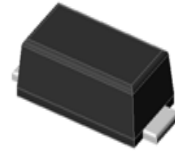


## Features

- Total power dissipation: max, 500mW
- 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



RoHS  
COMPLIANT



eSGA  
(SOD-123FL)

## Maximum Ratings and Thermal Characteristics

(TA = 25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Zener current		See Next Table	
Power dissipation	P <sub>tot</sub>	500	mW
Maximum instantaneous forward voltage at 200mA	V <sub>F</sub>	1.2	V
Thermal resistance junction to ambient air	R <sub>thja</sub>	90	°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°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 (TA = 25 °C unless otherwise noted)

Part Number	Marking Code	Zener voltage			Test current	Dynamic resistance		Reverse current	Reverse voltage	Temp Coefficient of zener voltage, TK <sub>vz</sub>
		V <sub>Z</sub> / V				IZT	ZZK			
		V <sub>Z</sub> (MIN)	V <sub>Z</sub> (NOR)	V <sub>Z</sub> (MAX)	m A			Ω	m A	
FP5ZC8V2	4Z	7.7	8.2	8.7	5	30	5	5	5	0.03...0.08
FP5ZC9V1	5A	8.5	9.1	9.6	5	30	5	5	6	0.03...0.09
FP5ZC10	5B	9.4	10	10.6	5	30	5	5	7	0.03...0.1
FP5ZC11	5C	10.4	11	11.6	5	30	5	5	8	0.03...0.11
FP5ZC12	5D	11.4	12	12.7	5	35	5	5	9	0.03...0.11
FP5ZC13	5E	12.4	13	14.1	5	35	5	5	10	0.03...0.11



# FP5ZC8V2 thru FP5ZC200

Surface Mount Zener Diodes

Vz Range:8.2 to 200V Power Dissipation:0.5W

Electrical Characteristics (TA = 25 °C unless otherwise noted)										
Part Number	Marking Code	Zener voltage			Test current	Dynamic resistance		Reverse current	Reverse voltage	Temp Coefficient of zener voltage, TKvz
		VZ /V				IZT	ZZK			
		Vz(MIN)	Vz(NOR)	Vz(MAX)	m A	Ω	m A	IR(Max) μA <sub>dc</sub>	VR V	
FP5ZC15	5F	13.8	15	15.6	5	40	5	5	11	0.03...0.11
FP5ZC16	5H	15.3	16	17.1	5	40	5	5	12	0.03...0.11
FP5ZC18	5J	16.8	18	19.1	5	45	5	5	13	0.03...0.11
FP5ZC20	5K	18.8	20	21.2	5	50	5	5	15	0.03...0.11
FP5ZC22	5M	20.8	22	23.3	5	55	5	5	17	0.04...0.12
FP5ZC24	5N	22.8	24	25.6	5	60	5	5	19	0.04...0.12
FP5ZC27	5P	25.1	27	28.9	5	70	2	5	21	0.04...0.12
FP5ZC30	5R	28	30	32	5	80	2	5	23	0.04...0.12
FP5ZC33	5X	31	33	35	5	80	2	5	25	0.04...0.12
FP5ZC36	5Y	34	36	38	5	90	2	5	27	0.04...0.12
FP5ZC39	5Z	37	39	41	2.5	100	2	5	30	0.04...0.12
FP5ZC43	6A	40	43	46	2.5	130	2	5	33	0.04...0.12
FP5ZC47	6B	44	47	50	2.5	150	2	5	36	0.04...0.12
FP5ZC51	6C	48	51	54	2.5	180	2	5	39	0.04...0.12
FP5ZC56	6D	52	56	60	2.5	180	2	5	43	0.04...0.12
FP5ZC62	6E	58	62	66	2.5	200	2	5	47	0.04...0.12
FP5ZC68	6F	64	68	72	2.5	250	2	5	52	0.04...0.12
FP5ZC75	6H	70	75	79	2.5	300	2	5	57	0.04...0.12
FP5ZC82	6J	77	82	87	2.5	300	2	5	63	0.05...0.12
FP5ZC91	6K	85	91	96	1	700	1	5	69	0.05...0.12
FP5ZC100	6M	94	100	106	1	700	1	5	76	0.05...0.12
FP5ZC110	6N	104	110	116	1	800	1	5	84	0.05...0.12
FP5ZC120	6P	114	120	127	1	900	1	5	91	0.05...0.12
FP5ZC130	6R	123.5	130	136.5	1.9	700	0.25	5	98.8	0.05...0.12
FP5ZC150	6X	142.5	150	157.5	1.7	1000	0.25	5	114	0.05...0.12
FP5ZC160	6Y	152	160	168	1.6	1100	0.25	5	121.6	0.05...0.12
FP5ZC170	6Z	161	170	179	1.5	1100	0.25	5	127.2	0.05...0.12
FP5ZC180	7A	171	180	189	1.4	1200	0.25	5	136.8	0.05...0.12
FP5ZC200	7B	190	200	210	1.2	1900	0.25	5	152	0.05...0.12



# FP5ZC8V2 thru FP5ZC200

Surface Mount Zener Diodes  
 Vz Range:8.2 to 200V Power Dissipation:0.5W

## Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

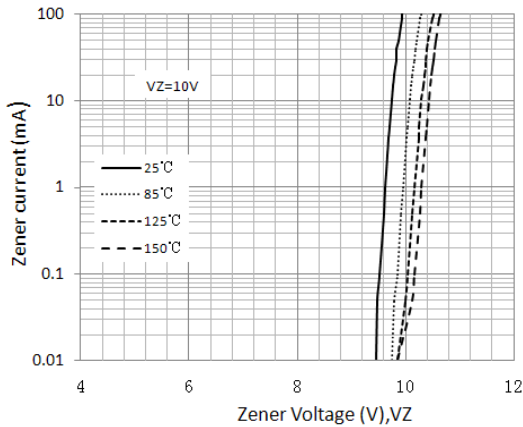


Figure 1. Typical Zener Voltage

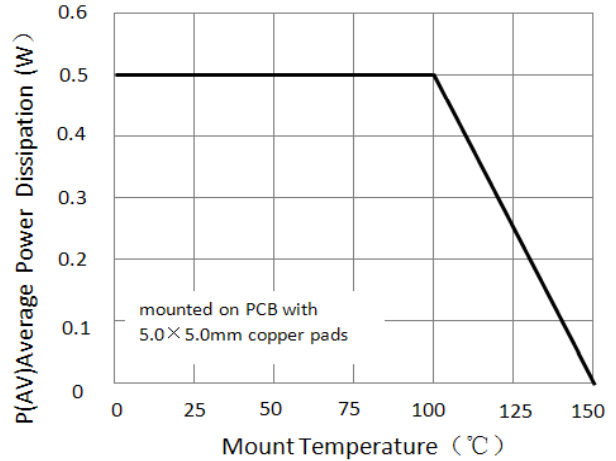


Figure 2. Steady State POWER Derating

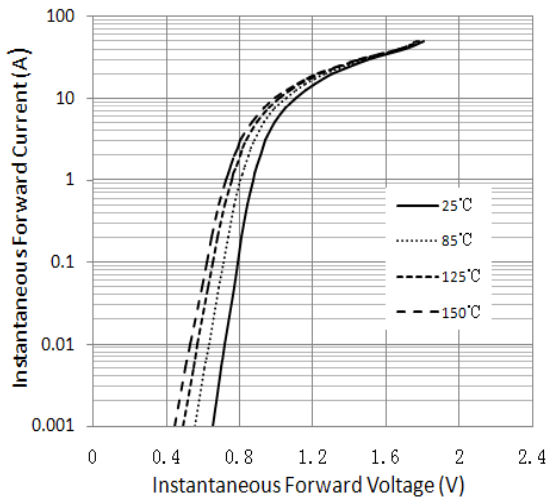


Figure 3. Typical Instantaneous Forward Characteristics

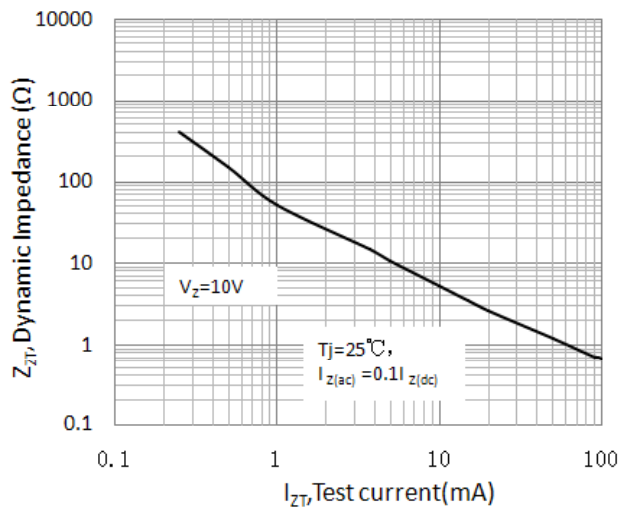


Figure 4. Typical Zener Impedance

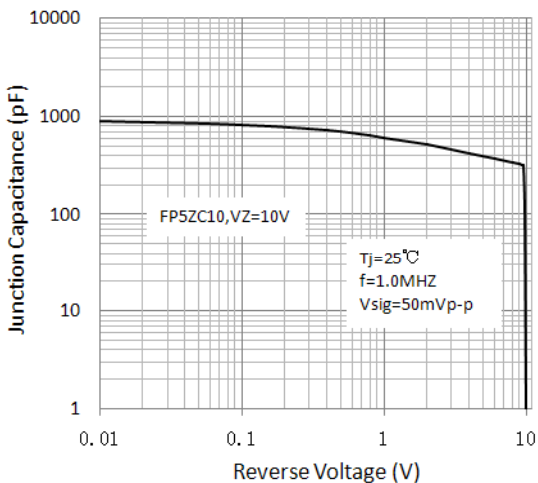
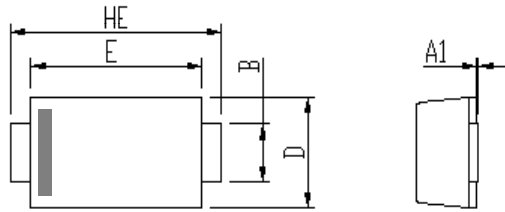


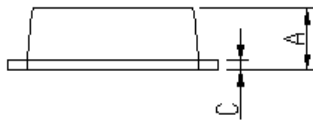
Figure 5. Typical Junction Capacitance

## Package Outline Dimensions

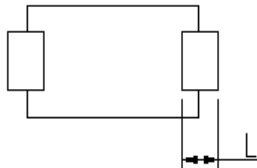
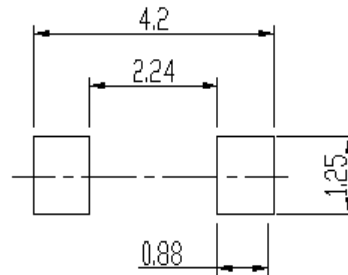
in inches (millimeters)



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

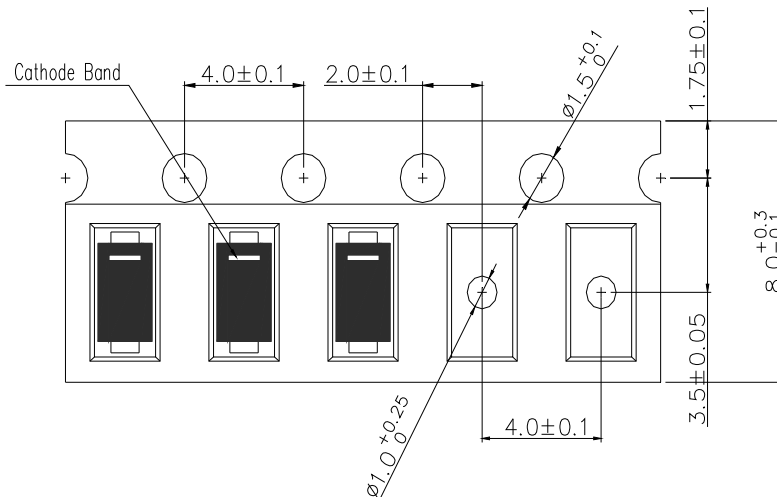


## Packing Information

### Packing quantities:

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

### Tape & Reel Specification





# FP5ZC8V2 thru FP5ZC200

Surface Mount Zener Diodes

Vz Range:8.2 to 200V Power Dissipation:0.5W

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