	450	0.25	4000	5	83.6	8.6
FZ1120	114	120	126	2	550	0.25	4500	5	91.2	7.8
FZ1130	123.5	130	136.5	1.9	700	0.25	5000	5	98.8	7
FZ1150	142.5	150	157.5	1.7	1000	0.25	6000	5	114	6.4
FZ1160	152	160	168	1.6	1100	0.25	6500	5	121.6	5.8
FZ1180	171	180	189	1.4	1200	0.25	7000	5	136.8	5.2
FZ1200	190	200	210	1.2	1900	0.25	9990	5	152	4.7

Ratings and Characteristics Curves

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

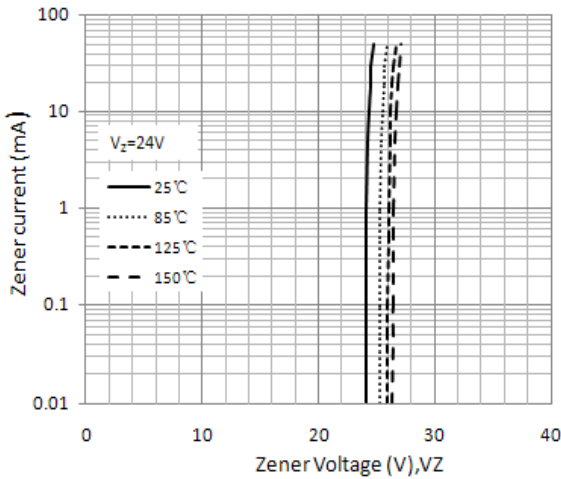


Figure 1. Typical Zener Voltage

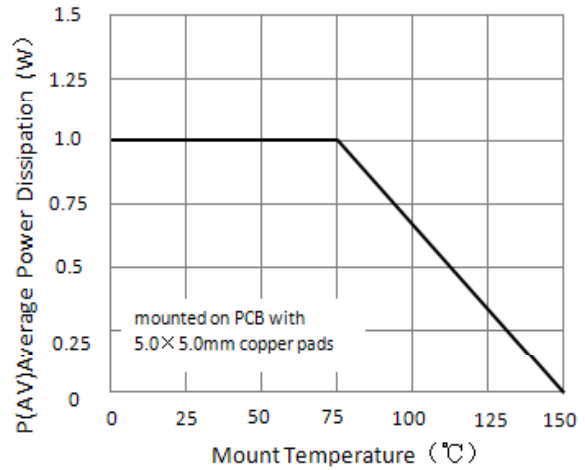


Figure 2. Steady State Power Derating

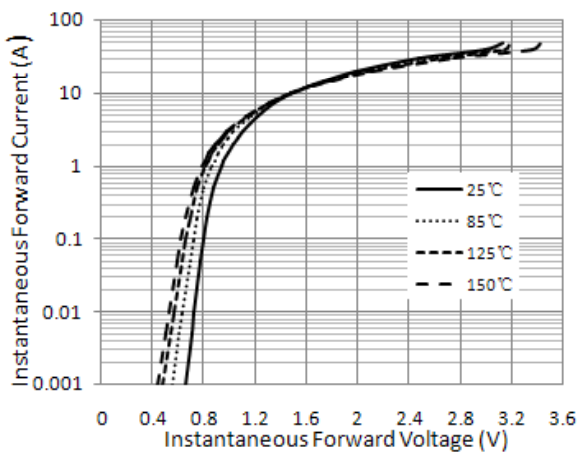


Figure 3. Typical Instantaneous Forward Characteristics

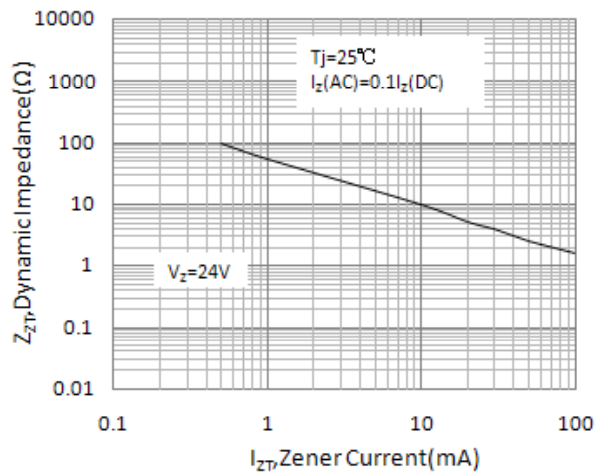


Figure 4. Typical Zener Impedance

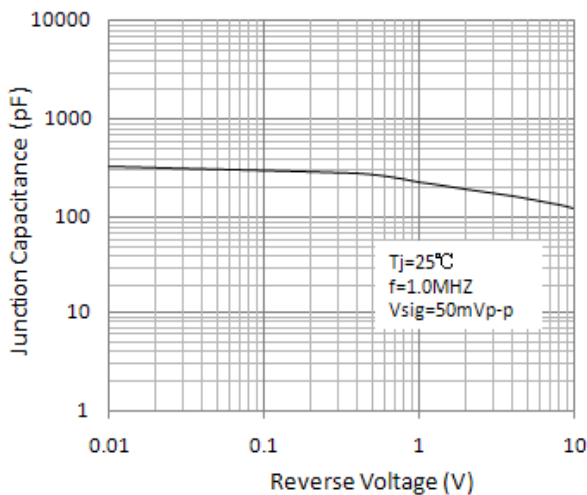
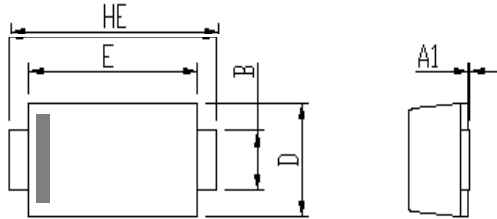


Figure 5. Typical Junction Capacitance

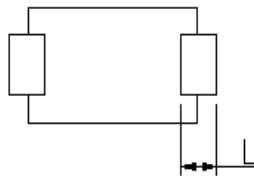
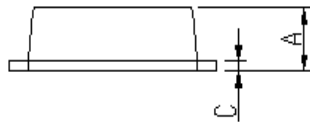
Package Outline Dimensions

in inches (millimeters)

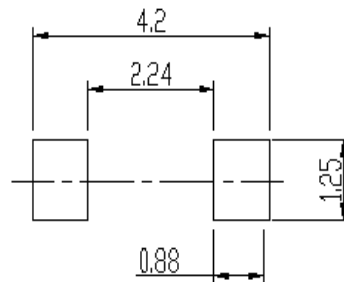
eSGA
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DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
A1	0	0.1	0.000	0.004
B	0.85	1.05	0.033	0.041
C	0.1	0.25	0.004	0.010
D	1.7	2	0.067	0.079
E	2.9	3.1	0.114	0.122
L	0.43	0.83	0.017	0.033
HE	3.5	3.9	0.138	0.154



Soldering footprint



Packing Information

Packing quantities:

3000 pcs/Reel, 40 Reels/Box; 8mm Tape, 7" Reel

Tape & Reel Specification

