

Transient Voltage Suppressor

SMF5V0CA--SMF170CA

Features

- For surface mounted applications
- Low profile package
- Low incremental surge resistance, excellent clamping capability
- 200W peak pulse power capability with a
- 10/1000 μ s wave from, repetition rate (duty cycle):0.01%
- High temperature soldering guaranteed:
260°C/10 seconds, at terminals



Mechanical Data

- Case: SOD-123FL molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Polarity: Color band denotes cathode end

Maximum Ratings (@T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Units
Non-repetitive peak pulse power dissipation with a 10/1000 μ s waveform (NOTE 1)	P _{PPM}	200	W
Peak pulse current 10/1000 μ s wave from (NOTE 1)	I _{PPM}	See Table1	A
Thermal resistance junction to ambient	R _{θJA}	180	K/W
Operating temperature junction range	T _J	- 55--- +150	°C
Storage temperature range	T _{STG}	- 55--- +150	°C

NOTES:

1. Non-repetitive current pulse and derated above T_A=25°C

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Electrical Characteristics (@T_A = 25°C unless otherwise specified)

Type	Marking	Breakdown Voltage V _{BR} @I _T		Test Current	Reverse Standoff Voltage	Max. Reverse Leakage@ V _{RWM}	Max. Peak Pulse Current	Max. Clamping Voltage @I _{PP}
		V		I _T	V _{RWM}	I _R	I _{PP}	V _C
		Min	Max	m A	V	u A	A	V
SMF5V0CA	AEC	6.4	7	10	5	400	21.7	9.2
SMF6V0CA	AGC	6.7	7.4	10	6	400	19.4	10.3
SMF6V5CA	AKC	7.2	8	10	6.5	250	17.9	11.2
SMF7V0CA	AMC	7.8	8.6	10	7	100	16.7	12.0
SMF7V5CA	APC	8.3	9.2	1	7.5	50	15.5	12.9
SMF8V0CA	ARC	8.9	9.8	1	8	25	14.7	13.6
SMF8V5CA	ATC	9.4	10.4	1	8.5	10	13.9	14.4
SMF9V0CA	AVC	10	11.1	1	9	5	13.0	15.4
SMF10CA	AXC	11.1	12.3	1	10	2.5	11.8	17.0
SMF11CA	AZC	12.2	13.5	1	11	2.5	11	18.2
SMF12CA	BEC	13.3	14.7	1	12	2.5	10.1	19.9
SMF13CA	BGC	14.4	15.9	1	13	1	9.3	21.5
SMF14CA	BKC	15.6	17.2	1	14	1	8.6	23.2
SMF15CA	BMC	16.7	18.5	1	15	1	8.2	24.4
SMF16CA	BPC	17.8	19.7	1	16	1	7.7	26.0
SMF17CA	BRC	18.9	20.9	1	17	1	7.2	27.6
SMF18CA	BTC	20	22.1	1	18	1	6.8	29.2
SMF20CA	BVC	22.2	24.5	1	20	1	6.2	32.4
SMF22CA	BXC	24.4	26.9	1	22	1	5.6	35.5
SMF24CA	BZC	26.7	29.5	1	24	1	5.1	38.9
SMF26CA	CEC	28.9	31.9	1	26	1	4.8	42.1
SMF28CA	CGC	31.1	34.4	1	28	1	4.4	45.4
SMF30CA	CKC	33.3	36.8	1	30	1	4.1	48.4
SMF33CA	CMC	36.7	40.6	1	33	1	3.8	53.3
SMF36CA	CPC	40	44.2	1	36	1	3.4	58.1
SMF40CA	CRC	44.4	49.1	1	40	1	3.1	64.5
SMF43CA	CTC	47.8	52.8	1	43	1	2.9	69.4
SMF45CA	CVC	50	55.3	1	45	1	2.8	72.7
SMF48CA	CXC	53.3	58.9	1	48	1	2.6	77.4

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Type	Marking	Breakdown Voltage $V_{BR}@I_T$		Test Current	Reverse Standoff Voltage	Max. Reverse Leakage@ V_{RWM}	Max. Peak Pulse Current	Max. Clamping Voltage @ I_{PP}
		V		I_T	V_{RWM}	I_R	I_{PP}	V_C
		Min	Max	m A	V	u A	A	V
SMF51CA	CZC	56.7	62.7	1	51	1	2.4	82.4
SMF54CA	DEC	60	66.3	1	54	1	2.3	87.1
SMF58CA	DGC	64	71.2	1	58	1	2.1	93.6
SMF60CA	DKC	66.7	73.7	1	60	1	2.1	96.8
SMF64CA	DMC	71.1	78.6	1	64	1	1.9	103
SMF70CA	DPC	78.8	86	1	70	1	1.8	113
SMF75CA	DRC	83.3	92.1	1	75	1	1.7	121
SMF78CA	DTC	86.7	95.8	1	78	1	1.6	126
SMF85CA	DVC	94.4	104	1	85	1	1.5	137
SMF90CA	DXC	100	111	1	90	1	1.4	146
SMF100CA	DZC	111	123	1	100	1	1.2	162
SMF110CA	EEC	122	135	1	110	1	1.1	177
SMF120CA	EGC	133	147	1	120	1	1.0	193
SMF130CA	EKC	144	159	1	130	1	1.0	209
SMF150CA	EMC	167	185	1	150	1	0.8	243
SMF160CA	EPC	178	197	1	160	1	0.8	259
SMF170CA	ERC	189	209	1	170	1	0.7	275

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Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 -- PEAK PULSE POWER RATING CURVE

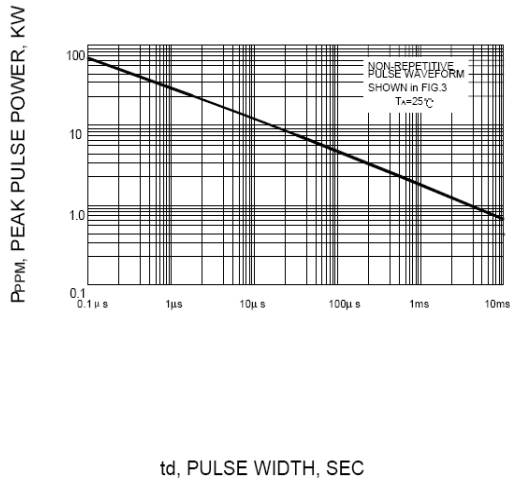


FIG.2 -- PULSE DERATING CURVE

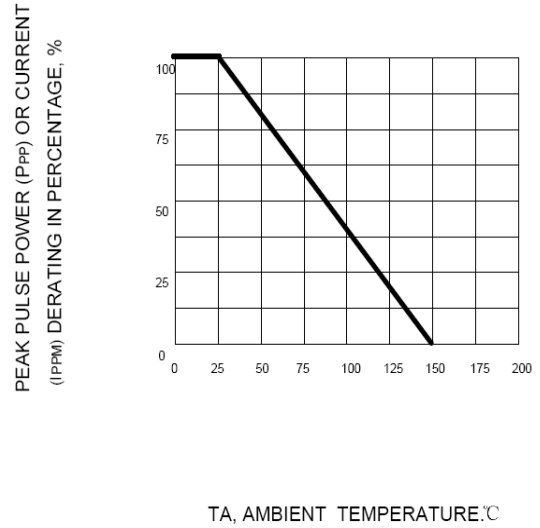
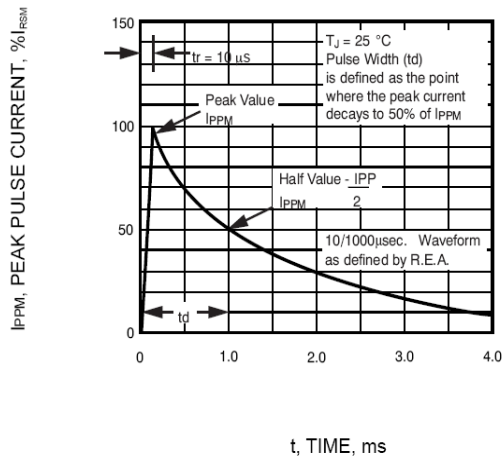


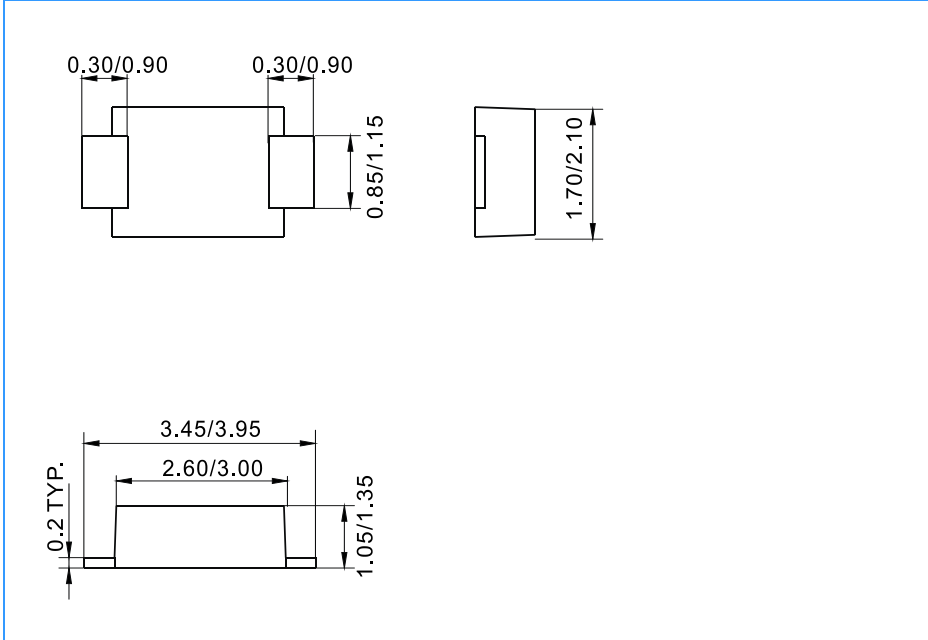
FIG.3 -- PULSE WAVEFORM



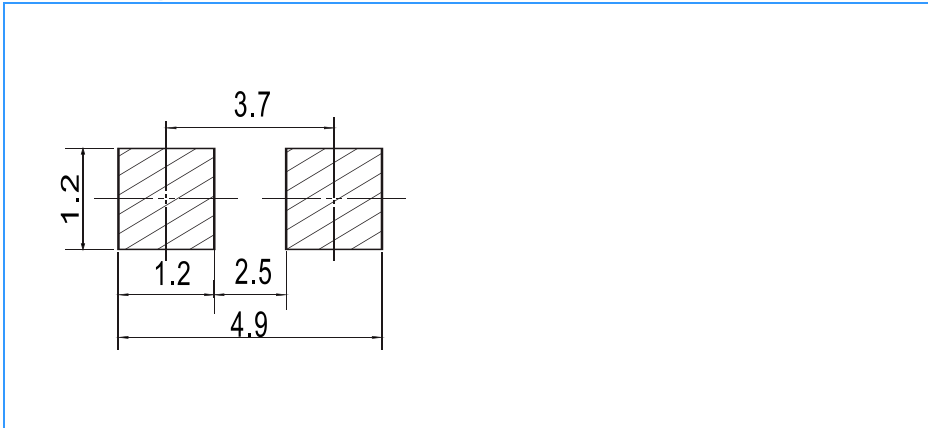
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Package Outline Dimensions(unit:mm)



Mounting Pad Layout(unit:mm)



Ordering Information

Part No.	Package	Shipping
SMF5V0CA-SMF170CA	SOD-123FL	10000/Tape&Reel