



# P4AFC8.5AS-AU ~ P4AFC220AS-AU Series

## Transient Voltage Suppressor

**Voltage** 8.5~220 V **Power** 400 W

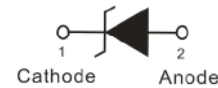
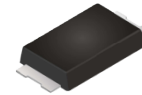
### Features

- Small plastic package suitable for surface-mounted design
- Very low package height : 1 mm
- Excellent clamping capability
- High temperature soldering : 260°C/10 seconds at terminals
- AEC-Q101 qualified
- 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

### SMAF-C



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation(tp=10/1000us) <sup>(Note 1,2)</sup>	P <sub>PP</sub>	400	W
Peak Forward Surge Current (8.3ms single half sine-wave)	I <sub>FSM</sub>	40	A
Peak Pulse Current on tp=10/1000us Waveform <sup>(Note1, Fig.2)</sup>	I <sub>PPM</sub>	See next table	A
Power Dissipation on Infinite Heat Sink at T <sub>L</sub> = 50 °C	P <sub>D</sub>	3.3	W
ESD IEC61000-4-2(Air)	V <sub>ESD</sub>	±30	kV
ESD IEC61000-4-2(Contact)		±30	
Typical Thermal Resistance Junction to Ambient <sup>(Note 3)</sup>	R <sub>θJA</sub>	150	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

Notes : 1. Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub>=25°C per Fig.2

2. Mounted on 5.0x5.0mm copper pads to each terminal

3. Mounted on a FR4 PCB, single-sided copper, recommend pad layout

4. A transient suppressor is selected according to the working peak reverse voltage(V<sub>RWM</sub>), 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



## P4AFC8.5AS-AU ~ P4AFC220AS-AU Series

**Electrical Characteristics** ( $T_A = 25\text{ }^\circ\text{C}$  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	$\mu\text{A}$	V	A	
P4AFC8.5AS-AU	8.5	9.44	10.82	1	10	14.4	27.7	4S8V5
P4AFC9.0AS-AU	9	10	11.5	1	5	15.4	26	4S9V0
P4AFC10AS-AU	10	11.1	12.8	1	5	17	23.5	4S10
P4AFC11AS-AU	11	12.2	14	1	1	18.2	22	4S11
P4AFC12AS-AU	12	13.3	15.3	1	1	19.9	20.1	4S12
P4AFC13AS-AU	13	14.4	16.5	1	1	21.5	18.6	4S13
P4AFC14AS-AU	14	15.6	17.9	1	1	23.2	17.2	4S14
P4AFC15AS-AU	15	16.7	19.2	1	1	24.4	16.4	4S15
P4AFC16AS-AU	16	17.8	20.5	1	1	26	15.3	4S16
P4AFC17AS-AU	17	18.9	21.7	1	1	27.6	14.5	4S17
P4AFC18AS-AU	18	20	23.3	1	1	29.2	13.7	4S18
P4AFC20AS-AU	20	22.2	25.5	1	1	32.4	12.3	4S20
P4AFC22AS-AU	22	24.4	28	1	1	35.5	11.2	4S22
P4AFC24AS-AU	24	26.7	30.7	1	1	38.9	10.3	4S24
P4AFC26AS-AU	26	28.9	33.2	1	1	42.1	9.5	4S26
P4AFC28AS-AU	28	31.1	35.8	1	1	45.4	8.8	4S28
P4AFC30AS-AU	30	33.3	38.3	1	1	48.4	8.3	4S30
P4AFC33AS-AU	33	36.7	42.2	1	1	53.3	7.5	4S33
P4AFC36AS-AU	36	40	46	1	1	58.1	6.9	4S36
P4AFC40AS-AU	40	44.4	51.1	1	1	64.5	6.2	4S40
P4AFC43AS-AU	43	47.8	54.9	1	1	69.4	5.7	4S43
P4AFC45AS-AU	45	50	57.5	1	1	72.7	5.5	4S45
P4AFC48AS-AU	48	53.3	61.3	1	1	77.4	5.2	4S48
P4AFC51AS-AU	51	56.7	65.2	1	1	82.4	4.9	4S51
P4AFC54AS-AU	54	60	69	1	1	87.1	4.6	4S54
P4AFC58AS-AU	58	64.4	74.1	1	1	93.6	4.3	4S58
P4AFC60AS-AU	60	66.7	76.7	1	1	96.8	4.1	4S60
P4AFC64AS-AU	64	71.1	81.8	1	1	103	3.9	4S64
P4AFC70AS-AU	70	77.8	89.5	1	1	113	3.5	4S70
P4AFC75AS-AU	75	83.3	95.8	1	1	121	3.3	4S75
P4AFC78AS-AU	78	86.7	99.7	1	1	126	3.2	4S78
P4AFC85AS-AU	85	94.4	108.2	1	1	137	2.9	4S85
P4AFC90AS-AU	90	100	115.5	1	1	146	2.7	4S90
P4AFC100AS-AU	100	111	128	1	1	162	2.5	4S100
P4AFC110AS-AU	110	122	140.5	1	1	177	2.3	4S110
P4AFC120AS-AU	120	133	153	1	1	193	2	4S120
P4AFC130AS-AU	130	144	165.5	1	1	209	1.9	4S130



## P4AFC8.5AS-AU ~ P4AFC220AS-AU Series

### Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

Part Number	V <sub>RWM</sub> (Note 4)	V <sub>BR</sub>			I <sub>R</sub> @V <sub>RWM</sub>	V <sub>C</sub> @I <sub>PP</sub>		Marking Code
		Min.	Max.	I <sub>T</sub>		Max.		
	V	V	V	mA	uA	V	A	
P4AFC150AS-AU	150	167	192.5	1	1	243	1.6	4S150
P4AFC160AS-AU	160	178	205	1	1	259	1.5	4S160
P4AFC170AS-AU	170	189	217.5	1	1	275	1.4	4S170
P4AFC180AS-AU	180	198	221	1	1	291	1.4	4S180
P4AFC190AS-AU	190	209	233	1	1	307	1.3	4S190
P4AFC200AS-AU	200	220	246	1	1	324	1.2	4S200
P4AFC220AS-AU	220	246	272	1	1	356	1.1	4S220



# P4AFC8.5AS-AU ~ P4AFC220AS-AU Series

## TYPICAL CHARACTERISTIC CURVES

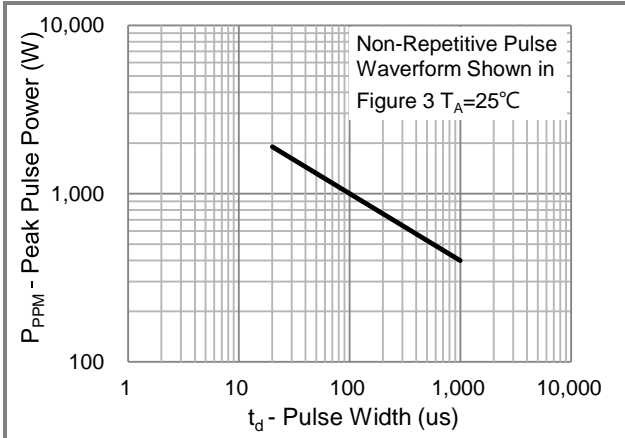


Fig.1 Pulse Power Rating Curve

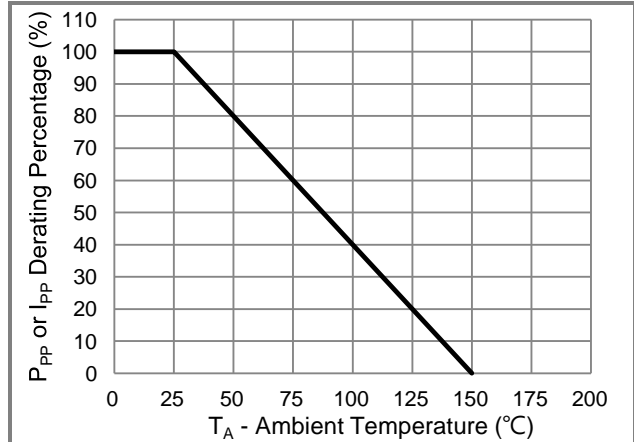


Fig.2 Derating Curve

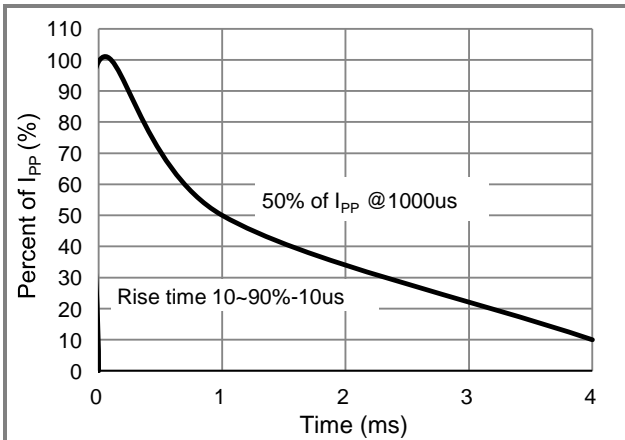


Fig.3 10/1000us Pulse Waveform

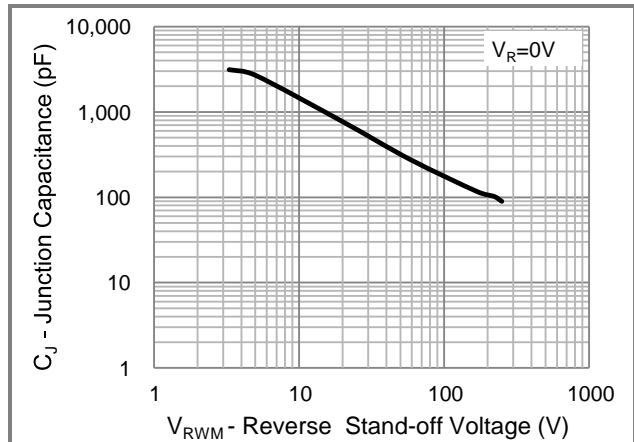


Fig.4 Typical Capacitance

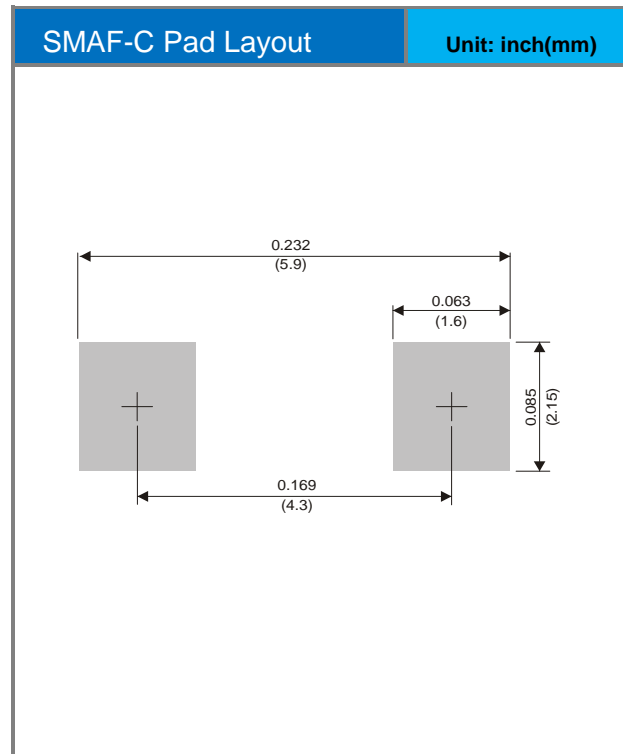
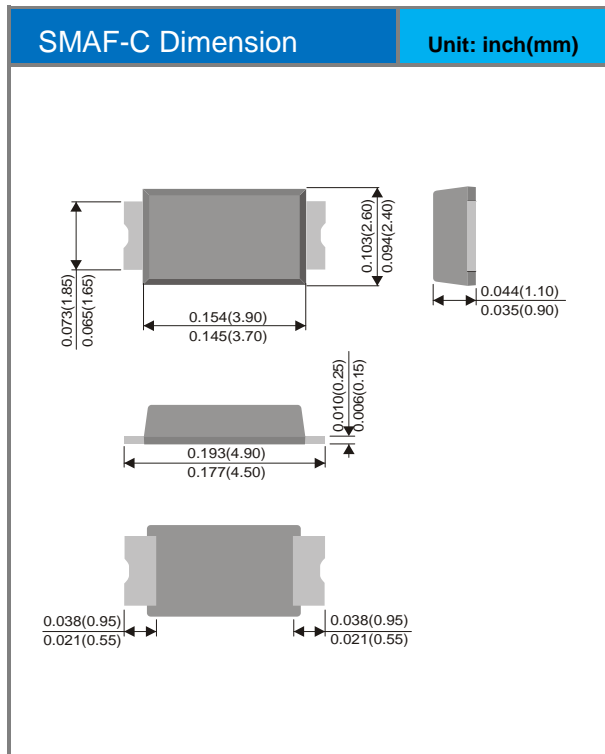


# P4AFC8.5AS-AU ~ P4AFC220AS-AU Series

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
P4AFCxxxAS-AU_R1_000A1	SMAF-C	3K pcs / 7" reel	See Table	Halogen free

## Packaging Information & Mounting Pad Layout





## **P4AFC8.5AS-AU ~ P4AFC220AS-AU Series**

### **Disclaimer**

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.