

IV. Zener Diode

SMD Zener Diode (800 mWatt) 08ZSMF5V1A~08ZSMF200A

(Package: SOD-123FL)

<p><u>FEATURES</u></p> <ul style="list-style-type: none"> • For surface mounted application in order to optimize board space. • Low profile package • Silicon planar power zener diodes • For use in stabilizing and clipping circuits with high power rating <p><u>MECHANICAL DATA</u></p> <ul style="list-style-type: none"> • Case : JEDEC SOD-123FL molded plastic body • Terminals : Solder plated solderable per MIL-STD-750, Method 2026 • Polarity : Color Band denotes positive end (cathode) • Weight : 0.019 grams 	<p>The diagram shows three views of the SOD-123FL package. The top view shows a rectangular package with a cathode band on the left side. Dimensions include a width of 1.70-1.90, a height of 0.80-1.20, and a body width of 2.70-2.90. The side view shows a height of 1.15-1.45 and a thickness of 0.10-0.30. The bottom view shows a width of 0.35-0.85 and a total width of 3.50-3.90.</p> <p>Case: SOD-123FL Dimensions in inches and (millimeters)</p>
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Ratings & Electrical Characteristics

Ratings at 25°C ambient temp. unless otherwise specified

Parameter	Symbol	Value	Units
Power dissipation at Tamb = 25°C	Ptot	800 (1)	mW
Non repetitive peak surge power dissipation	PRSM	150 (2)	W
Thermal resistance junction to ambient air	Rth-JA	180 (1)	°C/W
Max. Junction temperature	Tj	150	°C
Storage temperature range	Tstg	-55 to +150	°C

Note:

(1). Mounted on epoxy-glass PCB with 3mm x 3mm Cu pads (40 um thick)

(2). Tj = 25°C prior to surge, 10/1000 us waveform

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C, unless otherwise specified)

PART NUMBER	ZENER VOLTAGE RANGE (1)			TEST CURRENT	REVERSE CURRENT		DYNAMIC RESISTANCE
	VZ(V) @ IZT1			IZT1 (mA)	IR(μA) @ VR(V)		ZZ(Ω) at IZT1
	MIN.	NOM.	MAX.	MAX.	MAX.		MAX.
08ZSMF5V1A	4.8	5.1	5.4	100	5	1	6
08ZSMF5V6P	5.2	5.6	6	100	10	2	4
08ZSMF6V2A	5.8	6.2	6.6	100	5	2	3
08ZSMF6V8A	6.4	6.8	7.2	100	10	3	3
08ZSMF7V5A	7	7.5	7.9	100	50	3	2
08ZSMF8V2A	7.7	8.2	8.7	100	10	3	2
08ZSMF9V1A	8.5	9.1	9.6	50	10	5	4
08ZSMF10A	9.4	10	10.6	50	7	7.5	4
08ZSMF11A	10.4	11	11.6	50	4	8.2	7
08ZSMF12A	11.4	12	12.7	50	3	9.1	7
08ZSMF13A	12.4	13	14.1	50	2	10	10
08ZSMF15A	13.8	15	15.6	50	1	11	10
08ZSMF16A	15.3	16	17.1	25	1	12	15
08ZSMF18A	16.8	18	19.1	25	1	13	15
08ZSMF20A	18.8	20	21.2	25	1	15	15
08ZSMF22A	20.8	22	23.3	25	1	16	15
08ZSMF24A	22.8	24	25.6	25	1	18	15
08ZSMF27A	25.1	27	28.9	25	1	20	15
08ZSMF30A	28	30	32	25	1	22	15
08ZSMF33A	31	33	35	25	1	24	15
08ZSMF36A	34	36	38	10	1	27	40
08ZSMF39A	37	39	41	10	1	30	40
08ZSMF43A	40	43	46	10	1	33	45
08ZSMF47A	44	47	50	10	1	36	45
08ZSMF51A	48	51	54	10	1	39	60
08ZSMF56A	52	56	60	10	1	43	60
08ZSMF62A	58	62	66	10	1	47	80
08ZSMF68A	64	68	72	10	1	51	80
08ZSMF75A	70	75	79	10	1	56	100
08ZSMF82A	77	82	87	10	1	62	100
08ZSMF91A	85	91	96	5	1	68	200
08ZSMF100A	94	100	106	5	1	75	200
08ZSMF110A	104	110	116	5	1	82	250
08ZSMF120A	114	120	127	5	1	91	250
08ZSMF130A	124	130	141	5	1	100	300
08ZSMF150A	138	150	156	5	1	110	300
08ZSMF160A	153	160	171	5	1	120	350
08ZSMF180A	168	180	191	5	1	130	400
08ZSMF200A	188	200	212	5	1	150	500

Notes

- Maximum VF = 1.2 V, at IF = 0.2 A;
- (1) Pulse test: tp ≤ 5 ms;

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

Fig. 1 – Power Dissipation Vs. Ambient Temperature

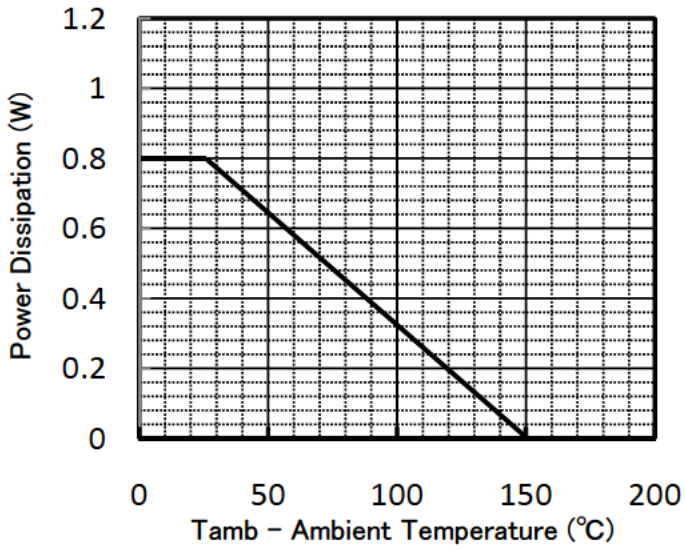


Fig. 2 – Forward Current Vs. Forward Voltage

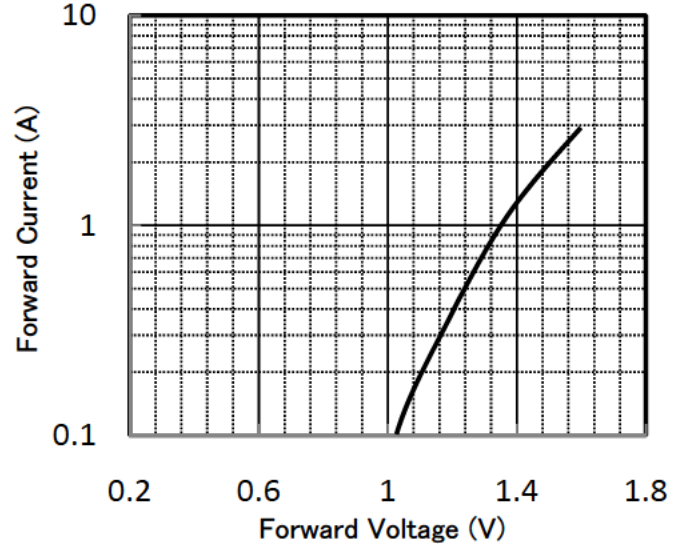


Fig. 3 – Non-Repetitive Peak Reverse Current Pulse Definition

