

P4SMAF Series

Surface mount transient voltage suppressor power 400 watts

Stand-Off Voltage: 6.8V~550V

FEATURES

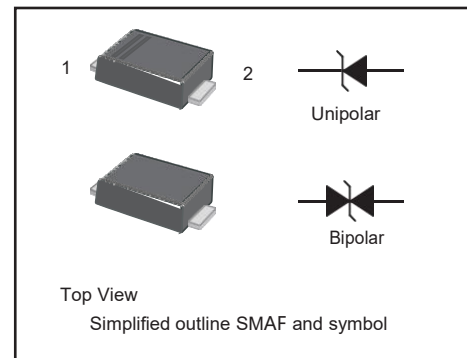
- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

MECHANICAL DATA

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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000us waveform	P_{PPM}	400	W
Peak Forward Surge Current (Note 2, Fig 4)	I_{FSM}	60	A
Peak Pulse Current on 10/1000 us waveform (Note 1, Fig 2)	I_{PPM}	see Table 1	A
Typical Junction capacitance at $V_R=4V$, $f=1MHz$	C_J	390	pF
ESD Voltage per IEC6100-4-2 Contact Air	V_{ESD1} V_{ESD2}	± 8 ± 15	kV
Typical Thermal Resistance Junction to Ambient(Note 2)	$R_{\theta JA}$	120	°C/W
Operating Junction Temperature and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ C$ per Fig. 2.
2. Mounted on FR-4 PCB single-sided copper, mini pad.
3. Peak Forward Surge Current : 8.3ms single half sine-wave Superimposed on rated load (JEDEC method).
4. Peak pulse power waveform is 10/1000 μ S.

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Characteristics at Ta = 25°C

Table 1

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V _{BR} @ I _T						SMAF	
			V _{RRM}	Min	Max	I _T	I _R @ V _{RRM}	V _C @ I _{PP}	I _{PP}	Device Marking Ccode
UNI	BI	V	V	V	mA	μA	V	A	UNI	BI
P4SMAF6.8A	P4SMAF6.8CA	5.8	6.45	7.14	10	1000	10.5	39	6V8A	6V8C
P4SMAF7.5A	P4SMAF7.5CA	6.4	7.13	7.88	10	500	11.3	36.3	7V5A	7V5C
P4SMAF8.2A	P4SMAF8.2CA	7.02	7.79	8.61	10	200	12.1	33.9	8V2A	8V2C
P4SMAF9.1A	P4SMAF9.1CA	7.78	8.65	9.55	1	200	13.4	30.6	9V1A	9V1C
P4SMAF10A	P4SMAF10CA	8.55	9.5	10.5	1	50	14.5	28.3	10A	10C
P4SMAF11A	P4SMAF11CA	9.4	10.5	11.6	1	10	15.6	26.3	11A	11C
P4SMAF12A	P4SMAF12CA	10.2	11.4	12.6	1	5	16.7	24.6	12A	12C
P4SMAF13A	P4SMAF13CA	11.1	12.4	13.7	1	5	18.2	22.5	13A	13C
P4SMAF15A	P4SMAF15CA	12.8	14.3	15.8	1	1	21.2	19.3	15A	15C
P4SMAF16A	P4SMAF16CA	13.6	15.2	16.8	1	1	22.5	18.2	16A	16C
P4SMAF18A	P4SMAF18CA	15.3	17.1	18.9	1	1	25.5	16.1	18A	18C
P4SMAF20A	P4SMAF20CA	17.1	19	21	1	1	27.7	14.8	20A	20C
P4SMAF22A	P4SMAF22CA	18.8	20.9	23.1	1	1	30.6	13.4	22A	22C
P4SMAF24A	P4SMAF24CA	20.5	22.8	25.2	1	1	33.2	12.3	24A	24C
P4SMAF27A	P4SMAF27CA	23.1	25.7	28.4	1	1	37.5	10.9	27A	27C
P4SMAF30A	P4SMAF30CA	25.6	28.5	31.5	1	1	41.4	9.9	30A	30C
P4SMAF33A	P4SMAF33CA	28.2	31.4	34.7	1	1	45.7	9	33A	33C
P4SMAF36A	P4SMAF36CA	30.8	34.2	37.8	1	1	49.9	8.2	36A	36C
P4SMAF39A	P4SMAF39CA	33.3	37.1	41	1	1	53.9	7.6	39A	39C
P4SMAF43A	P4SMAF43CA	36.8	40.9	45.2	1	1	59.3	6.9	43A	43C
P4SMAF47A	P4SMAF47CA	40.2	44.7	49.4	1	1	64.8	6.3	47A	47C
P4SMAF51A	P4SMAF51CA	43.6	48.5	53.6	1	1	70.1	5.8	51A	51C
P4SMAF56A	P4SMAF56CA	47.8	53.2	58.8	1	1	77	5.3	56A	56C
P4SMAF62A	P4SMAF62CA	53	58.9	65.1	1	1	85	4.8	62A	62C
P4SMAF68A	P4SMAF68CA	58.1	64.6	71.4	1	1	92	4.5	68A	68C
P4SMAF75A	P4SMAF75CA	64.1	71.3	78.8	1	1	103	4	75A	75C
P4SMAF82A	P4SMAF82CA	70.1	77.9	86.1	1	1	113	3.6	82A	82C
P4SMAF91A	P4SMAF91CA	77.8	86.5	95.5	1	1	125	3.3	91A	91C
P4SMAF100A	P4SMAF100CA	85.5	95	105	1	1	137	3	100A	100C
P4SMAF110A	P4SMAF110CA	94	105	116	1	1	152	2.7	110A	110C
P4SMAF120A	P4SMAF120CA	102	114	126	1	1	165	2.5	120A	120C
P4SMAF130A	P4SMAF130CA	111	124	137	1	1	179	2.3	130A	130C
P4SMAF150A	P4SMAF150CA	128	143	158	1	1	207	2	150A	150C
P4SMAF160A	P4SMAF160CA	136	152	168	1	1	219	1.9	160A	160C
P4SMAF170A	P4SMAF170CA	145	162	179	1	1	234	1.8	170A	170C
P4SMAF180A	P4SMAF180CA	154	171	189	1	1	246	1.7	180A	180C
P4SMAF200A	P4SMAF200CA	171	190	210	1	1	274	1.5	200A	200C
P4SMAF220A	P4SMAF220CA	185	209	231	1	1	328	1.3	220A	220C
P4SMAF250A	P4SMAF250CA	214	237	263	1	1	344	1.2	250A	250C
P4SMAF300A	P4SMAF300CA	256	285	315	1	1	414	1	300A	300C
P4SMAF350A	P4SMAF350CA	300	332	368	1	1	482	0.9	350A	350C
P4SMAF400A	P4SMAF400CA	342	380	420	1	1	548	0.8	400A	400C
P4SMAF440A	P4SMAF440CA	376	418	462	1	1	602	0.7	440A	440C
P4SMAF480A	P4SMAF480CA	408	456	504	1	1	658	0.6	480A	480C
P4SMAF510A	P4SMAF510CA	434	485	535	1	1	698	0.6	510A	510C
P4SMAF530A	P4SMAF530CA	451	503.5	556.5	1	1	725	0.6	530A	530C
P4SMAF540A	P4SMAF540CA	460	513	567	1	1	740	0.5	540A	540C
P4SMAF550A	P4SMAF550CA	468	522.5	577.5	1	1	760	0.5	550A	550C

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Fig.1 Peak Pulse Power Rating Curve

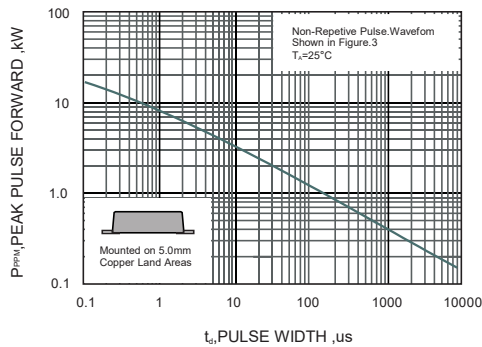


Fig.2 Forward Current Derating Curve

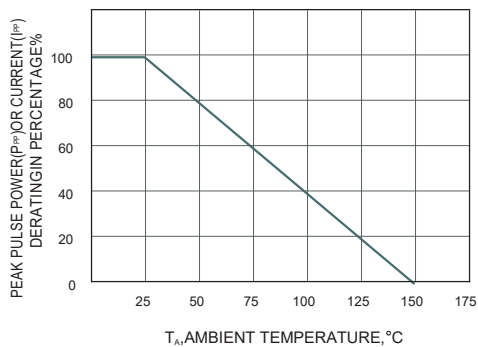


Fig.3 Pulse Waveform

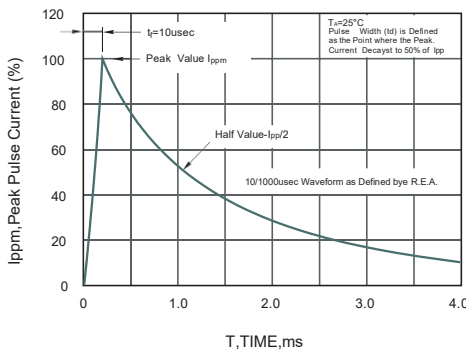
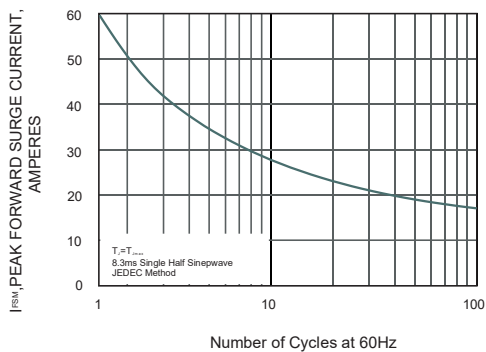


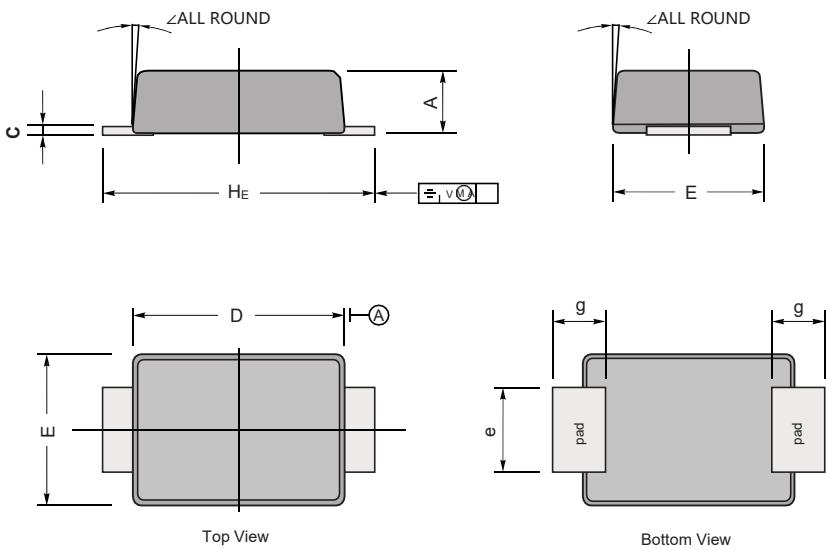
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMAF



UNIT		A	C	D	E	e	g	H _E	$\angle$
mm	max	1.2	0.20	3.7	2.7	1.6	1.2	4.9	7°
	min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	
mil	max	43	7.9	146	106	63	47	193	
	min	35	4.7	130	94	51	31	173	

The recommended mounting pad size

