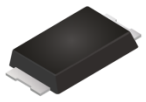
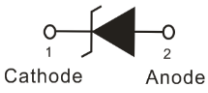
P4AFC3.3AS ~ P4AFC220AS Series

Transient Voltage Suppressor

Voltage 3.3~220 V **Power** 400 W

SMAF-C





Features

- Small plastic package suitable for surface-mounted design
- Very low package height: 1 mm
- Excellent clamping capability
- High temperature soldering : 260ºC/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : Molded plastic, SMAF-C
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0012 ounces, 0.034 grams

Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation(tp=10/1000us)(Note 1,2)	P_{PP}	400	W
Peak Forward Surge Current (8.3ms single half sine-wave)	I_{FSM}	40	A
Peak Pulse Current on tp=10/1000us Waveform(Note1,Fig.2)	I_{PPM}	See next table	A
Power Dissipation on Infinite Heat Sink at T_L = 50 ºC	P_D	3.3	W
ESD IEC61000-4-2(Air) ESD IEC61000-4-2(Contact)	V_{ESD}	±30 ±30	kV
Typical Thermal Resistance Junction to Ambient(Note 3)	$R_{\theta JA}$	150	ºC/W
Operating Junction Temperature Range	T_J	-55 to +150	ºC
Storage Temperature Range	T_{STG}	-55 to +150	ºC

Notes： 1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25ºC per Fig.2.
2. Mounted on 1 inch square copper pads to each terminal.
3. Mounted on a FR4 PCB, single-sided copper, standard footprint.
4. 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 operation voltage level.
5. TVS is a transient protection device, it is strongly recommended not to use as a Zener.

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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Part Number	V_{RWM} (Note 4)	V_{BR}			I_R@V_{RWM}	V_C@I_{PP}		Marking Code
		Min.	Max.	I_T		Max.		
	V	V	V	mA	uA	V	A	
P4AFC3.3AS	3.3	5.2	6	10	600	8.5	47	4S3V3
P4AFC5.0AS	5	6.4	7	10	400	9.2	43.5	4S5V0
P4AFC6.0AS	6	6.67	7.37	10	400	10.3	38.8	4S6V0
P4AFC6.5AS	6.5	7.22	7.98	10	250	11.2	35.7	4S6V5
P4AFC7.0AS	7	7.78	8.6	10	100	12	33.3	4S7V0
P4AFC7.5AS	7.5	8.33	9.21	1	50	12.9	31	4S7V5
P4AFC8.0AS	8	8.89	9.83	1	25	13.6	29.4	4S8V0
P4AFC8.5AS	8.5	9.44	10.82	1	10	14.4	27.7	4S8V5
P4AFC9.0AS	9	10	11.5	1	5	15.4	26	4S9V0
P4AFC10AS	10	11.1	12.8	1	5	17	23.5	4S10
P4AFC11AS	11	12.2	14	1	1	18.2	22	4S11
P4AFC12AS	12	13.3	15.3	1	1	19.9	20.1	4S12
P4AFC13AS	13	14.4	16.5	1	1	21.5	18.6	4S13
P4AFC14AS	14	15.6	17.9	1	1	23.2	17.2	4S14
P4AFC15AS	15	16.7	19.2	1	1	24.4	16.4	4S15
P4AFC16AS	16	17.8	20.5	1	1	26	15.3	4S16
P4AFC17AS	17	18.9	21.7	1	1	27.6	14.5	4S17
P4AFC18AS	18	20	23.3	1	1	29.2	13.7	4S18
P4AFC20AS	20	22.2	25.5	1	1	32.4	12.3	4S20
P4AFC22AS	22	24.4	28	1	1	35.5	11.2	4S22
P4AFC24AS	24	26.7	30.7	1	1	38.9	10.3	4S24
P4AFC26AS	26	28.9	33.2	1	1	42.1	9.5	4S26
P4AFC28AS	28	31.1	35.8	1	1	45.4	8.8	4S28
P4AFC30AS	30	33.3	38.3	1	1	48.4	8.3	4S30
P4AFC33AS	33	36.7	42.2	1	1	53.3	7.5	4S33
P4AFC36AS	36	40	46	1	1	58.1	6.9	4S36
P4AFC40AS	40	44.4	51.1	1	1	64.5	6.2	4S40
P4AFC43AS	43	47.8	54.9	1	1	69.4	5.7	4S43
P4AFC45AS	45	50	57.5	1	1	72.7	5.5	4S45
P4AFC48AS	48	53.3	61.3	1	1	77.4	5.2	4S48
P4AFC51AS	51	56.7	65.2	1	1	82.4	4.9	4S51
P4AFC54AS	54	60	69	1	1	87.1	4.6	4S54
P4AFC58AS	58	64.4	74.1	1	1	93.6	4.3	4S58
P4AFC60AS	60	66.7	76.7	1	1	96.8	4.1	4S60
P4AFC64AS	64	71.1	81.8	1	1	103	3.9	4S64
P4AFC70AS	70	77.8	89.5	1	1	113	3.5	4S70
P4AFC75AS	75	83.3	95.8	1	1	121	3.3	4S75

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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Part Number	V_{RWM} (Note 4)	V_{BR}			I_R@V_{RWM}	V_C@I_{PP}		Marking Code
		Min.	Max.	I_T		Max.		
	V	V	V	mA	uA	V	A	
P4AFC78AS	78	86.7	99.7	1	1	126	3.2	4S78
P4AFC85AS	85	94.4	108.2	1	1	137	2.9	4S85
P4AFC90AS	90	100	115.5	1	1	146	2.7	4S90
P4AFC100AS	100	111	128	1	1	162	2.5	4S100
P4AFC110AS	110	122	140.5	1	1	177	2.3	4S110
P4AFC120AS	120	133	153	1	1	193	2	4S120
P4AFC130AS	130	144	165.5	1	1	209	1.9	4S130
P4AFC150AS	150	167	192.5	1	1	243	1.6	4S150
P4AFC160AS	160	178	205	1	1	259	1.5	4S160
P4AFC170AS	170	189	217.5	1	1	275	1.4	4S170
P4AFC180AS	180	198	221	1	1	291	1.4	4S180
P4AFC190AS	190	209	233	1	1	307	1.3	4S190
P4AFC200AS	200	220	246	1	1	324	1.2	4S200
P4AFC220AS	220	246	272	1	1	356	1.1	4S220

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TYPICAL CHARACTERISTIC CURVES

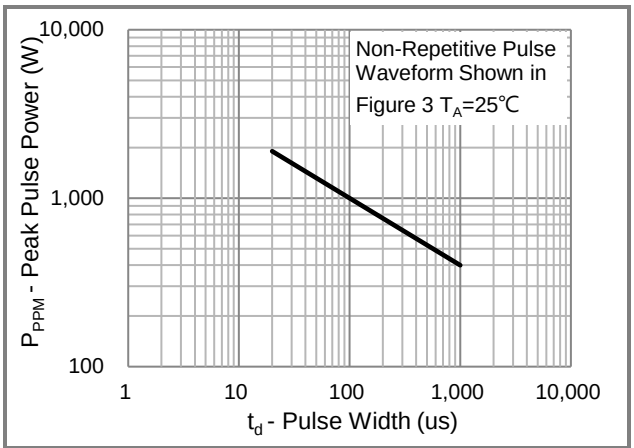

Fig.1 Pulse Power Rating Curve

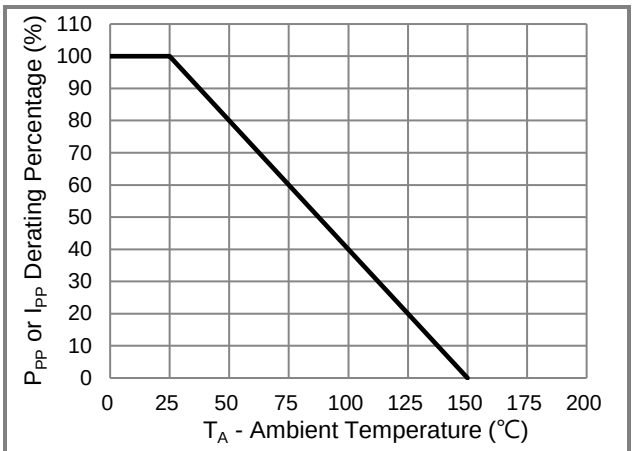

Fig.2 Derating Curve

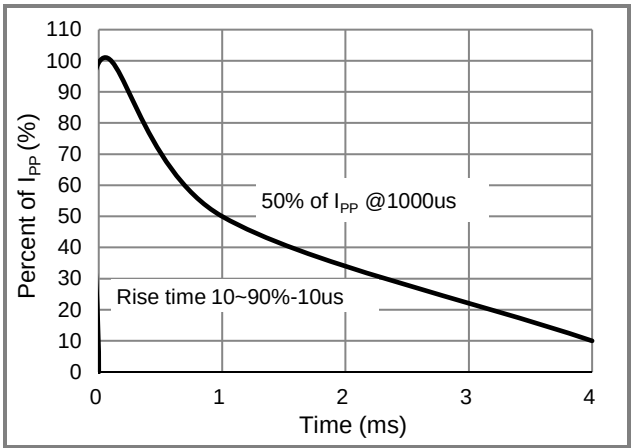

Fig.3 10/1000us Pulse Waveform

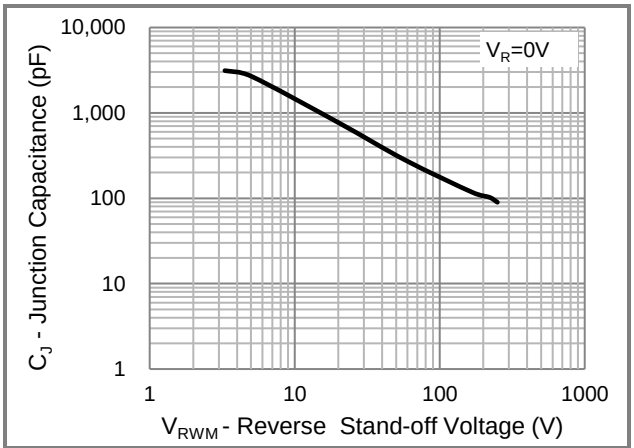

Fig.4 Typical Capacitance

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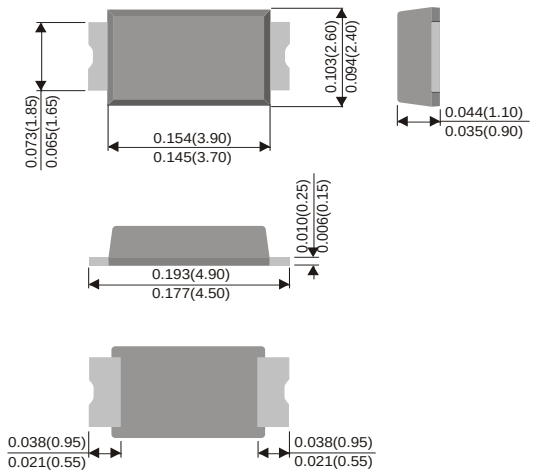
Product and Packing Information

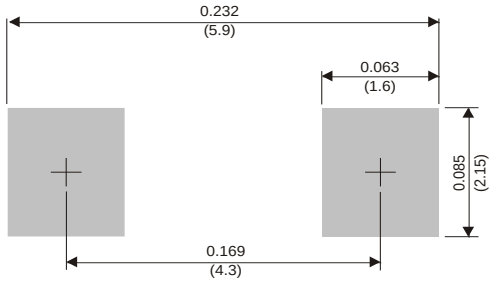
Part No.	Package Type	Packing Type	Marking
P4AFCxxxAS	SMAF-C	3K pcs / 7” reel	See Table

Packaging Information & Mounting Pad Layout

SMAF-C Dimension — Unit: inch(mm)



SMAF-C Pad Layout — Unit: inch(mm)



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