

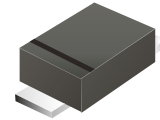
SMA6Fxxx(C)A-HF Series

Working Peak Reverse Voltage: 5 to 220 V

Peak Pulse Power: 600 W

RoHS Device

Halogen Free

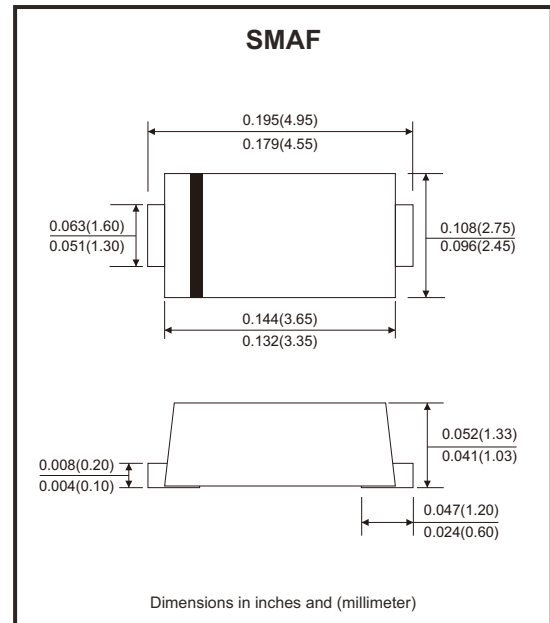


Features

- For surface mounted applications.
- Low-profile package.
- 600W peak pulse power capability with a 10/1000 μ s waveform.
- Available in unidirectional and bidirectional.
- ESD protection of data lines in accordance with 61000-4-2, 30kV (Air/Contact).
- Very fast response time.

Mechanical data

- Case: SMAF, molded plastic.
- Terminals: Solderable per J-STD-002 and JESD22-B102.
- Polarity: Color band denotes cathode end except bipolar.
- Mounting position: Any.



Circuit Diagram



Bi-directional



Uni-directional

Maximum Ratings and Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Units
Peak pulse power dissipation at 10/1000 μ s waveform (Note 1, 2, 4, Fig.1)	P _{PP}	600	W
Peak forward surge current (Note 3)	I _{FSM}	100	A
Peak pulse current with a 10/1000 μ s waveform (Note 1, 2, 5, Fig.2)	I _{PP}	See next table	A
Steady state power dissipation (Note 4)	P _D	5	W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above TA=25°C per Fig.2.

2. Mounted on 5mm copper, pads to each terminal.

3. Measured on 8.3ms single half sine-wave. For uni-directional devices only.

4. Lead temperature at T_L=75°C.

5. Peak pulse power waveform is 10/1000 μ s.

SMD Transient Voltage Suppressor

Electrical Characteristics (SMA6F5.0(C)A-HF Thru. SMA6FJ220(C)A-HF)

Part No.	Breakdown Voltage V_{BR} @ I_T (Note 3)			Maximum Reverse Leakage @ V_{RWM} I_R (μ A)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage @ I_{PP} V_C (V)	Marking Code	
	Min (V)	Max (V)	I_T (mA)					Uni	Bi
SMA6F5.0(C)A-HF	6.40	7.25	10	800	5.0	65.3	9.2	KE	AE
SMA6F6.0(C)A-HF	6.67	7.37	10	800	6.0	58.3	10.3	KG	AG
SMA6F6.5(C)A-HF	7.22	7.98	10	500	6.5	53.6	11.2	KK	AK
SMA6F7.0(C)A-HF	7.78	8.60	10	200	7.0	50.0	12.0	KM	AM
SMA6F7.5(C)A-HF	8.33	9.21	1	100	7.5	46.6	12.9	KP	AP
SMA6F8.0(C)A-HF	8.89	9.83	1	50	8.0	44.2	13.6	KR	AR
SMA6F8.5(C)A-HF	9.44	10.40	1	20	8.5	41.7	14.4	KT	AT
SMA6F9.0(C)A-HF	10.00	11.10	1	10	9.0	39.0	15.4	KV	AV
SMA6F10(C)A-HF	11.10	12.30	1	5	10.0	35.3	17.0	KX	AX
SMA6F11(C)A-HF	12.20	13.50	1	1	11.0	33.0	18.2	KZ	AZ
SMA6F12(C)A-HF	13.30	14.70	1	1	12.0	30.2	19.9	LE	BE
SMA6F13(C)A-HF	14.40	15.90	1	1	13.0	28.0	21.5	LG	BG
SMA6F14(C)A-HF	15.60	17.20	1	1	14.0	25.9	23.2	LK	BK
SMA6F15(C)A-HF	16.70	18.50	1	1	15.0	24.6	24.4	LM	BM
SMA6F16(C)A-HF	17.80	19.70	1	1	16.0	23.1	26.0	LP	BP
SMA6F17(C)A-HF	18.90	20.90	1	1	17.0	21.8	27.6	LR	BR
SMA6F18(C)A-HF	20.00	22.10	1	1	18.0	20.6	29.2	LT	BT
SMA6F20(C)A-HF	22.20	24.50	1	1	20.0	18.6	32.4	LV	BV
SMA6F22(C)A-HF	24.40	26.90	1	1	22.0	16.9	35.5	LX	BX
SMA6F24(C)A-HF	26.70	29.50	1	1	24.0	15.5	38.9	LZ	BZ
SMA6F26(C)A-HF	28.90	31.90	1	1	26.0	14.3	42.1	ME	CE
SMA6F28(C)A-HF	31.10	34.40	1	1	28.0	13.3	45.4	MG	CG
SMA6F30(C)A-HF	33.30	36.80	1	1	30.0	12.4	48.4	MK	CK
SMA6F33(C)A-HF	36.70	40.60	1	1	33.0	11.3	53.3	MM	CM
SMA6F36(C)A-HF	40.00	44.20	1	1	36.0	10.4	58.1	MP	CP
SMA6F40(C)A-HF	44.40	49.10	1	1	40.0	9.3	64.5	MR	CR
SMA6F43(C)A-HF	47.80	52.80	1	1	43.0	8.7	69.4	MT	CT
SMA6F45(C)A-HF	50.00	55.30	1	1	45.0	8.3	72.7	MV	CV
SMA6F48(C)A-HF	53.30	58.90	1	1	48.0	7.8	77.4	MX	CX
SMA6F51(C)A-HF	56.70	62.70	1	1	51.0	7.3	82.4	MZ	CZ
SMA6F54(C)A-HF	60.00	66.30	1	1	54.0	6.9	87.1	NE	DE
SMA6F58(C)A-HF	64.40	71.20	1	1	58.0	6.5	93.6	NG	DG
SMA6F60(C)A-HF	66.70	73.70	1	1	60.0	6.2	96.8	NK	DK
SMA6F64(C)A-HF	71.10	78.60	1	1	64.0	5.9	103.0	NM	DM
SMA6F70(C)A-HF	77.80	86.00	1	1	70.0	5.3	113.0	NP	DP
SMA6F75(C)A-HF	83.30	92.10	1	1	75.0	5.0	121.0	NR	DR
SMA6F78(C)A-HF	86.70	95.80	1	1	78.0	4.8	126.0	NT	DT
SMA6F85(C)A-HF	94.40	104.00	1	1	85.0	4.4	137.0	NV	DV
SMA6F90(C)A-HF	100.00	111.00	1	1	90.0	4.1	146.0	NX	DX
SMA6F100(C)A-HF	111.00	123.00	1	1	100.0	3.7	162.0	NZ	DZ
SMA6F110(C)A-HF	122.00	135.00	1	1	110.0	3.4	177.0	PE	EE
SMA6F120(C)A-HF	133.00	147.00	1	1	120.0	3.1	193.0	PG	EG
SMA6F130(C)A-HF	144.00	159.00	1	1	130.0	2.9	209.0	PK	EK
SMA6F150(C)A-HF	167.00	185.00	1	1	150.0	2.5	243.0	PM	EM

Electrical Characteristics (SMA6F5.0(C)A-HF Thru. SMA6FJ220(C)A-HF)

Part No.	Breakdown Voltage V_{BR} @ I_T (Note 3)			Maximum Reverse Leakage @ V_{RWM} I_R (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage @ I_{PP} V_C (V)	Marking Code	
	Min (V)	Max (V)	I_T (mA)					Uni	Bi
SMA6F160(C)A-HF	178.0	197.0	1	1	160.0	2.3	259.0	PP	EP
SMA6F170(C)A-HF	189.0	209.0	1	1	170.0	2.2	275.0	PR	ER
SMA6F180(C)A-HF	201.0	222.0	1	1	180.0	2.1	292.0	PT	ET
SMA6F188(C)A-HF	209.0	231.0	1	1	188.0	2.0	304.0	PB	EB
SMA6F200(C)A-HF	224.0	247.0	1	1	200.0	1.9	324.0	PV	EV
SMA6F220(C)A-HF	246.0	272.0	1	1	220.0	1.7	356.0	PX	EX

Notes: For Bi-directional devices, use suffix CA.

Typical Rating and Characteristic Curves (SMA6Fxxx(C)A-HF)

Fig.1 - Peak Pulse Power Rating Curve

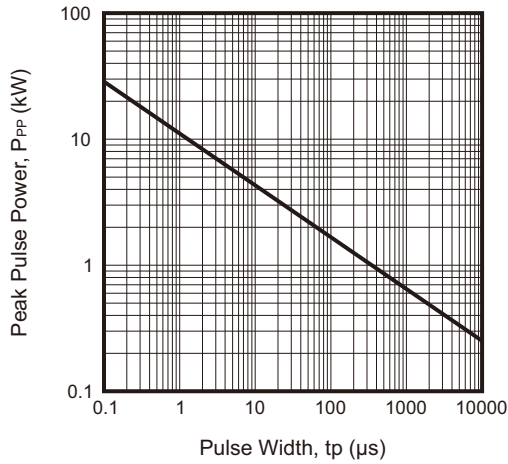


Fig.2 - Pulse Derating Curve

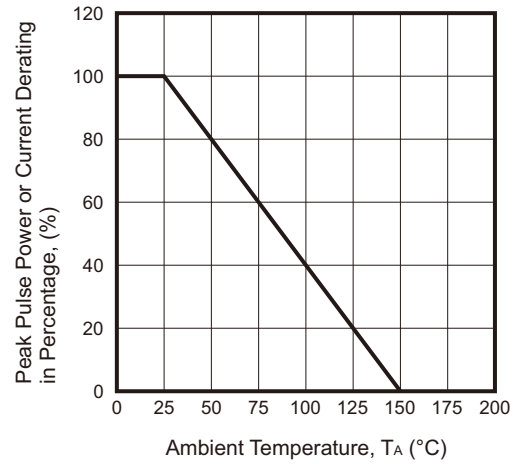


Fig.3 - Clamping Power Pulse Waveform

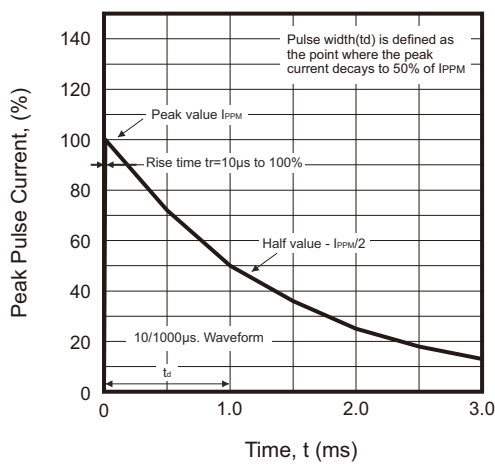


Fig.4 - Maximum Non-Repetitive Forward Surge Current

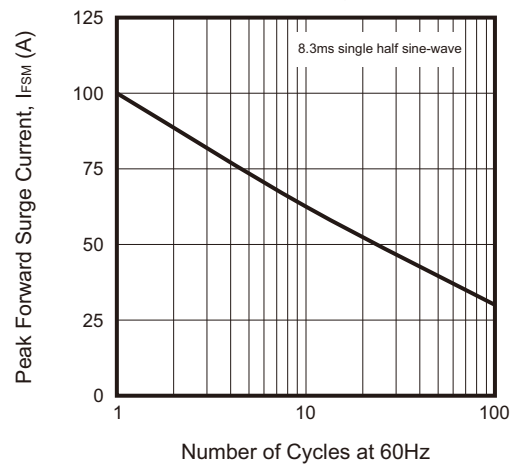
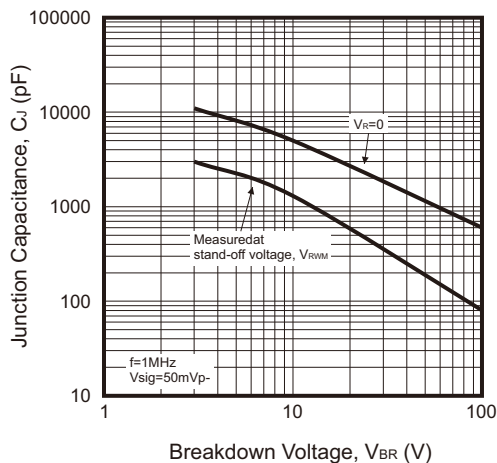
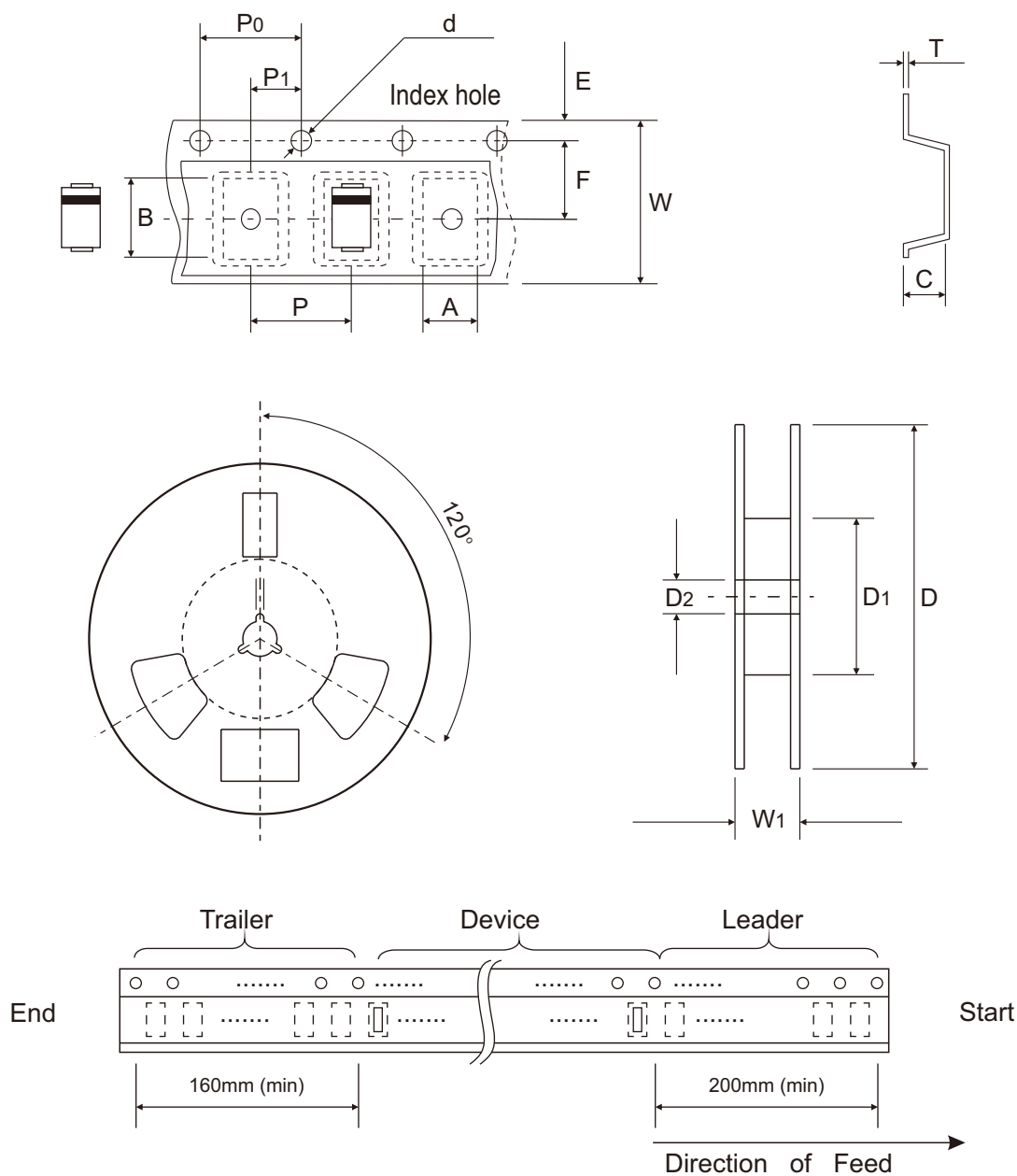


Fig.5 - Typical Junction Capacitance



Reel Taping Specification



SMAF	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.90 ± 0.10	5.00 ± 0.10	1.38 ± 0.05	1.55 ± 0.05	330.00 ± 5.00	100.00 ± 5.00	13.50 ± 0.50
	(inch)	0.114 ± 0.004	0.197 ± 0.004	0.054 ± 0.002	0.061 ± 0.002	12.992 ± 0.197	3.937 ± 0.197	0.531 ± 0.020

SMAF	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	5.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.22 ± 0.02	12.00 ± 0.10	18.00 ± 1.00
	(inch)	0.069 ± 0.004	0.217 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.009 ± 0.001	0.472 ± 0.004	0.709 ± 0.039

Marking Code

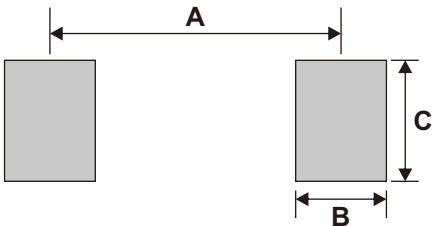
Part Number	Marking Code
SMA6Fxxx(C)A-HF	See Page.2~3



| = Cathode band
XX = Marking code (see Page.2~3)

Suggested P.C.B. PAD Layout

SIZE	SMAF	
	(mm)	(inch)
A	3.85	0.152
B	1.20 Min	0.047 Min
C	1.60 Min	0.063 Min



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SMAF	10,000	13