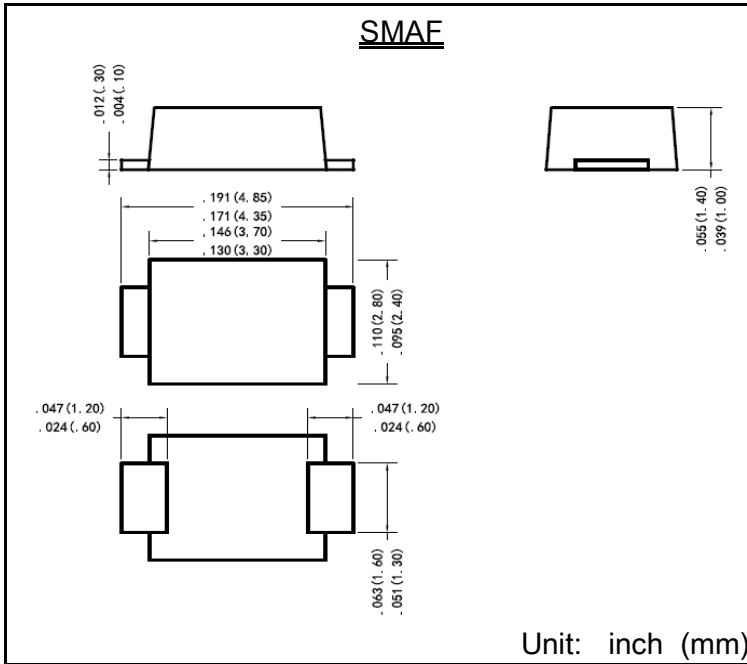




# SMAFJxx(C)A Series

Surface Mount Transient Voltage Suppressor Rectifiers  
 Reverse Voltage 5.0 ~ 550 V  
 400 Watt Peak Pulse Power



## 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

## Mechanical Data

- 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

Maximum Ratings & Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform <sup>(1)</sup>	$P_{PP}$	400	W
Peak pulse current with a 10/1000 us waveform <sup>(1)</sup>	$I_{PP}$	See Next Table	A
Power dissipation on infinite heatsink at $T_A = 50\text{ }^\circ\text{C}$	$P_D$	3.3	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only <sup>(2)</sup>	$I_{FSM}$	40	A
Typical thermal resistance junction to lead	$R_{\theta JL}$	30	$^\circ\text{C/W}$
Typical thermal resistance junction to ambient	$R_{\theta JA}$	120	$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

Note:

- 1) Non-repetitive current pulse per Fig.5 and derated above  $T_A = 25\text{ }^\circ\text{C}$  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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Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Clamping Voltage @ $I_{PP}$	Max. Peak Pulse Current	Max. Reverse Leakage @ $V_{RWM}$
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_{C,MAX}(V)$	$I_{PP}(A)$	$I_R(\mu A)$
SMAFJ5.0A	SMAFJ5.0CA	AE	WE	5.0	6.40	7.00	10	9.2	43.50	800
SMAFJ6.0A	SMAFJ6.0CA	AG	WG	6.0	6.67	7.37	10	10.3	38.80	800
SMAFJ6.5A	SMAFJ6.5CA	AK	WK	6.5	7.22	7.98	10	11.2	35.70	500
SMAFJ7.0A	SMAFJ7.0CA	AM	WM	7.0	7.78	8.60	10	12.0	33.30	200
SMAFJ7.5A	SMAFJ7.5CA	AP	WP	7.5	8.33	9.21	1	12.9	31.00	100
SMAFJ8.0A	SMAFJ8.0CA	AR	WR	8.0	8.89	9.83	1	13.6	29.40	50
SMAFJ8.5A	SMAFJ8.5CA	AT	WT	8.5	9.44	10.40	1	14.4	27.80	20
SMAFJ9.0A	SMAFJ9.0CA	AV	WV	9.0	10.00	11.10	1	15.4	26.00	10
SMAFJ10A	SMAFJ10CA	AX	WX	10.0	11.10	12.30	1	17.0	23.50	5
SMAFJ11A	SMAFJ11CA	AZ	WZ	11.0	12.20	13.50	1	18.2	22.00	1
SMAFJ12A	SMAFJ12CA	BE	XE	12.0	13.30	14.70	1	19.9	20.10	1
SMAFJ13A	SMAFJ13CA	BG	XG	13.0	14.40	15.90	1	21.5	18.60	1
SMAFJ14A	SMAFJ14CA	BK	XK	14.0	15.60	17.20	1	23.2	17.20	1
SMAFJ15A	SMAFJ15CA	BM	XM	15.0	16.70	18.50	1	24.4	16.40	1
SMAFJ16A	SMAFJ16CA	BP	XP	16.0	17.80	19.70	1	26.0	15.40	1
SMAFJ17A	SMAFJ17CA	BR	XR	17.0	18.90	20.90	1	27.6	14.50	1
SMAFJ18A	SMAFJ18CA	BT	XT	18.0	20.00	22.10	1	29.2	13.70	1
SMAFJ20A	SMAFJ20CA	BV	XV	20.0	22.20	24.50	1	32.4	12.30	1
SMAFJ22A	SMAFJ22CA	BX	XX	22.0	24.40	26.90	1	35.5	11.30	1
SMAFJ24A	SMAFJ24CA	BZ	XZ	24.0	26.70	29.50	1	38.9	10.30	1
SMAFJ26A	SMAFJ26CA	CE	YE	26.0	28.90	31.90	1	42.1	9.50	1
SMAFJ28A	SMAFJ28CA	CG	YG	28.0	31.10	34.40	1	45.4	8.80	1
SMAFJ30A	SMAFJ30CA	CK	YK	30.0	33.50	36.80	1	48.4	8.30	1
SMAFJ33A	SMAFJ33CA	CM	YM	33.0	36.70	40.60	1	53.3	7.50	1
SMAFJ36A	SMAFJ36CA	CP	YP	36.0	40.00	44.20	1	58.1	6.90	1
SMAFJ40A	SMAFJ40CA	CR	YR	40.0	44.40	49.10	1	64.5	6.20	1
SMAFJ43A	SMAFJ43CA	CT	YT	43.0	47.80	52.80	1	69.4	5.80	1
SMAFJ45A	SMAFJ45CA	CV	YV	45.0	50.00	55.30	1	72.7	5.50	1
SMAFJ48A	SMAFJ48CA	CX	YX	48.0	53.30	58.90	1	77.4	5.20	1
SMAFJ51A	SMAFJ51CA	CZ	YZ	51.0	56.70	62.70	1	82.4	4.90	1
SMAFJ54A	SMAFJ54CA	RE	ZE	54.0	60.00	66.30	1	87.1	4.60	1
SMAFJ58A	SMAFJ58CA	RG	ZG	58.0	64.40	71.20	1	93.6	4.30	1
SMAFJ60A	SMAFJ60CA	RK	ZK	60.0	66.70	73.70	1	96.8	4.10	1
SMAFJ64A	SMAFJ64CA	RM	ZM	64.0	71.10	78.60	1	103.0	3.90	1
SMAFJ70A	SMAFJ70CA	RP	ZP	70.0	77.80	86.00	1	113.0	3.50	1
SMAFJ75A	SMAFJ75CA	RR	ZR	75.0	83.30	92.10	1	121.0	3.30	1
SMAFJ78A	SMAFJ78CA	RT	ZT	78.0	86.70	95.80	1	126.0	3.20	1
SMAFJ85A	SMAFJ85CA	RV	ZV	85.0	94.40	104.0	1	137.0	2.90	1
SMAFJ90A	SMAFJ90CA	RX	ZX	90.0	100.0	111.0	1	146.0	2.70	1
SMAFJ100A	SMAFJ100CA	RZ	ZZ	100.0	111.0	123.0	1	162.0	2.50	1
SMAFJ110A	SMAFJ110CA	SE	VE	110.0	122.0	135.0	1	177.0	2.30	1
SMAFJ120A	SMAFJ120CA	SG	VG	120.0	133.0	147.0	1	193.0	2.10	1
SMAFJ130A	SMAFJ130CA	SK	VK	130.0	144.0	159.0	1	209.0	1.90	1
SMAFJ150A	SMAFJ150CA	SM	VM	150.0	167.0	185.0	1	243.0	1.60	1
SMAFJ160A	SMAFJ160CA	SP	VP	160.0	178.0	197.0	1	259.0	1.50	1
SMAFJ170A	SMAFJ170CA	SR	VR	170.0	189.0	209.0	1	275.0	1.50	1
SMAFJ180A	SMAFJ180CA	ST	VT	180.0	201.0	222.0	1	292.0	1.40	1
SMAFJ190A	SMAFJ190CA	SU	YU	190.0	209.0	243.0	1	308.0	1.30	1
SMAFJ200A	SMAFJ200CA	SV	VV	200.0	224.0	247.0	1	324.0	1.20	1
SMAFJ210A	SMAFJ210CA	SW	YW	210.0	231.0	268.0	1	340.0	1.20	1
SMAFJ220A	SMAFJ220CA	GX	VX	220.0	246.0	272.0	1	356.0	1.10	1
SMAFJ250A	SMAFJ250CA	SZ	VZ	250.0	279.0	309.0	1	405.0	1.00	1
SMAFJ300A	SMAFJ300CA	TE	UE	300.0	335.0	371.0	1	486.0	0.80	1
SMAFJ350A		TG		350.0	391.0	432.0	1	567.0	0.70	1



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

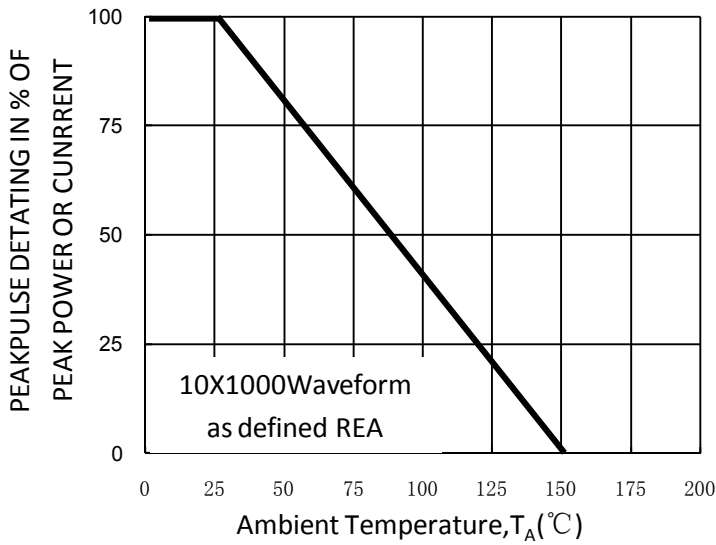


Fig. 1-Pulse Derating Curve

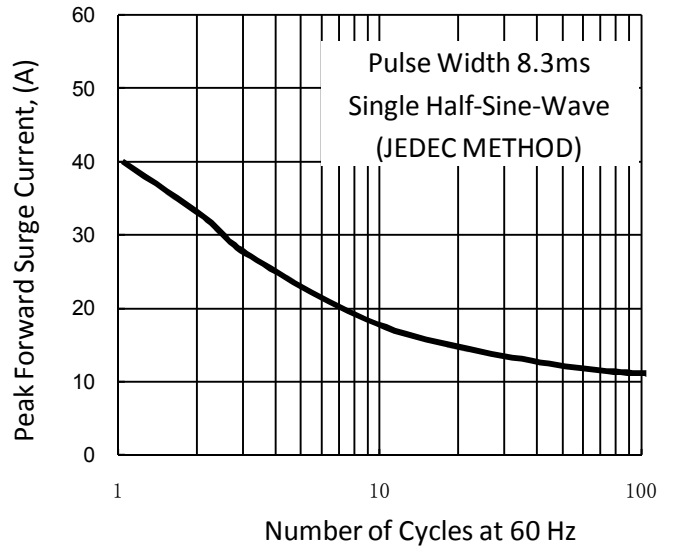


Fig. 2-Maximum Non-Repetitive Surge Current

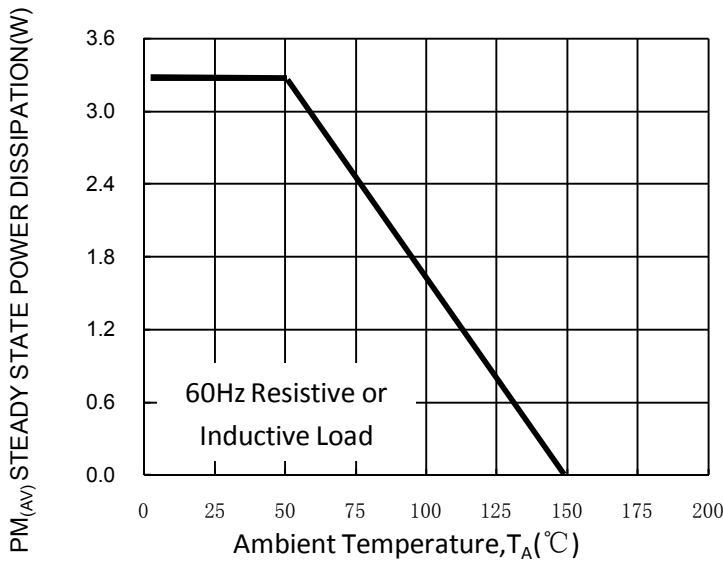


Fig. 3-Steady State Power Derating Curve

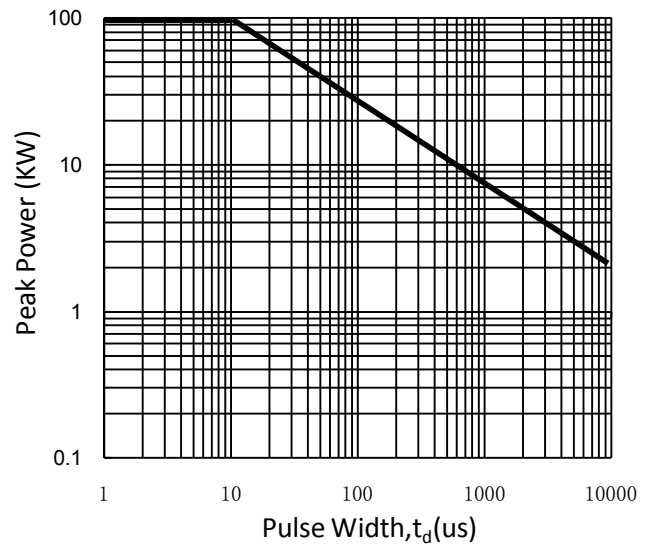


Fig. 4-Peak Pulse Power Rating Curve

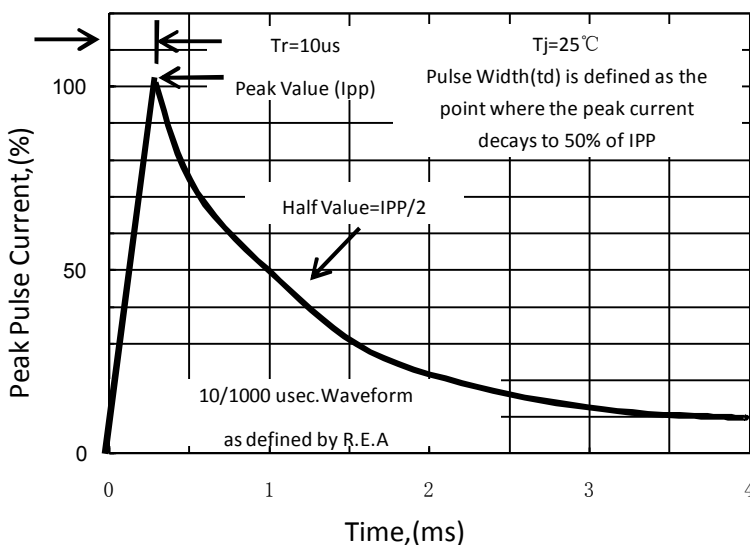


Fig. 5-Pulse Waveform

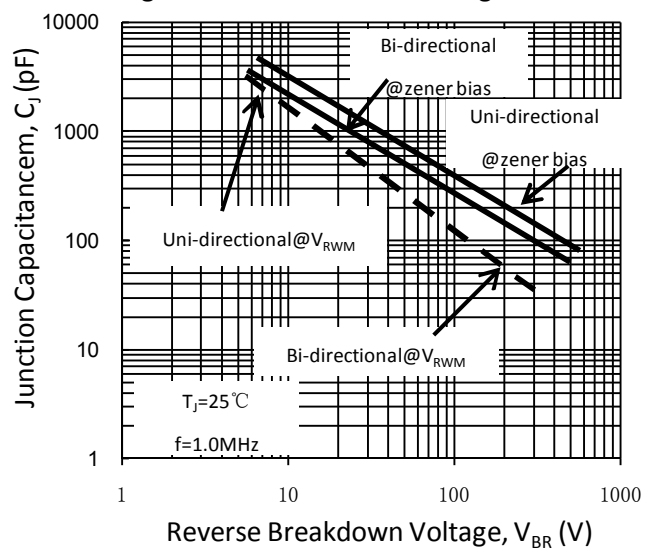


Fig. 6-Typical Junction Capacitance