

# SMFJ Series

Surface mount transient voltage suppressor power 200 watts

Stand-Off Voltage : 5.0V~440V

## FEATURES

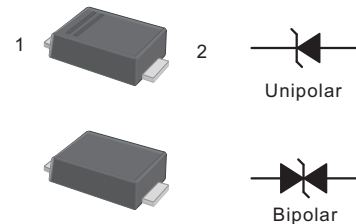
- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

## 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

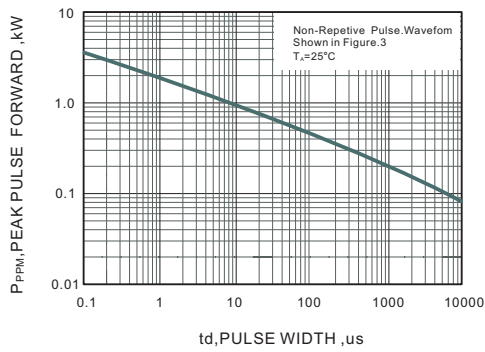
1. Non-repetitive current pulse per Fig 3 and derated above  $T_A=25^\circ\text{C}$  per Fig 2
2. Mounted on 5mm<sup>2</sup> copper pads to each terminal
3. 8.3ms single half sinewave, or equivalent square wave duty cycle=4 pulses per minutes maximum
4. lead temperature at  $T_L=75^\circ\text{C}$
5. Peak pulse powe. waveform is tp=10/1000us
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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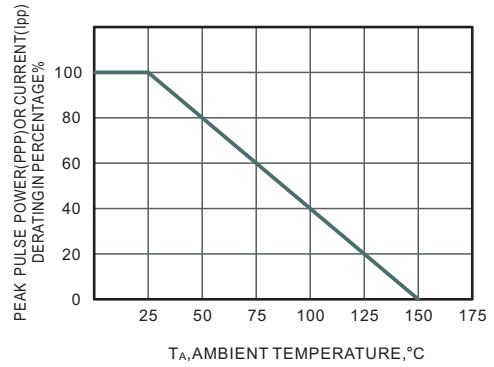
Characteristics at Ta = 25°C

Type		Marking		V <sub>RWM</sub>	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V <sub>BR</sub> @ I <sub>T</sub>					
					Min	Max	I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>	V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>
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

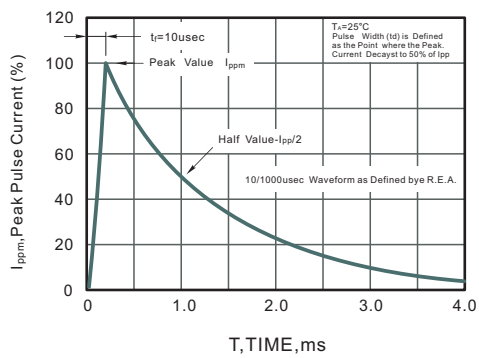
**Fig.1 Peak Pulse Power Rating Curve**



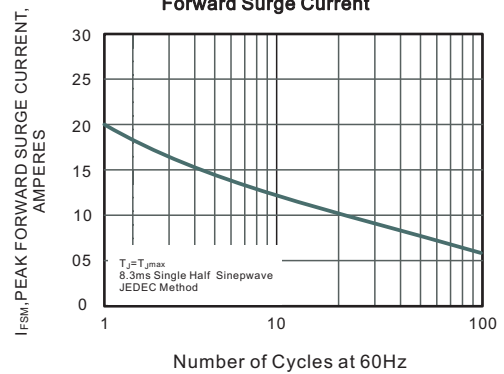
**Fig.2 Forward Current Derating Curve**



**Fig.3 Pulse Waveform**



**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**

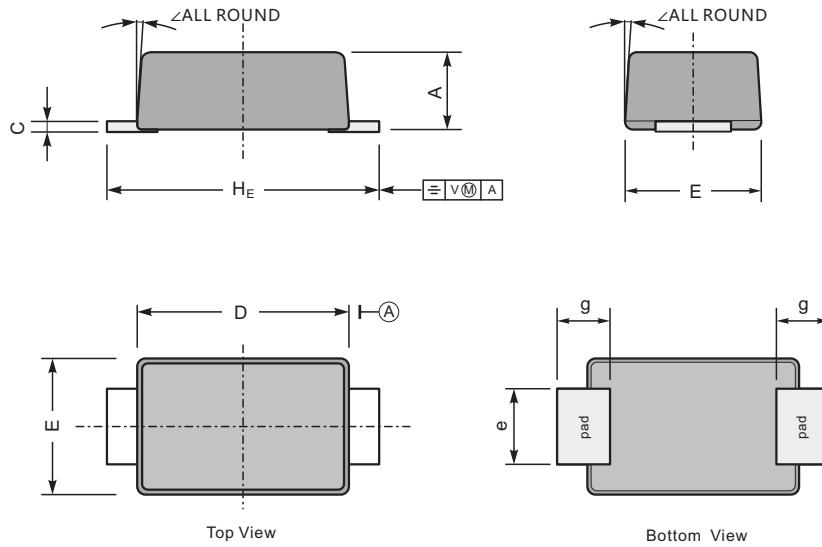


# SMFJ Series

## PACKAGE OUTLINE

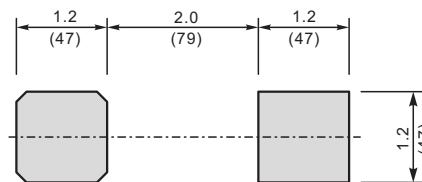
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	H <sub>E</sub>	∠
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:  $\frac{\text{mm}}{\text{mil}}$

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