

# SMF5.0(C)A THRU SMF170(C)A

**200WATTS TRANSIENT  
VOLTAGE SUPPRESSOR  
5.0 TO 170 VOLTS**

## Features

- Halogen free available upon request by adding suffix "-HF"
- Stand-off Voltage 5-170 Volts
- Uni and bi-directional type available (suffix "C" means bi-directional)
- Surface Mount
- Low Clamping Voltage
- 200 Watt Peak Power Dissipation
- Small, High Thermal Efficiency
- Marking Code: See Electrical Characteristics Table
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix designates RoHS Compliant. See ordering information)

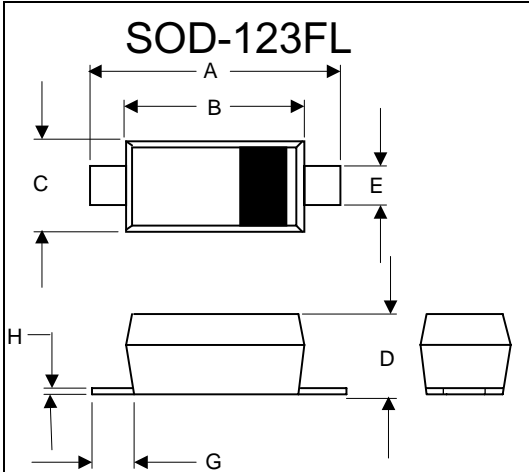
## Maximum Ratings

- Operating Temperature: -65°C to +175°C
- Storage Temperature: -65°C to +175°C

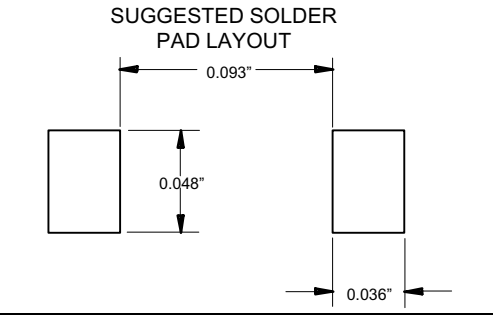
## Electrical Characteristics @ 25°C Unless Otherwise Specified

Peak Pulse Power (10/1000us Waveform)	P <sub>PP</sub>	200W
ESD Voltage(HBM)	V <sub>ESD</sub>	>16KV

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.140	.152	3.55	3.85	
B	.100	.122	2.55	3.10	
C	.055	.075	1.40	1.90	
D	.035	.053	0.90	1.35	
E	.020	.041	0.50	1.05	
G	.010	-----	0.25	-----	
H	-----	.010	----	.25	



## SMF5.0A THRU SMF170A

### ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER Uni-Polar	Marking Code	Breakdown Voltage $V_{BR} @ I_T$ (Volt)		TEST CURRENT $I_T$ mADC	RATED STANDOFF VOLTAGE $V_{WM}$ V	MAXIMUM REVERSE LEAKAGE $I_b @ V_{WM}$ ( $\mu$ A)	MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ V	MAXIMUM PEAK PULSE CURRENT $I_{PP}$ A
		MIN	MAX					
SMF5.0A	5.0A	6.4	7.0	10	5.0	400	9.2	21.7
SMF6.0A	6.0A	6.67	7.37	10	6.0	400	10.3	19.4
SMF6.5A	6.5A	7.22	7.98	10	6.5	250	11.2	17.9
SMF7.0A	7.0A	7.78	8.6	10	7.0	100	12	16.7
SMF7.5A	7.5A	8.33	9.21	1.0	7.5	50	12.9	15.5
SMF8.0A	8.0A	8.89	9.83	1.0	8.0	25	13.6	14.7
SMF8.5A	8.5A	9.44	10.4	1.0	8.5	10	14.4	13.9
SMF9.0A	9.0A	10	11.1	1.0	9.0	5.0	15.4	13
SMF10A	10A	11.1	12.3	1.0	10	2.5	17	11.8
SMF11A	11A	12.2	13.5	1.0	11	2.5	18.2	11
SMF12A	12A	13.3	14.7	1.0	12	2.5	19.9	10.1
SMF13A	13A	14.4	15.9	1.0	13	1.0	21.5	9.3
SMF14A	14A	15.6	17.2	1.0	14	1.0	23.2	8.6
SMF15A	15A	16.7	18.5	1.0	15	1.0	24.4	8.2
SMF16A	16A	17.8	19.7	1.0	16	1.0	26	7.7
SMF17A	17A	18.9	20.9	1.0	17	1.0	27.6	7.2
SMF18A	18A	20	22.1	1.0	18	1.0	29.2	6.8
SMF20A	20A	22.2	24.5	1.0	20	1.0	32.4	6.2
SMF22A	22A	24.4	26.9	1.0	22	1.0	35.5	5.6
SMF24A	24A	26.7	29.5	1.0	24	1.0	38.9	5.1
SMF26A	26A	28.9	31.9	1.0	26	1.0	42.1	4.8
SMF28A	28A	31.1	34.4	1.0	28	1.0	45.4	4.4
SMF30A	30A	33.3	36.8	1.0	30	1.0	48.4	4.1
SMF33A	33A	36.7	40.6	1.0	33	1.0	53.3	3.8
SMF36A	36A	40	44.2	1.0	36	1.0	58.1	3.4
SMF40A	40A	44.4	49.1	1.0	40	1.0	64.5	3.1
SMF43A	43A	47.8	52.8	1.0	43	1.0	69.4	2.9
SMF45A	45A	50	55.3	1.0	45	1.0	72.7	2.8
SMF48A	48A	53.3	58.9	1.0	48	1.0	77.4	2.6
SMF51A	51A	56.7	62.7	1.0	51	1.0	82.4	2.4
SMF54A	54A	60	66.3	1.0	54	1.0	87.1	2.3
SMF58A	58A	64.4	71.2	1.0	58	1.0	93.6	2.1
SMF60A	60A	66.7	73.7	1.0	60	1.0	96.8	1.8
SMF64A	64A	71.1	78.6	1.0	64	1.0	103	1.7
SMF70A	70A	77.8	86	1.0	70	1.0	113	1.5
SMF75A	75A	83.3	92.1	1.0	75	1.0	121	1.4
SMF78A	78A	86.7	95.8	1.0	78	1.0	126	1.4
SMF85A	85A	94.4	104	1.0	85	1.0	137	1.3
SMF90A	90A	100	111	1.0	90	1.0	146	1.2
SMF100A	100	111	123	1.0	100	1.0	162	1.1
SMF110A	110	122	135	1.0	110	1.0	177	1.0
SMF120A	120	133	147	1.0	120	1.0	193	0.9
SMF130A	130	144	159	1.0	130	1.0	209	0.8
SMF150A	150	167	185	1.0	150	1.0	243	0.7
SMF160A	160	178	197	1.0	160	1.0	259	0.7
SMF170A	170	189	209	1.0	170	1.0	275	0.6

## SMF5.0CA THRU SMF170CA

### ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER Bi-Polar	Marking Code	Breakdown Voltage $V_{BR} @ I_T$ (Volt)		TEST CURRENT $I_T$ mADC	RATED STANDOFF VOLTAGE $V_{WM}$ V	MAXIMUM REVERSE LEAKAGE $I_b @ V_{WM}$ ( $\mu$ A)	MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ V	MAXIMUM PEAK PULSE CURRENT $I_{PP}$ A
		MIN	MAX					
SMF5.0CA	5.0CA	6.4	7.0	10	5.0	400	9.2	21.7
SMF6.0CA	6.0CA	6.67	7.37	10	6.0	400	10.3	19.4
SMF6.5CA	6.5CA	7.22	7.98	10	6.5	250	11.2	17.9
SMF7.0CA	7.0CA	7.78	8.6	10	7.0	100	12	16.7
SMF7.5CA	7.5CA	8.33	9.21	1.0	7.5	50	12.9	15.5
SMF8.0CA	8.0CA	8.89	9.83	1.0	8.0	25	13.6	14.7
SMF8.5CA	8.5CA	9.44	10.4	1.0	8.5	10	14.4	13.9
SMF9.0CA	9.0CA	10	11.1	1.0	9.0	5.0	15.4	13
SMF10CA	10CA	11.1	12.3	1.0	10	2.5	17	11.8
SMF11CA	11CA	12.2	13.5	1.0	11	2.5	18.2	11
SMF12CA	12CA	13.3	14.7	1.0	12	2.5	19.9	10.1
SMF13CA	13CA	14.4	15.9	1.0	13	1.0	21.5	9.3
SMF14CA	14CA	15.6	17.2	1.0	14	1.0	23.2	8.6
SMF15CA	15CA	16.7	18.5	1.0	15	1.0	24.4	8.2
SMF16CA	16CA	17.8	19.7	1.0	16	1.0	26	7.7
SMF17CA	17CA	18.9	20.9	1.0	17	1.0	27.6	7.2
SMF18CA	18CA	20	22.1	1.0	18	1.0	29.2	6.8
SMF20CA	20CA	22.2	24.5	1.0	20	1.0	32.4	6.2
SMF22CA	22CA	24.4	26.9	1.0	22	1.0	35.5	5.6
SMF24CA	24CA	26.7	29.5	1.0	24	1.0	38.9	5.1
SMF26CA	26CA	28.9	31.9	1.0	26	1.0	42.1	4.8
SMF28CA	28CA	31.1	34.4	1.0	28	1.0	45.4	4.4
SMF30CA	30CA	33.3	36.8	1.0	30	1.0	48.4	4.1
SMF33CA	33CA	36.7	40.6	1.0	33	1.0	53.3	3.8
SMF36CA	36CA	40	44.2	1.0	36	1.0	58.1	3.4
SMF40CA	40CA	44.4	49.1	1.0	40	1.0	64.5	3.1
SMF43CA	43CA	47.8	52.8	1.0	43	1.0	69.4	2.9
SMF45CA	45CA	50	55.3	1.0	45	1.0	72.7	2.8
SMF48CA	48CA	53.3	58.9	1.0	48	1.0	77.4	2.6
SMF51CA	51CA	56.7	62.7	1.0	51	1.0	82.4	2.4
SMF54CA	54CA	60	66.3	1.0	54	1.0	87.1	2.3
SMF58CA	58CA	64.4	71.2	1.0	58	1.0	93.6	2.1
SMF60CA	60CA	66.7	73.7	1.0	60	1.0	96.8	1.8
SMF64CA	64CA	71.1	78.6	1.0	64	1.0	103	1.7
SMF70CA	70CA	77.8	86	1.0	70	1.0	113	1.5
SMF75CA	75CA	83.3	92.1	1.0	75	1.0	121	1.4
SMF78CA	78CA	86.7	95.8	1.0	78	1.0	126	1.4
SMF85CA	85CA	94.4	104	1.0	85	1.0	137	1.3
SMF90CA	90CA	100	111	1.0	90	1.0	146	1.2
SMF100CA	100C	111	123	1.0	100	1.0	162	1.1
SMF110CA	110C	122	135	1.0	110	1.0	177	1.0
SMF120CA	120C	133	147	1.0	120	1.0	193	0.9
SMF130CA	130C	144	159	1.0	130	1.0	209	0.8
SMF150CA	150C	167	185	1.0	150	1.0	243	0.7
SMF160CA	160C	178	197	1.0	160	1.0	259	0.7
SMF170CA	170C	189	209	1.0	170	1.0	275	0.6

# SMF5.0CA THRU SMF170CA

## Electrical Characteristics

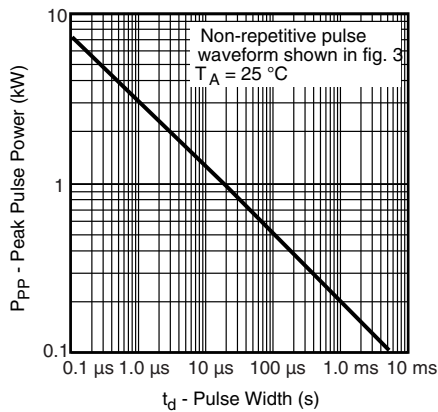


Fig. 1 - Peak Pulse Power Rating

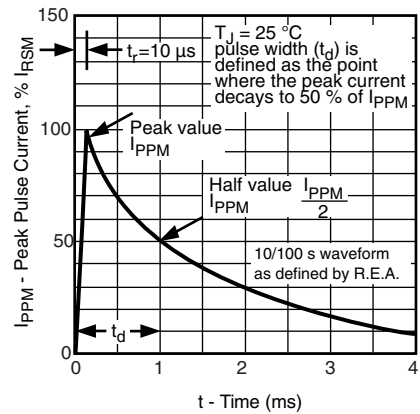


Fig. 3 - Pulse Waveform

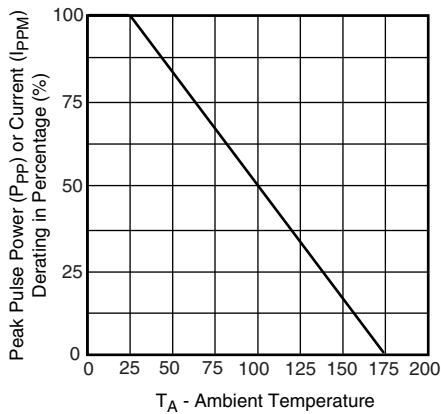


Fig. 2 - Pulse Derating Curve



TM

Micro Commercial Components

### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

#### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

#### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

#### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

[www.mccsemi.com](http://www.mccsemi.com)



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.