

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

SMAFJ Series

Product specification

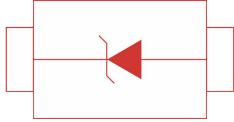
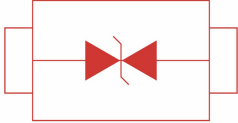
Features

- 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

Reference News

PACKAGE OUTLINE	Unipolar
 1.Cathode 2.Anode	
PACKAGE OUTLINE	Bipolar
	

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 VR=4V, f= 1 MHz	C_J	390	pF
ESD Voltage per IEC6100-4-2 Contact Air	V_{ESD1}	± 8	kV
	V_{ESD2}	± 15	
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 ~ +175	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ 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 10/1000μS.

Characteristics at Ta = 25°C

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V _{BR} @ I _T						SMAF	
					I _T	I _R @ V _{RRM}	V _C @ I _{PP}	I _{PP}	Device Marking Ccode	
			V _{RRM}	Min						
UNI	BI	V	V	V	mA	μA	V	A	UNI	BI
SMAFJ5 .0A-MS	SMAFJ5 .0CA-MS	5	6.4	7	10	800	9.2	43.5	AE	WE
SMAFJ6 .0A-MS	SMAFJ6 .0CA-MS	6	6.67	7.37	10	800	10.3	38.8	AG	WG
SMAFJ6 .5A-MS	SMAFJ6 .5CA-MS	6.5	7.22	7.98	10	500	11.2	35.7	AK	WK
SMAFJ7 .0A-MS	SMAFJ7 .0CA-MS	7	7.78	8.6	10	200	12	33.3	AM	WM
SMAFJ7 .5A-MS	SMAFJ7 .5CA-MS	7.5	8.33	9.21	1	100	12.9	31	AP	WP
SMAFJ8 .0A-MS	SMAFJ8 .0CA-MS	8	8.89	9.83	1	50	13.6	29.4	AR	WR
SMAFJ8 .5A-MS	SMAFJ8 .5CA-MS	8.5	9.44	10.4	1	20	14.4	27.8	AT	WT
SMAFJ9 .0A-MS	SMAFJ9 .0CA-MS	9	10	11.1	1	10	15.4	26	AV	WV
SMAFJ10A-MS	SMAFJ10CA-MS	10	11.1	12.3	1	5	17	23.5	AX	WX
SMAFJ11A-MS	SMAFJ11CA-MS	11	12.2	13.5	1	1	18.2	22	AZ	WZ
SMAFJ12A-MS	SMAFJ12CA-MS	12	13.3	14.7	1	1	19.9	20.1	BE	XE
SMAFJ13A-MS	SMAFJ13CA-MS	13	14.4	15.9	1	1	21.5	18.6	BG	XG
SMAFJ14A-MS	SMAFJ14CA-MS	14	15.6	17.2	1	1	23.2	17.2	BK	XK
SMAFJ15A-MS	SMAFJ15CA-MS	15	16.7	18.5	1	1	24.4	16.4	BM	XM
SMAFJ16A-MS	SMAFJ16CA-MS	16	17.8	19.7	1	1	26	15.4	BP	XP
SMAFJ17A-MS	SMAFJ17CA-MS	17	18.9	20.9	1	1	27.6	14.5	BR	XR
SMAFJ18A-MS	SMAFJ18CA-MS	18	20	22.1	1	1	29.2	13.7	BT	XT
SMAFJ20A-MS	SMAFJ20CA-MS	20	22.2	24.5	1	1	32.4	12.3	BV	XV
SMAFJ22A-MS	SMAFJ22CA-MS	22	24.4	26.9	1	1	35.5	11.3	BX	XX
SMAFJ24A-MS	SMAFJ24CA-MS	24	26.7	29.5	1	1	38.9	10.3	BZ	XZ
SMAFJ26A-MS	SMAFJ26CA-MS	26	28.9	31.9	1	1	42.1	9.5	CE	YE
SMAFJ28A-MS	SMAFJ28CA-MS	28	31.1	34.4	1	1	45.4	8.8	CG	YG
SMAFJ30A-MS	SMAFJ30CA-MS	30	33.3	36.8	1	1	48.4	8.3	CK	YK
SMAFJ33A-MS	SMAFJ33CA-MS	33	36.7	40.6	1	1	53.3	7.5	CM	YM
SMAFJ36A-MS	SMAFJ36CA-MS	36	40	44.2	1	1	58.1	6.9	CP	YP
SMAFJ40A-MS	SMAFJ40CA-MS	40	44.4	49.1	1	1	64.5	6.2	CR	YR
SMAFJ43A-MS	SMAFJ43CA-MS	43	47.8	52.8	1	1	69.4	5.8	CT	YT
SMAFJ45A-MS	SMAFJ45CA-MS	45	50	55.3	1	1	72.7	5.5	CV	YV
SMAFJ48A-MS	SMAFJ48CA-MS	48	53.3	58.9	1	1	77.4	5.2	CX	YX
SMAFJ51A-MS	SMAFJ51CA-MS	51	56.7	62.7	1	1	82.4	4.9	CZ	YZ
SMAFJ54A-MS	SMAFJ54CA-MS	54	60	66.3	1	1	87.1	4.6	RE	ZE
SMAFJ58A-MS	SMAFJ58CA-MS	58	64.4	71.2	1	1	93.6	4.3	RG	ZG
SMAFJ60A-MS	SMAFJ60CA-MS	60	66.7	73.7	1	1	96.8	4.1	RK	ZK
SMAFJ64A-MS	SMAFJ64CA-MS	64	71.1	78.6	1	1	103	3.9	RM	ZM
SMAFJ70A-MS	SMAFJ70CA-MS	70	77.8	86	1	1	113	3.5	RP	ZP
SMAFJ75A-MS	SMAFJ75CA-MS	75	83.3	92.1	1	1	121	3.3	RR	ZR
SMAFJ78A-MS	SMAFJ78CA-MS	78	86.7	95.8	1	1	126	3.2	RT	ZT
SMAFJ85A-MS	SMAFJ85CA-MS	85	94.4	104	1	1	137	2.9	RV	ZV
SMAFJ90A-MS	SMAFJ90CA-MS	90	100	111	1	1	146	2.7	RX	ZX
SMAFJ100A-MS	SMAFJ100CA-MS	100	111	123	1	1	162	2.5	RZ	ZZ
SMAFJ110A-MS	SMAFJ110CA-MS	110	122	135	1	1	177	2.3	SE	VE
SMAFJ120A-MS	SMAFJ120CA-MS	120	133	147	1	1	193	2.1	SG	VG
SMAFJ130A-MS	SMAFJ130CA-MS	130	144	159	1	1	209	1.9	SK	VK
SMAFJ150A-MS	SMAFJ150CA-MS	150	167	185	1	1	243	1.6	SM	VM
SMAFJ160A-MS	SMAFJ160CA-MS	160	178	197	1	1	259	1.5	SP	VP
SMAFJ170A-MS	SMAFJ170CA-MS	170	189	209	1	1	275	1.5	SR	VR
SMAFJ180A-MS	SMAFJ180CA-MS	180	201	222	1	1	292	1.4	ST	VT
SMAFJ200A-MS	SMAFJ200CA-MS	200	224	247	1	1	324	1.2	SV	VV
SMAFJ220A-MS	SMAFJ220CA-MS	220	246	272	1	1	356	1.1	SX	VX
SMAFJ250A-MS	SMAFJ250CA-MS	250	279	309	1	1	405	1	SZ	VZ
SMAFJ300A-MS	SMAFJ300CA-MS	300	335	371	1	1	486	0.8	TE	UE
SMAFJ350A-MS	SMAFJ350CA-MS	350	391	432	1	1	567	0.7	TG	UG
SMAFJ400A-MS	SMAFJ400CA-MS	400	447	494	1	1	648	0.6	TK	UK
SMAFJ440A-MS	SMAFJ440CA-MS	440	492	543	1	1	713	0.6	TM	UM

Fig.1 Peak Pulse Power Rating Curve

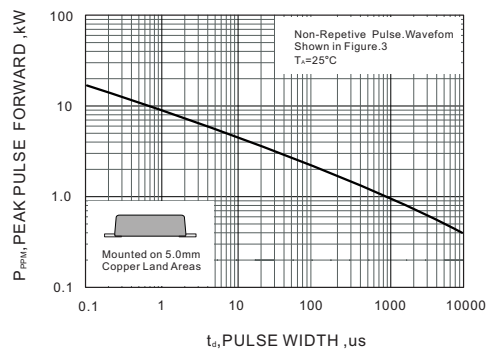


Fig.2 Forward Current Derating Curve

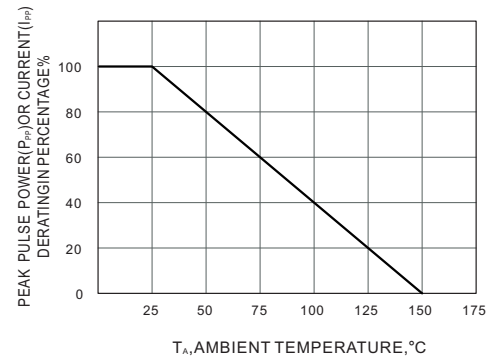


Fig.3 Pulse Waveform

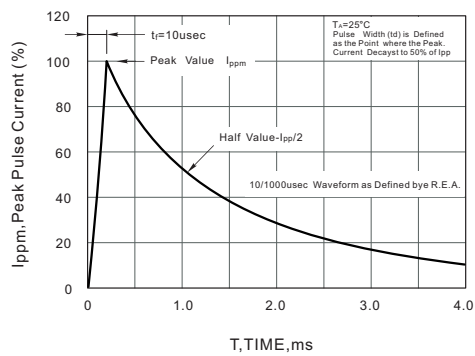
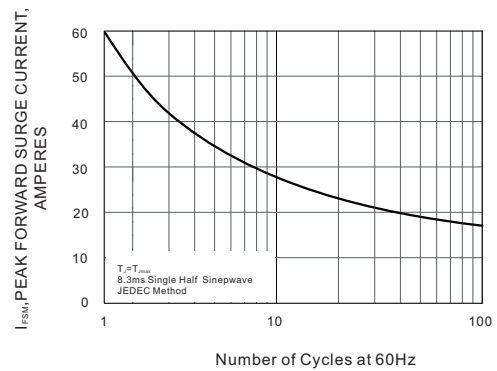
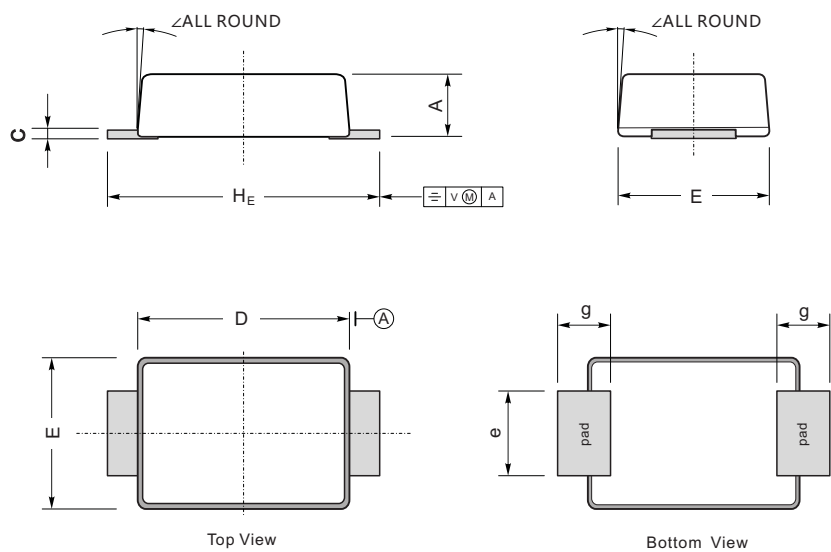


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



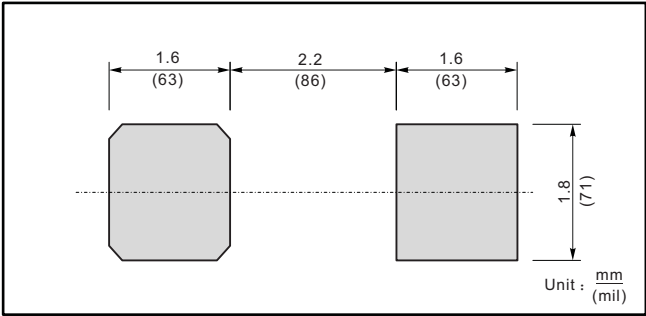
SMAF PACKAGE OUTLINE

Plastic surface mounted package; 2 leads



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



Order information

Orderable Device	Package	Packing Option
SMAFJ Series	SMAF	3000PCS

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