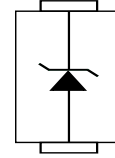


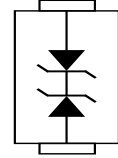
### Description

The SMAF Series are designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Unidirectional



Bi-directional



### Feature

- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

### Mechanical Characteristics

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg/0.00095oz

### Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000s waveform (Note1,Note 2,Fig1).	P <sub>PPM</sub>	600	W
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 3,Fig4).	I <sub>FSM (UNI)</sub>	100	A
Typical Junction capacitance at VR=4V,f=1MHZ	C <sub>J</sub>	390	pF
ESD Voltage Per IEC6100-4-2 Contact Air	V <sub>ESD1</sub> V <sub>ESD2</sub>	±30 ±30	kV
Typical Thermal Resistance Junction to Ambient(Note 2)	R <sub>θJA</sub>	60	°C/W
Operating Junction Temperature and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-55 to +150	°C

**NOTES:**

1. Valid provided that terminals are kept at ambient temperature.
2. Measure with 8.3ms single half sine-wave. Duty cycle=4 pulses per minute maximum.
3. Unidirectional units only.

## Electrical characteristics per line@25°C ( unless otherwise specified)

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage $V_R$ (V)	Breakdown Voltage $V_{BR}@ I_T$ (V)		Test Current $I_T$ (mA)	Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V)	Maximum Peak Pulse Current $I_{PP}$ (A)	Maximum Reverse Leakage $I_R$ @ $V_{RWM}$ ( $\mu$ A)
			MIN	MAX				
P6SMAFJ5.0A	P6SMAFJ5.0CA	5	6.4	7	10	9.2	65.3	800
P6SMAFJ6.0A	P6SMAFJ6.0CA	6	6.67	7.37	10	10.3	58.3	800
P6SMAFJ6.5A	P6SMAFJ6.5CA	6.5	7.22	7.98	10	11.2	53.6	500
P6SMAFJ7.0A	P6SMAFJ7.0CA	7	7.78	8.6	10	12	50	200
P6SMAFJ7.5A	P6SMAFJ7.5CA	7.5	8.33	9.21	1	12.9	46.6	100
P6SMAFJ8.0A	P6SMAFJ8.0CA	8	8.89	9.83	1	13.6	44.2	50
P6SMAFJ8.5A	P6SMAFJ8.5CA	8.5	9.44	10.4	1	14.4	41.7	20
P6SMAFJ9.0A	P6SMAFJ9.0CA	9	10	11.1	1	15.4	39	10
P6SMAFJ10A	P6SMAFJ10CA	10	11.1	12.3	1	17	35.3	5
P6SMAFJ11A	P6SMAFJ11CA	11	12.2	13.5	1	18.2	33	1
P6SMAFJ12A	P6SMAFJ12CA	12	13.3	14.7	1	19.9	30.2	1
P6SMAFJ13A	P6SMAFJ13CA	13	14.4	15.9	1	21.5	28	1
P6SMAFJ14A	P6SMAFJ14CA	14	15.6	17.2	1	23.2	25.9	1
P6SMAFJ15A	P6SMAFJ15CA	15	16.7	18.5	1	24.4	24.6	1
P6SMAFJ16A	P6SMAFJ16CA	16	17.8	19.7	1	26	23.1	1
P6SMAFJ17A	P6SMAFJ17CA	17	18.9	20.9	1	27.6	21.8	1
P6SMAFJ18A	P6SMAFJ18CA	18	20	22.1	1	29.2	20.6	1
P6SMAFJ20A	P6SMAFJ20CA	20	22.2	24.5	1	32.4	18.6	1
P6SMAFJ22A	P6SMAFJ22CA	22	24.4	26.9	1	35.5	16.9	1
P6SMAFJ24A	P6SMAFJ24CA	24	26.7	29.5	1	38.9	15.5	1
P6SMAFJ26A	P6SMAFJ26CA	26	28.9	31.9	1	42.1	14.3	1
P6SMAFJ28A	P6SMAFJ28CA	28	31.1	34.4	1	45.4	13.3	1
P6SMAFJ30A	P6SMAFJ30CA	30	33.3	36.8	1	48.4	12.4	1
P6SMAFJ33A	P6SMAFJ33CA	33	36.7	40.6	1	53.3	11.3	1
P6SMAFJ36A	P6SMAFJ36CA	36	40	44.2	1	58.1	10.4	1
P6SMAFJ40A	P6SMAFJ40CA	40	44.4	49.1	1	64.5	9.3	1
P6SMAFJ43A	P6SMAFJ43CA	43	47.8	52.8	1	69.4	8.7	1

## P6SMAFJ5.0A THRU P6SMAFJ440CA

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage $V_R$ (V)	Breakdown Voltage $V_{BR}@I_T$ (V)		Test Current $I_T$ (mA)	Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V)	Maximum Peak Pulse Current $I_{PP}$ (A)	Maximum Reverse Leakage $I_R$ @ $V_{RWM}$ ( $\mu$ A)
			MIN	MAX				
P6SMAFJ45A	P6SMAFJ45CA	45	50	55.3	1	72.7	8.3	1
P6SMAFJ48A	P6SMAFJ48CA	48	53.3	58.9	1	77.4	7.8	1
P6SMAFJ51A	P6SMAFJ51CA	51	56.7	62.7	1	82.4	7.3	1
P6SMAFJ54A	P6SMAFJ54CA	54	60	66.3	1	87.1	6.9	1
P6SMAFJ58A	P6SMAFJ58CA	58	64.4	71.2	1	93.6	6.5	1
P6SMAFJ60A	P6SMAFJ60CA	60	66.7	73.7	1	96.8	6.2	1
P6SMAFJ64A	P6SMAFJ64CA	64	71.1	78.6	1	103	5.9	1
P6SMAFJ70A	P6SMAFJ70CA	70	77.8	86	1	113	5.3	1
P6SMAFJ75A	P6SMAFJ75CA	75	83.3	92.1	1	121	5.0	1
P6SMAFJ78A	P6SMAFJ78CA	78	86.7	95.8	1	126	4.8	1
P6SMAFJ85A	P6SMAFJ85CA	85	94.4	104	1	137	4.4	1
P6SMAFJ90A	P6SMAFJ90CA	90	100	111	1	146	4.1	1
P6SMAFJ100A	P6SMAFJ100CA	100	111	123	1	162	3.7	1
P6SMAFJ110A	P6SMAFJ110CA	110	122	135	1	177	3.4	1
P6SMAFJ120A	P6SMAFJ120CA	120	133	147	1	193	3.1	1
P6SMAFJ130A	P6SMAFJ130CA	130	144	159	1	209	2.9	1
P6SMAFJ150A	P6SMAFJ150CA	150	167	185	1	243	2.5	1
P6SMAFJ160A	P6SMAFJ160CA	160	178	197	1	259	2.3	1
P6SMAFJ170A	P6SMAFJ170CA	170	189	209	1	275	2.2	1
P6SMAFJ180A	P6SMAFJ180CA	180	201	222	1	292	2.1	1
P6SMAFJ200A	P6SMAFJ200CA	200	224	247	1	324	1.9	1
P6SMAFJ220A	P6SMAFJ220CA	220	246	272	1	356	1.7	1
P6SMAFJ250A	P6SMAFJ250CA	250	279	309	1	405	1.5	1
P6SMAFJ300A	P6SMAFJ300CA	300	335	371	1	486	1.3	1
P6SMAFJ350A	P6SMAFJ350CA	350	391	432	1	567	1.1	1
P6SMAFJ400A	P6SMAFJ400CA	400	447	494	1	648	0.9	1
P6SMAFJ440A	P6SMAFJ440CA	440	492	543	1	713	0.9	1

Typical Characteristics

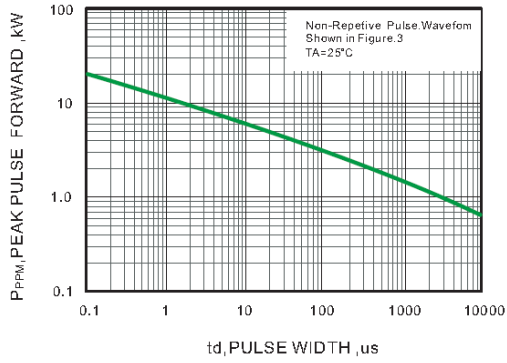


Fig. 1 Peak Pulse Power Rating Curve

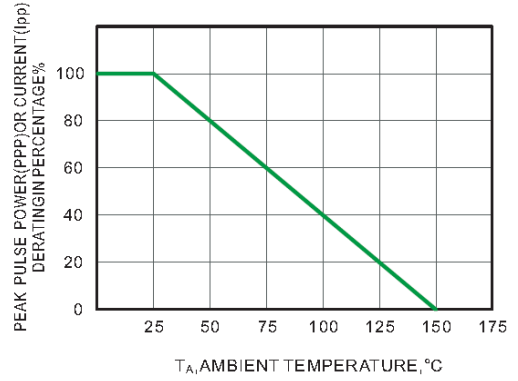


Fig. 2 Forward Current Derating Curve

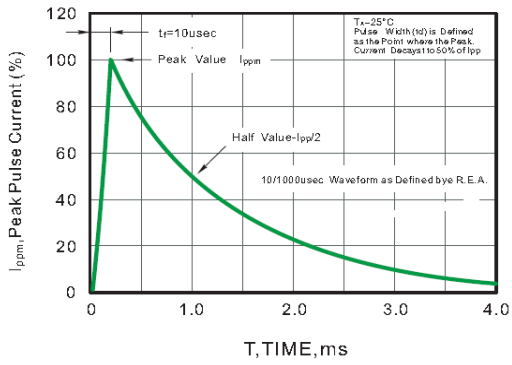


Fig. 3 Pulse Waveform

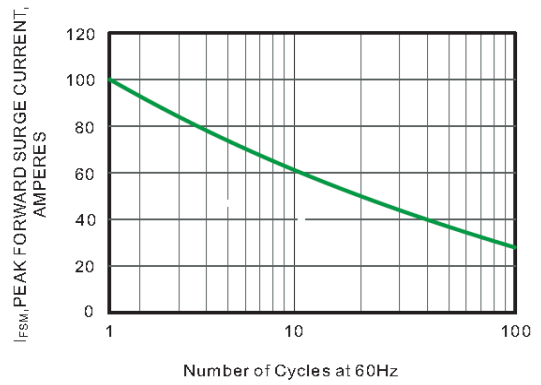
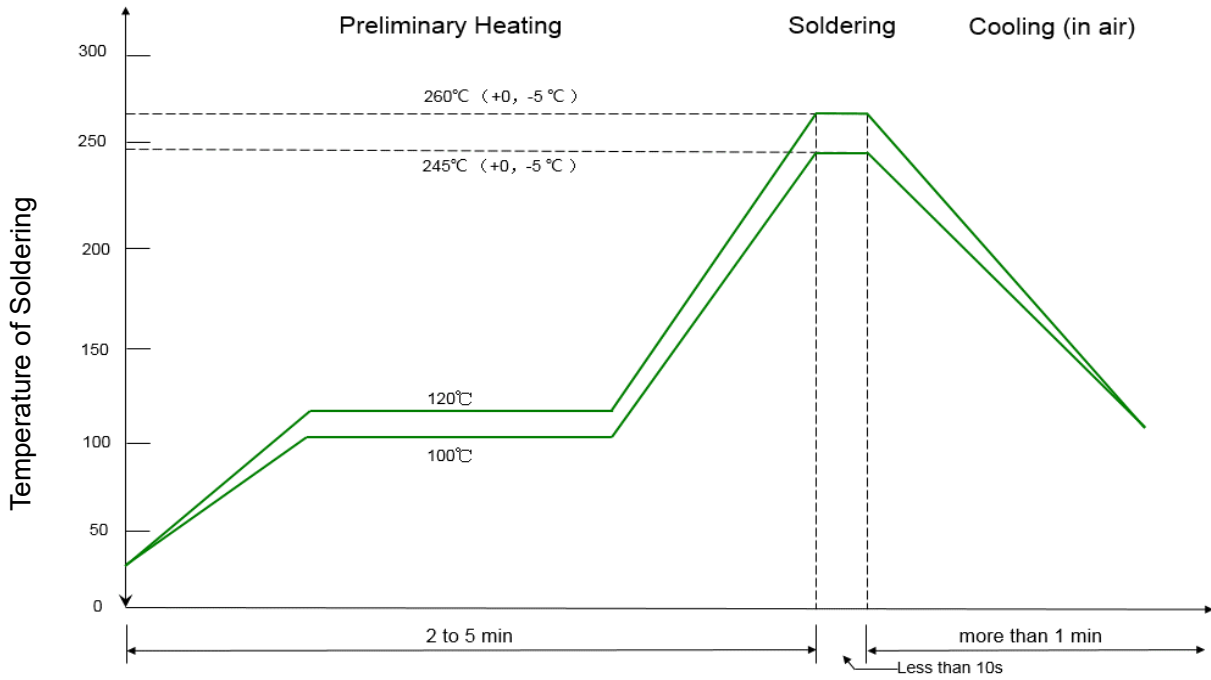


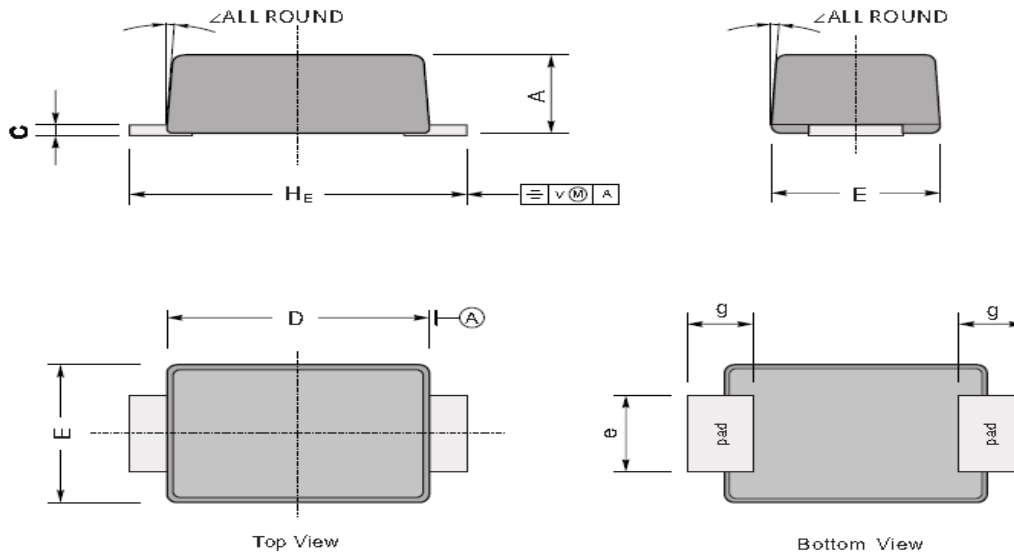
Fig. 4 Maximum Non-Repetitive Peak Forward Surge Current

Solder Reflow Recommendation



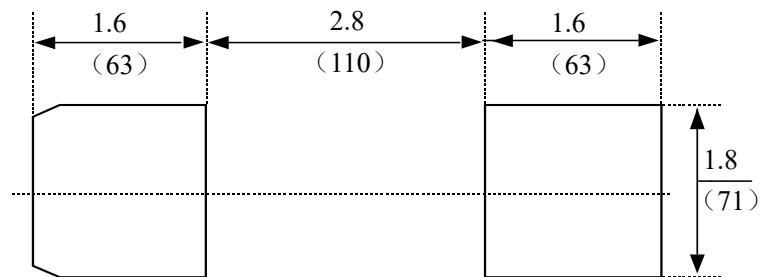
Remark: Pb free for 260°C; Pb for 245°C.

Product dimension (SMAF)



UNIT		A	C	D	E	e	g	H <sub>E</sub>	$\angle$
mm	max	1.3	0.23	3.7	2.7	1.6	1.3	4.9	7°
	min	0.9	0.18	3.3	2.4	1.3	1.0	4.4	
mil	max	51	9.1	146	106	63	51	193	
	min	35	7.1	130	94	51	39	173	

The recommended mounting pad size




Unit:  $\frac{\text{mm}}{(\text{mil})}$

Ordering information

Device	Package	MPQ
P6SMAFJ5.0A - P6SMAFJ440CA	SMAF (Pb-Free)	3000/ Tape & Reel


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