

SMFxx(C)A

Features

- 200 watts Peak Pulse Power (10/1000µs)
- Unidirectional and Bidirectional Protection
- Fast Response Time : Typically < 1ns
- Excellent Clamping Capability
- Built-in Strain relief
- Low inductance
- Low profile package
- IEC 61000-4-2 (ESD) ±30kV(air), ±30kV(contact)
- MSL: Level 1

Mechanical Characteristics

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Matte tin lead free plated
- Approx. Weight:15mg 0.00048oz

Power Transient Voltage Suppressor



Applications

- I/O Interfaces
- Power lines
- Telecommunication
- Industrial/Consumer Electronics

Absolute Maximum Rating(Ratings at 25 °C ambient temperature unless otherwise specified.)							
Rating	Symbol	Value	Units				
Peak Pulse Power (tp = $10/1000\mu$ s) (see Note1&2)	PPPM	200	Watts				
Peak pulse current (10/1000µs) (see Note2)	IPPM	See Electrical Characteristics	А				
Peak Forward surge current (see Note3)	IFSM	20	А				
Power Dissipation on infinite heat sink $TL = 50$ °C (Fig5)	PD	1.0	W				
Operating Junction Temperature range	TJ	-55 to + 150	°C				
Thermal Resistance Junction-to-Ambient	RØJA	180	°C/W				

Note1: Peak Pulse Power Rating as Pulse Width ,per Fig1.

Note2: Peak Pulse Power or Current Derated above $T_A=25^{\circ}C$ Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig. 3.

Note3: 8.3ms Single Half Sine Wave or Equivalent Square Wave unidirectional device only.

Pin Configuration





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Electrical Characteristics (Tc=25°C Unless otherwise specified)

Part Number		Marking Code		Reverse Stand off Voltage (Volts)	Break Volt VBF (Vc	cdown tage 2@IT olts) Max	Test Current Iт (mA)	Reverse Leakage (µA)	Max. Clamp Voltage (Volts)	Peak Pulse Current (Amps)
										144
Uni	Bi	Uni	Bi	V	V	V	mA	μΑ	V	A
SMF5.0A	SMF5.0CA	AE	CAE	5	6.4	7	10	200	9.2	21.7
SMF6.0A	SMF6.0CA	AG	CAG	6	6.67	7.37	10	100	10.3	19.4
SMF6.5A	SMF6.5CA	AK	CAK	6.5	7.22	7.98	10	75	11.2	17.9
SMF7.0A	SMF7.0CA	AM	CAM	7	7.78	8.6	10	50	12	16.7
SMF7.5A	SMF7.5CA	AP	CAP	7.5	8.33	9.21	1	50	12.9	15.5
SMF8.0A	SMF8.0CA	AR	CAR	8	8.89	9.83	1	25	13.6	14.7
SMF8.5A	SMF8.5CA	AT	CAT	8.5	9.44	10.4	1	10	14.4	13.9
SMF9.0A	SMF9.0CA	AV	CAV	9	10	11.1	1	5	15.4	13
SMF10A	SMF10CA	AX	CAX	10	11.1	12.3	1	2.5	17	11.8
SMF11A	SMF11CA	AZ	CAZ	11	12.2	13.5	1	2.5	18.2	11
SMF12A	SMF12CA	BE	CBE	12	13.3	14.7	1	2.5	19.9	10.1
SMF13A	SMF13CA	BG	CBG	13	14.4	15.9	1	1	21.5	9.3
SMF14A	SMF14CA	ВК	СВК	14	15.6	17.2	1	1	23.2	8.6
SMF15A	SMF15CA	BM	СВМ	15	16.7	18.5	1	1	24.4	8.2
SMF16A	SMF16CA	BP	СВР	16	17.8	19.7	1	1	26	7.7
SMF17A	SMF17CA	BR	CBR	17	18.9	20.9	1	1	27.6	7.2
SMF18A	SMF18CA	вт	СВТ	18	20	22.1	1	1	29.2	6.8
SMF20A	SMF20CA	BV	CBV	20	22.2	24.5	1	1	32.4	6.2
SMF22A	SMF22CA	вх	СВХ	22	24.4	26.9	1	1	35.5	5.6
SMF24A	SMF24CA	BZ	CBZ	24	26.7	29.5	1	1	38.9	5.1
SMF26A	SMF26CA	CE	CCE	26	28.9	31.9	1	1	42.1	4.8
SMF28A	SMF28CA	CG	CCG	28	31.1	34.4	1	1	45.4	4.4
SMF30A	SMF30CA	СК	сск	30	33.3	36.8	1	1	48.4	4.1
SMF33A	SMF33CA	СМ	ССМ	33	36.7	40.6	1	1	53.3	3.8
SMF36A	SMF36CA	СР	CCP	36	40	44.2	1	1	58.1	3.4
SMF40A	SMF40CA	CR	CCR	40	44.4	49.1	1	1	64.5	3.1
SMF43A	SMF43CA	ст	сст	43	47.8	52.8	1	1	69.4	2.9
SMF45A	SMF45CA	CV	CCV	45	50	55.3	1	1	72 7	2.8

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SMF48A	SMF48CA	сх	ссх	48	53.3	58.9	1	1	77.4	2.6
SMF51A	SMF51CA	CZ	CCZ	51	56.7	62.7	1	1	82.4	2.4
SMF54A	SMF54CA	DE	CDE	54	60	66.3	1	1	87.1	2.3
SMF58A	SMF58CA	DG	CDG	58	64.4	71.2	1	1	93.6	2.1
SMF60A	SMF60CA	DK	CDK	60	66.7	73.7	1	1	96.8	1.8
SMF64A	SMF64CA	DM	CDM	64	71.1	78.6	1	1	103	1.7
SMF70A	SMF70CA	DP	CDP	70	77.8	86	1	1	113	1.5
SMF75A	SMF75CA	DR	CDR	75	83.3	92.1	1	1	121	1.4
SMF78A	SMF78CA	DT	CDT	78	86.7	95.8	1	1	126	1.4
SMF85A	SMF85CA	DV	CDV	85	94.4	104	1	1	137	1.3
SMF90A	SMF90CA	DX	CDX	90	100	111	1	1	146	1.2
SMF100A	SMF100CA	DZ	CDZ	100	111	123	1	1	162	1.1
SMF110A	SMF110CA	EE	CEE	110	122	135	1	1	177	1
SMF120A	SMF120CA	EG	CEG	120	133	147	1	1	193	0.9
SMF130A	SMF130CA	EK	СЕК	130	144	159	1	1	209	0.8
SMF150A	SMF150CA	EM	СЕМ	150	167	185	1	1	243	0.7
SMF160A	SMF160CA	EP	CEP	160	178	197	1	1	259	0.7
SMF170A	SMF170CA	ER	CER	170	189	209	1	1	275	0.6
SMF180A	SMF180CA	ET	CET	180	201	222	1	1	292	0.5
SMF200A	SMF200CA	EX	CEX	200	224	247	1	1	324	0.5
SMF220A	SMF220CA	E22	CE22	220	246	272	1	1	356	0.5

Typical Characteristics



Figure 2: Pulse Derating Curve



Figure 3: Pulse Waveform



Figure 5: Steady State Power Dissipation Derating Curve



Figure 4: Typical Junction Capacitance

Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional



Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees.

If detailed values are required, additional communication and provision are required.

Soldering Parameters

Reflow Condition						
	Temperature min (T _{s(min)})	150°C				
Pre-Heat	Temperature max (T _{s(max)})	200°C				
	Time (min to max) (t _s)	60-190 s				
Average ra (T∟) to peal	3°C/s max					
Ts(max) to	3°C/s max					
Reflow	Temperature (T∟) (Liquidus)	217°C				
	Temperature (t∟)	60-150 s				
Peak Temp	260 ^{+0/-5} C					
Time withir (t _p)	20-40 s					
Ramp-dow	5°C/s max					
Time 25°C	8 minutes max					
Do not exc	260°C					



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Outline Drawing – SOD-123FL



The recommended mounting pad size



Part Numbering System



Part Marking System



Package Information

3000 Pcs/Reel

Tape and Reel Information



RD	Reel Dimensions	7 inch
W	Overall width of the carrier tape	8 mm
P1	Pitch between successive cavity centers	4 mm

Contact Information

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For additional information, please contact your local Sales Representative.

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