

400Watts Transient Voltage Suppressor SMAFJ5.0(C)A - SMAFJ350(C)A

Features

- Glass passivated chip
- 400 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard



SMAF



Mechanical Characteristics

- Case:SMAF Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Computers & Consumer Electronics
- Industrial Electronics

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak power dissipation with a 10/1000 us waveform ⁽¹⁾	P _{PPM}	400	W
Peak pulse current with a 10/1000 us waveform ⁽¹⁾	I _{PPM}	See Next Table	A
Power dissipation on infinite heatsink at TA = 50 °C	P _D	3.0	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only ⁽²⁾	I _{FSM}	40	A
Typical thermal resistance junction to lead	R _{θJL}	30	°C/W
Typical thermal resistance junction to ambient	R _{θJA}	120	°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

1) Non-repetitive current pulse per Fig.5 and derated above TA= 25 °C per Fig.1 ;

2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;

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Electrical Characteristics

Part Number		Marking		Reverse Stand Off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage	Maximum Peak Pulse Current	Maximum Reverse Leakage
Uni	Bi	Uni	Bi	V_R (V)	V_{BR} (V) @ I_T		I_T (mA)	V_C (V) @ I_{PP}	I_{PP} (A)	I_R (μ A) @ V_R
					Min.	Max.				
SMAFJ5.0A	SMAFJ5.0CA	AE	WE	5	6.4	7	10	9.2	43.5	800
SMAFJ6.0A	SMAFJ6.0CA	AG	WG	6	6.67	7.37	10	10.3	38.8	800
SMAFJ6.5A	SMAFJ6.5CA	AK	WK	6.5	7.22	7.98	10	11.2	35.7	500
SMAFJ7.0A	SMAFJ7.0CA	AM	WM	7	7.78	8.6	10	12	33.3	200
SMAFJ7.5A	SMAFJ7.5CA	AP	WP	7.5	8.33	9.21	1	12.9	31	100
SMAFJ8.0A	SMAFJ8.0CA	AR	WR	8	8.89	9.83	1	13.6	29.4	50
SMAFJ8.5A	SMAFJ8.5CA	AT	WT	8.5	9.44	10.4	1	14.4	27.8	20
SMAFJ9.0A	SMAFJ9.0CA	AV	WV	9	10	11.1	1	15.4	26	10
SMAFJ10A	SMAFJ10CA	AX	WX	10	11.1	12.3	1	17	23.5	5
SMAFJ11A	SMAFJ11CA	AZ	WZ	11	12.2	13.5	1	18.2	22	1
SMAFJ12A	SMAFJ12CA	BE	XE	12	13.3	14.7	1	19.9	20.1	1
SMAFJ13A	SMAFJ13CA	BG	XG	13	14.4	15.9	1	21.5	18.6	1
SMAFJ14A	SMAFJ14CA	BK	XK	14	15.6	17.2	1	23.2	17.2	1
SMAFJ15A	SMAFJ15CA	BM	XM	15	16.7	18.5	1	24.4	16.4	1
SMAFJ16A	SMAFJ16CA	BP	XP	16	17.8	19.7	1	26	15.4	1
SMAFJ17A	SMAFJ17CA	BR	XR	17	18.9	20.9	1	27.6	14.5	1
SMAFJ18A	SMAFJ18CA	BT	XT	18	20	22.1	1	29.2	13.7	1
SMAFJ20A	SMAFJ20CA	BV	XV	20	22.2	24.5	1	32.4	12.3	1
SMAFJ22A	SMAFJ22CA	BX	XX	22	24.4	26.9	1	35.5	11.3	1
SMAFJ24A	SMAFJ24CA	BZ	XZ	24	26.7	29.5	1	38.9	10.3	1
SMAFJ26A	SMAFJ26CA	CE	YE	26	28.9	31.9	1	42.1	9.5	1
SMAFJ28A	SMAFJ28CA	CG	YG	28	31.1	34.4	1	45.4	8.8	1
SMAFJ30A	SMAFJ30CA	CK	YK	30	33.5	36.8	1	48.4	8.3	1
SMAFJ33A	SMAFJ33CA	CM	YM	33	36.7	40.6	1	53.3	7.5	1
SMAFJ36A	SMAFJ36CA	CP	YP	36	40	44.2	1	58.1	6.9	1
SMAFJ40A	SMAFJ40CA	CR	YR	40	44.4	49.1	1	64.5	6.2	1
SMAFJ43A	SMAFJ43CA	CT	YT	43	47.8	52.8	1	69.4	5.8	1
SMAFJ45A	SMAFJ45CA	CV	YV	45	50	55.3	1	72.7	5.5	1
SMAFJ48A	SMAFJ48CA	CX	YX	48	53.3	58.9	1	77.4	5.2	1
SMAFJ51A	SMAFJ51CA	CZ	YZ	51	56.7	62.7	1	82.4	4.9	1
SMAFJ54A	SMAFJ54CA	RE	ZE	54	60	66.3	1	87.1	4.6	1
SMAFJ58A	SMAFJ58CA	RG	ZG	58	64.4	71.2	1	93.6	4.3	1
SMAFJ60A	SMAFJ60CA	RK	ZK	60	66.7	73.7	1	96.8	4.1	1
SMAFJ64A	SMAFJ64CA	RM	ZM	64	71.1	78.6	1	103	3.9	1
SMAFJ70A	SMAFJ70CA	RP	ZP	70	77.8	86	1	113	3.5	1
SMAFJ75A	SMAFJ75CA	RR	ZR	75	83.3	92.1	1	121	3.3	1
SMAFJ78A	SMAFJ78CA	RT	ZT	78	86.7	95.8	1	126	3.2	1
SMAFJ85A	SMAFJ85CA	RV	ZV	85	94.4	104	1	137	2.9	1
SMAFJ90A	SMAFJ90CA	RX	ZX	90	100	111	1	146	2.7	1
SMAFJ100A	SMAFJ100CA	RZ	ZZ	100	111	123	1	162	2.5	1

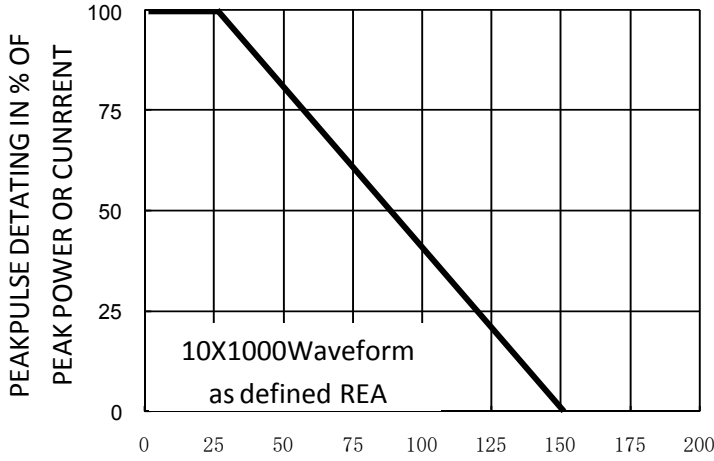
400Watts
Transient Voltage Suppressor
SMAFJ5.0(C)A - SMAFJ350(C)A

Electrical Characteristics (continued)

Part Number		Marking		Reverse Stand Off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage	Maximum Peak Pulse Current	Maximum Reverse Leakage
Uni	Bi	Uni	Bi	V_R (V)	V_{BR} (V) @ I_T		I_T (mA)	V_C (V) @ I_{PP}	I_{PP} (A)	I_R (μ A) @ V_R
					Min.	Max.				
SMAFJ110A	SMAFJ110CA	SE	VE	110	122	135	1	177	2.3	1
SMAFJ120A	SMAFJ120CA	SG	VG	120	133	147	1	193	2.1	1
SMAFJ130A	SMAFJ130CA	SK	VK	130	144	159	1	209	1.9	1
SMAFJ150A	SMAFJ150CA	SM	VM	150	167	185	1	243	1.6	1
SMAFJ160A	SMAFJ160CA	SP	VP	160	178	197	1	259	1.5	1
SMAFJ170A	SMAFJ170CA	SR	VR	170	189	209	1	275	1.5	1
SMAFJ180A	SMAFJ180CA	ST	VT	180	201	222	1	292	1.4	1
SMAFJ190A	SMAFJ190CA	SU	YU	190	209	243	1	308	1.3	1
SMAFJ200A	SMAFJ200CA	SV	VV	200	224	247	1	324	1.2	1
SMAFJ210A	SMAFJ210CA	SW	YW	210	231	268	1	340	1.2	1
SMAFJ220A	SMAFJ220CA	GX	VX	220	246	272	1	356	1.1	1
SMAFJ250A	SMAFJ250CA	SZ	VZ	250	279	309	1	405	1	1
SMAFJ300A	SMAFJ300CA	TE	UE	300	335	371	1	486	0.8	1
SMAJF350A		TG		350	391	432	1	567	0.7	1

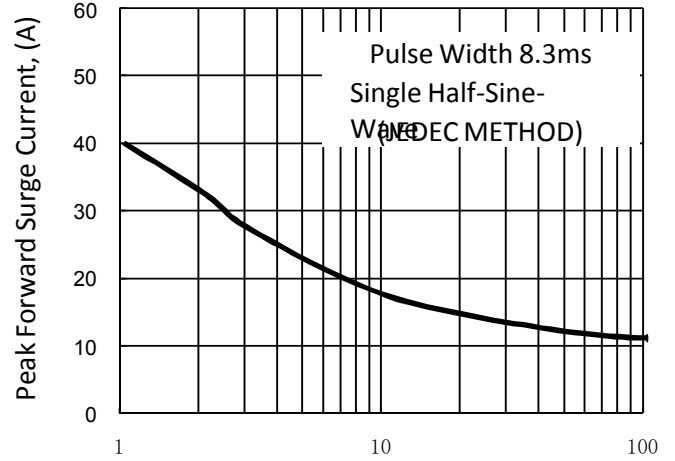
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Ratings and Characteristics Curves (TA=25°C unless otherwise noted)



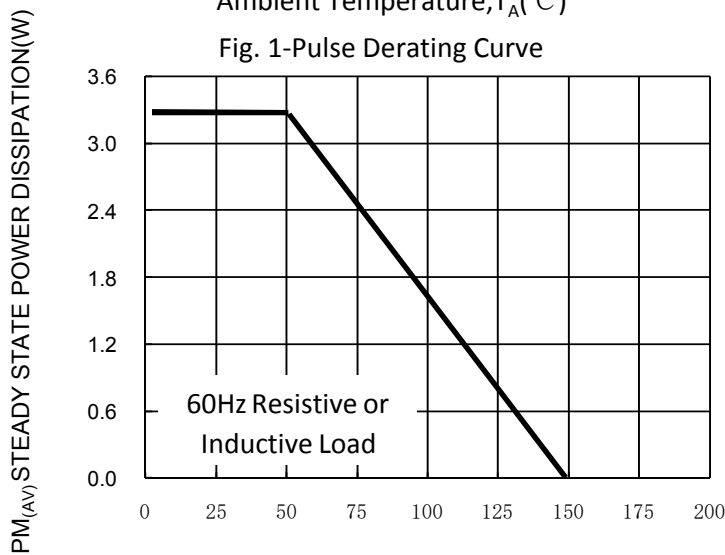
Ambient Temperature, T_A (°C)

Fig. 1-Pulse Derating Curve



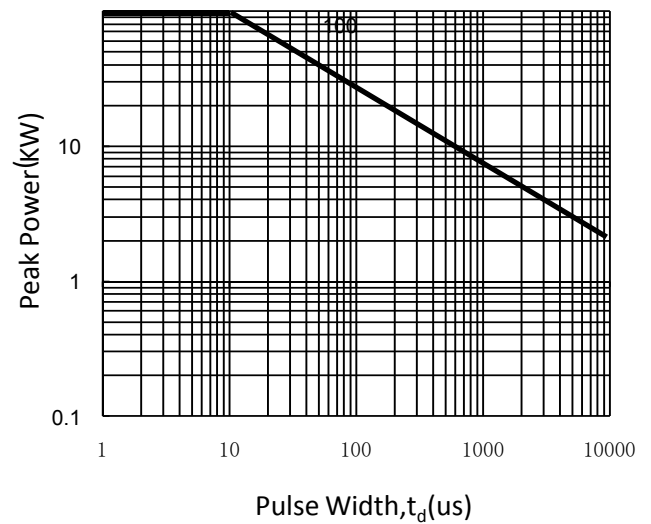
Number of Cycles at 60 Hz

Fig. 2-Maximum Non-Repetitive Surge Current



Ambient Temperature, T_A (°C)

Fig. 3-Steady State Power Derating



Pulse Width, t_d (us)

Fig. 4-Peak Pulse Power Rating Curve

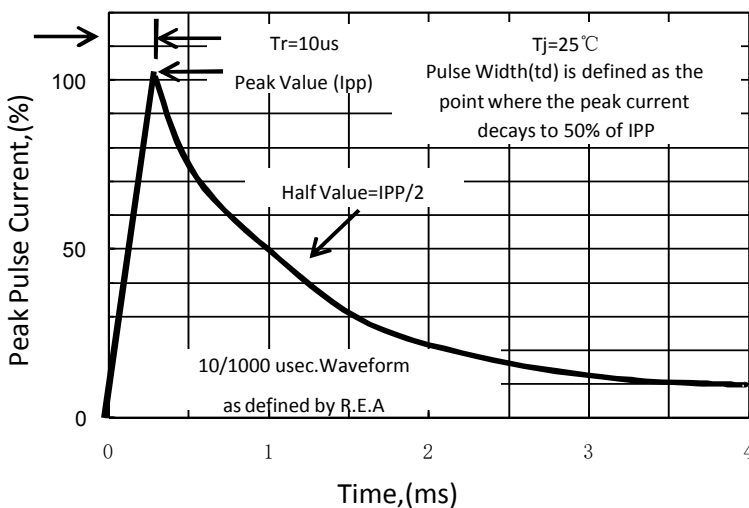


Fig. 5-Pulse Waveform

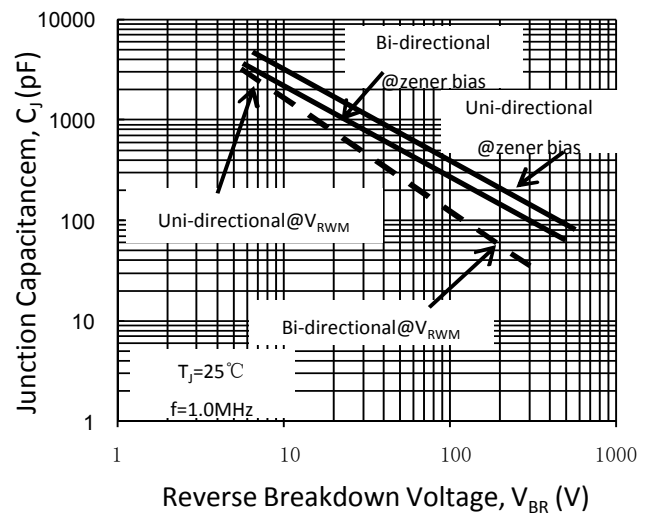
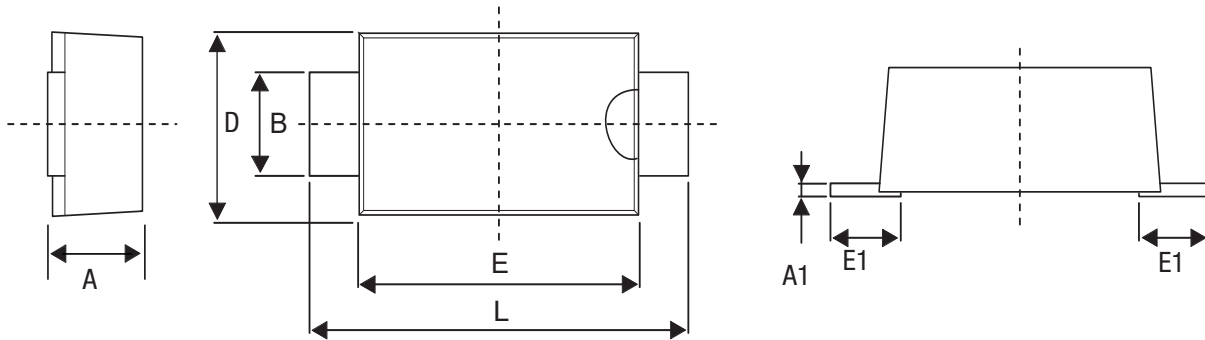


Fig. 6-Typical Junction Capacitance

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Dimension (Unit: mm)



A		A1		B		E		E1		D		L	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1.00	1.40	0.10	0.25	1.30	1.60	3.30	3.70	0.60	1.20	2.40	2.80	4.35	4.85

Packaging: 5,000/Tape & Reel

Part Marking System

