

SMFJ Series

Surface mount transient voltage suppressor power 200 watts

Stand-Off Voltage : 5.0V~440V

FEATURES

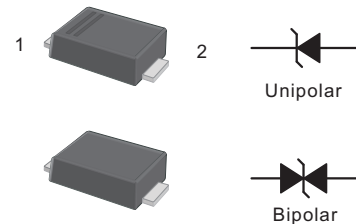
- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg/0.00048oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Simplified outline SOD-123FL and symbol

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on TA=25°C (Note 1,2,5, Fig1)	P_{PPM}	200	W
Peak Forward Surge Current (Note 3)	I_{FSM} (UNI)	20	A
Peak Pulse Current on 10/1000 us waveform (Note 1) Fig 2	I_{PPM}	see Table 1	A
Steady State Power Dissipation (Note 4)	$P_{M(AV)}$	1	W
Operating Junction and Storage Range	T_J, T_{STG}	-55 to +150	°C
Typical Thermal Resistance	$R_{\theta JA}$	180	°C/W

NOTES

1. Non-repetitive current pulse per Fig 3 and derated above $T_A=25^\circ\text{C}$ per Fig 2
2. Mounted on 5mm² copper pads to each terminal
3. 8.3ms single half sinewave, or equivalent square wave duty cycle=4 pulses per minutes maximum
4. lead temperature at $T_L=75^\circ\text{C}$
5. Peak pulse powe. waveform is $t_p=10/1000\mu\text{s}$
6. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), Which Should be equal to or greater than the DC or continuous peak operating voltage level

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Characteristics at Ta = 25°C

Type		Marking		V _{RWM}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V _{BR} @ I _T					
					Min	Max	I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}
Uni	BI	Uni	BI	V	V	V	mA	µA	V	A
SMFJ5.0A	SMFJ5.0CA	AE	CAE	5	6.4	7	10	400	9.2	21.7
SMFJ6.0A	SMFJ6.0CA	AG	CAG	6	6.67	7.37	10	400	10.3	19.4
SMFJ6.5A	SMFJ6.5CA	AK	CAK	6.5	7.22	7.98	10	250	11.2	17.9
SMFJ7.0A	SMFJ7.0CA	AM	CAM	7	7.78	8.6	10	100	12	16.7
SMFJ7.5A	SMFJ7.5CA	AP	CAP	7.5	8.33	9.21	1	50	12.9	15.5
SMFJ8.0A	SMFJ8.0CA	AR	CAR	8	8.89	9.83	1	25	13.6	14.7
SMFJ8.5A	SMFJ8.5CA	AT	CAT	8.5	9.44	10.4	1	10	14.4	13.9
SMFJ9.0A	SMFJ9.0CA	AV	CAV	9	10	11.1	1	5	15.4	13
SMFJ10A	SMFJ10CA	AX	CAX	10	11.1	12.3	1	2.5	17	11.8
SMFJ11A	SMFJ11CA	AZ	CAZ	11	12.2	13.5	1	2.5	18.2	11
SMFJ12A	SMFJ12CA	BE	CBE	12	13.3	14.7	1	2.5	19.9	10.1
SMFJ13A	SMFJ13CA	BG	CBG	13	14.4	15.9	1	1	21.5	9.3
SMFJ14A	SMFJ14CA	BK	CBK	14	15.6	17.2	1	1	23.2	8.6
SMFJ15A	SMFJ15CA	BM	CBM	15	16.7	18.5	1	1	24.4	8.2
SMFJ16A	SMFJ16CA	BP	CBP	16	17.8	19.7	1	1	26	7.7
SMFJ17A	SMFJ17CA	BR	CBR	17	18.9	20.9	1	1	27.6	7.2
SMFJ18A	SMFJ18CA	BT	CBT	18	20	22.1	1	1	29.2	6.8
SMFJ20A	SMFJ20CA	BV	CBV	20	22.2	24.5	1	1	32.4	6.2
SMFJ22A	SMFJ22CA	BX	CBX	22	24.4	26.9	1	1	35.5	5.6
SMFJ24A	SMFJ24CA	BZ	CBZ	24	26.7	29.5	1	1	38.9	5.1
SMFJ26A	SMFJ26CA	CE	CCE	26	28.9	31.9	1	1	42.1	4.8
SMFJ28A	SMFJ28CA	CG	CCG	28	31.1	34.4	1	1	45.4	4.4
SMFJ30A	SMFJ30CA	CK	CCK	30	33.3	36.8	1	1	48.4	4.1
SMFJ33A	SMFJ33CA	CM	CCM	33	36.7	40.6	1	1	53.3	3.8
SMFJ36A	SMFJ36CA	CP	CCP	36	40	44.2	1	1	58.1	3.4
SMFJ40A	SMFJ40CA	CR	CCR	40	44.4	49.1	1	1	64.5	3.1
SMFJ43A	SMFJ43CA	CT	CCT	43	47.8	52.8	1	1	69.4	2.9
SMFJ45A	SMFJ45CA	CV	CCV	45	50	55.3	1	1	72.7	2.8
SMFJ48A	SMFJ48CA	CX	CCX	48	53.3	58.9	1	1	77.4	2.6
SMFJ51A	SMFJ51CA	CZ	CCZ	51	56.7	62.7	1	1	82.4	2.4
SMFJ54A	SMFJ54CA	DE	CDE	54	60	66.3	1	1	87.1	2.3
SMFJ58A	SMFJ58CA	DG	CDG	58	64.4	71.2	1	1	93.6	2.1
SMFJ60A	SMFJ60CA	DK	CDK	60	66.7	73.7	1	1	96.8	1.8
SMFJ64A	SMFJ64CA	DM	CDM	64	71.1	78.6	1	1	103	1.7
SMFJ70A	SMFJ70CA	DP	CDP	70	77.8	86	1	1	113	1.5
SMFJ75A	SMFJ75CA	DR	CDR	75	83.3	92.1	1	1	121	1.4
SMFJ78A	SMFJ78CA	DT	CDT	78	86.7	95.8	1	1	126	1.4
SMFJ85A	SMFJ85CA	DV	CDV	85	94.4	104	1	1	137	1.3
SMFJ90A	SMFJ90CA	DX	CDX	90	100	111	1	1	146	1.2
SMFJ100A	SMFJ100CA	DZ	CDZ	100	111	123	1	1	162	1.1
SMFJ110A	SMFJ110CA	EE	CEE	110	122	135	1	1	177	1
SMFJ120A	SMFJ120CA	EG	CEG	120	133	147	1	1	193	0.9
SMFJ130A	SMFJ130CA	EK	CEK	130	144	159	1	1	209	0.8
SMFJ150A	SMFJ150CA	EM	CEM	150	167	185	1	1	243	0.7
SMFJ160A	SMFJ160CA	EP	CEP	160	178	197	1	1	259	0.7
SMFJ170A	SMFJ170CA	ER	CER	170	189	209	1	1	275	0.6
SMFJ180A	SMFJ180CA	ET	CET	180	201	222	1	1	292	0.5
SMFJ190A	SMFJ190CA	EV	CEV	190	211	232	1	1	308	0.5
SMFJ200A	SMFJ200CA	EX	CEX	200	224	247	1	1	324	0.5
SMFJ220A	SMFJ220CA	E22	CE22	220	246	272	1	1	356	0.5
SMFJ250A	SMFJ250CA	E25	CE25	250	279	309	1	1	405	0.5
SMFJ300A	SMFJ300CA	E30	CE30	300	335	371	1	1	486	0.45
SMFJ350A	SMFJ350CA	E35	CE35	350	391	432	1	1	567	0.4
SMFJ400A	SMFJ400CA	E40	CE40	400	447	494	1	1	648	0.35
SMFJ440A	SMFJ440CA	E44	CE44	440	492	543	1	1	713	0.3

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Fig.1 Peak Pulse Power Rating Curve

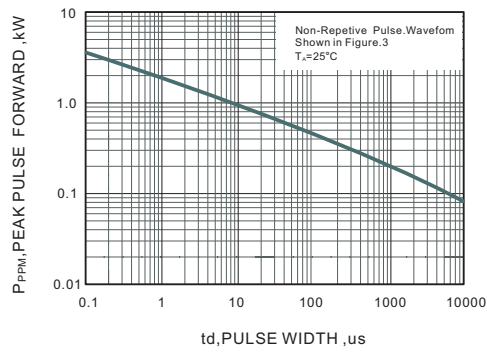


Fig.2 Forward Current Derating Curve

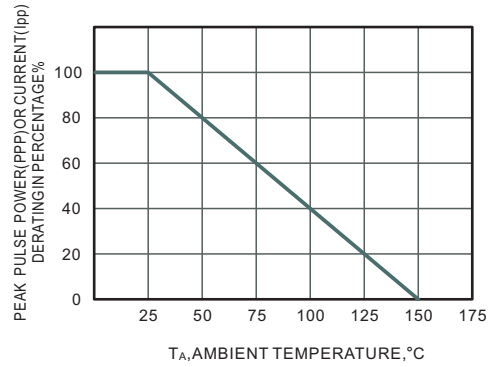


Fig.3 Pulse Waveform

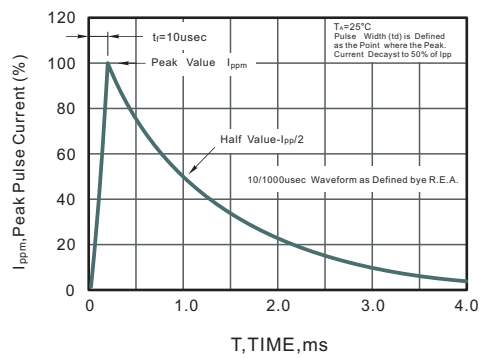
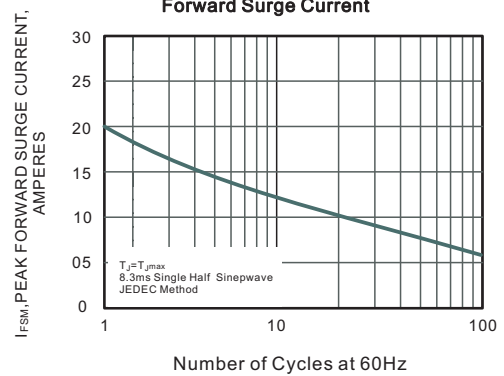


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

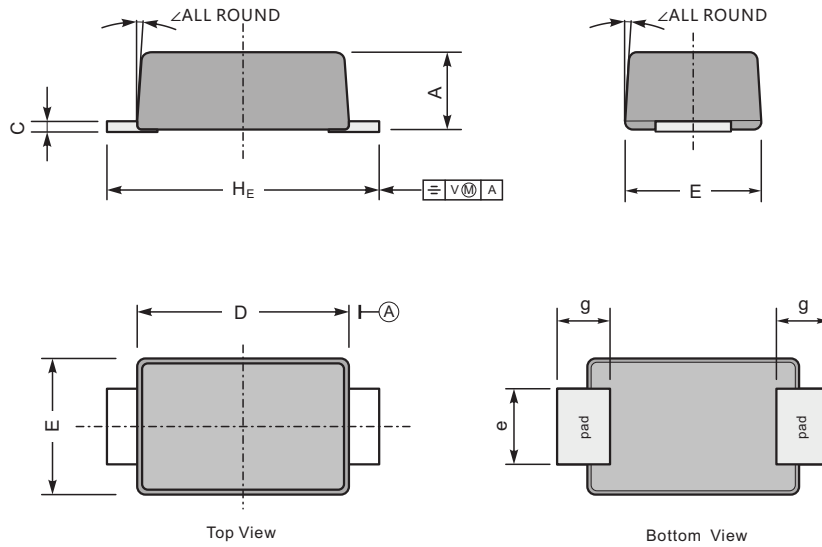


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PACKAGE OUTLINE

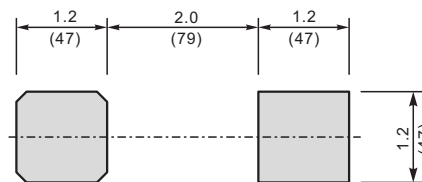
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	H _E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{\text{mil}}$