



SMAF

Primary Characteristics		
V_{BR}	5.0~85	V
P_{PPM}	600	W
P_D	3	W
$T_J \text{ max}$	150	°C

Features
- Constructed with Glass Passivated Die 600W peak pulse power Dissipation - Excellent clamping capability - Uni and Bidirectional unit - Very fast response time - Component in accordance to RoHS 2002/95/EC

Mechanical Data
- Case: SMAF - Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 - Terminals: Lead Free Plating (Tin Finish). Solderable per MIL-STD-202, Method 208 - Polarity: Cathode Band - Weight: 0.035 grams (approximate)

Ordering Information			
Part No.	Remark	Package	Packing
SMA6JxxAF SERIES	General	SMAF	10000 / Tape & Reel
SMA6JxxAF SERIES-H	Halogen Free		
SMA6JxxAF SERIES-Q	AEC-Q101 qualified		

Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)			
Parameter	Symbol	Limits	Units
Peak power dissipation with a 10/1000 μs waveform	P_{PP}	Minimum 600	W
Power dissipation on infinite heatsink at $T_A=50^{\circ}\text{C}$	P_D	3	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only (Note 1)	I_{FSM}	60	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	V
Operating and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	°C

Note:

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



SMA6JxxAF SERIES



Transient Voltage Suppressors(600W)

Part Number	Marking Code	Reverse Stand-off Voltage	Break-down Voltage Min@I _T	Break-down Voltage Max@I _T	Test Current	Max Clamping Voltage V _C @I _{PP}	Peak Pulse Current	Reverse Leakage I _R @V _{RRM}
Directional	Directional	V _{RRM}	V _{BR}	V _{BR}	I _T	V _C	I _{PP}	I _R
Uni	Uni	V	V	V	mA	V	A	uA
SMA6J5.0AF	6J5.0A	5.0	6.40	7.00	10.0	9.2	65.3	800.0
SMA6J6.0AF	6J6.0A	6.0	6.67	7.37	10.0	10.3	58.3	800.0
SMA6J6.5AF	6J6.5A	6.5	7.22	7.98	10.0	11.2	53.6	500.0
SMA6J7.0AF	6J7.0A	7.0	7.78	8.60	10.0	12.0	50.0	200.0
SMA6J7.5AF	6J7.5A	7.5	8.33	9.21	1.0	12.9	46.6	100.0
SMA6J8.0AF	6J8.0A	8.0	8.89	9.83	1.0	13.6	44.2	50.0
SMA6J8.5AF	6J8.5A	8.5	9.44	10.40	1.0	14.4	41.7	20.0
SMA6J9.0AF	6J9.0A	9.0	10.00	11.10	1.0	15.4	39.0	10.0
SMA6J10AF	6J10A	10.0	11.10	12.30	1.0	17.0	35.3	5.0
SMA6J11AF	6J11A	11.0	12.20	13.50	1.0	18.2	33.0	1.0
SMA6J12AF	6J12A	12.0	13.30	14.70	1.0	19.9	30.2	1.0
SMA6J13AF	6J13A	13.0	14.40	15.90	1.0	21.5	28.0	1.0
SMA6J14AF	6J14A	14.0	15.60	17.20	1.0	23.2	25.9	1.0
SMA6J15AF	6J15A	15.0	16.70	18.50	1.0	24.4	24.6	1.0
SMA6J16AF	6J16A	16.0	17.80	19.70	1.0	26.0	23.1	1.0
SMA6J17AF	6J17A	17.0	18.90	20.90	1.0	27.6	21.8	1.0
SMA6J18AF	6J18A	18.0	20.00	22.10	1.0	29.2	20.6	1.0
SMA6J19AF	6J19A	19.0	21.10	23.30	1.0	30.8	19.5	1.0
SMA6J20AF	6J20A	20.0	22.20	24.50	1.0	32.4	18.6	1.0
SMA6J22AF	6J22A	22.0	24.40	26.90	1.0	35.5	16.9	1.0
SMA6J24AF	6J24A	24.0	26.70	29.50	1.0	38.9	15.5	1.0
SMA6J26AF	6J26A	26.0	28.90	31.90	1.0	42.1	14.3	1.0
SMA6J28AF	6J28A	28.0	31.10	34.40	1.0	45.4	13.3	1.0
SMA6J30AF	6J30A	30.0	33.30	36.80	1.0	48.4	12.4	1.0
SMA6J33AF	6J33A	33.0	36.70	40.60	1.0	53.3	11.3	1.0
SMA6J36AF	6J36A	36.0	40.00	44.20	1.0	58.1	10.4	1.0
SMA6J40AF	6J40A	40.0	44.40	49.10	1.0	64.5	9.3	1.0
SMA6J43AF	6J43A	43.0	47.80	52.80	1.0	69.4	8.7	1.0
SMA6J45AF	6J45A	45.0	50.00	55.30	1.0	72.7	8.3	1.0
SMA6J48AF	6J48A	48.0	53.30	58.90	1.0	77.4	7.8	1.0
SMA6J51AF	6J51A	51.0	56.70	62.70	1.0	82.4	7.3	1.0
SMA6J54AF	6J54A	54.0	60.00	66.30	1.0	87.1	6.9	1.0
SMA6J58AF	6J58A	58.0	64.40	71.20	1.0	93.6	6.5	1.0
SMA6J60AF	6J60A	60.0	66.70	73.70	1.0	96.8	6.2	1.0
SMA6J64AF	6J64A	64.0	71.10	78.60	1.0	103.0	5.9	1.0
SMA6J70AF	6J70A	70.0	77.80	86.00	1.0	113.0	5.3	1.0
SMA6J75AF	6J75A	75.0	83.30	92.10	1.0	121.0	5.0	1.0
SMA6J78AF	6J78A	78.0	86.70	95.80	1.0	126.0	4.8	1.0
SMA6J80AF	6J80A	80.0	88.80	97.60	1.0	129.6	4.7	1.0
SMA6J85AF	6J85A	85.0	94.40	104.00	1.0	137.0	4.4	1.0

Note:

1. Suffix 'A ' denotes 5% tolerance device.

Typical Characteristics

Fig. 1 - Pulse Derating Curve

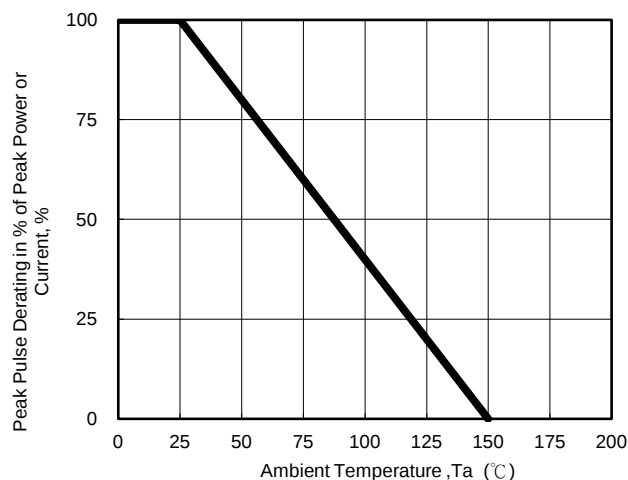


Fig. 2 - Maximum Non-Repetitive Surge Current

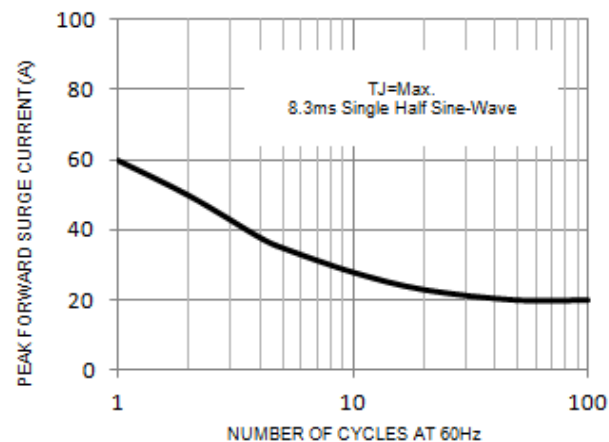


Fig. 3 - Pulse Waveform

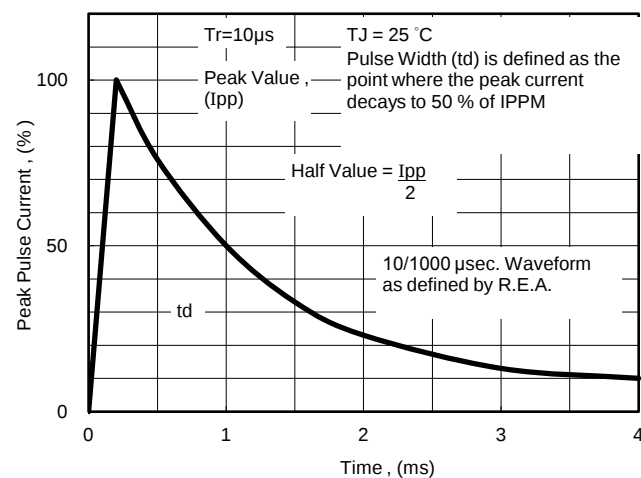
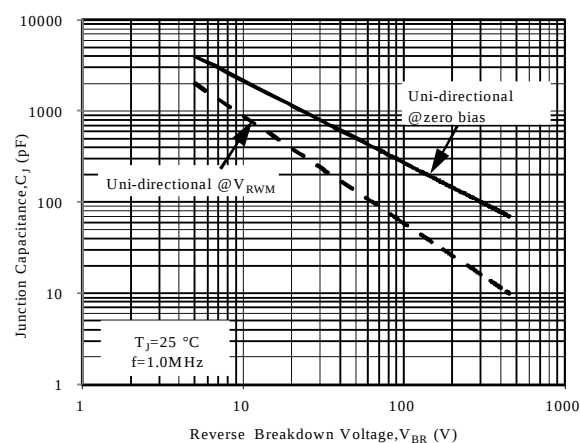
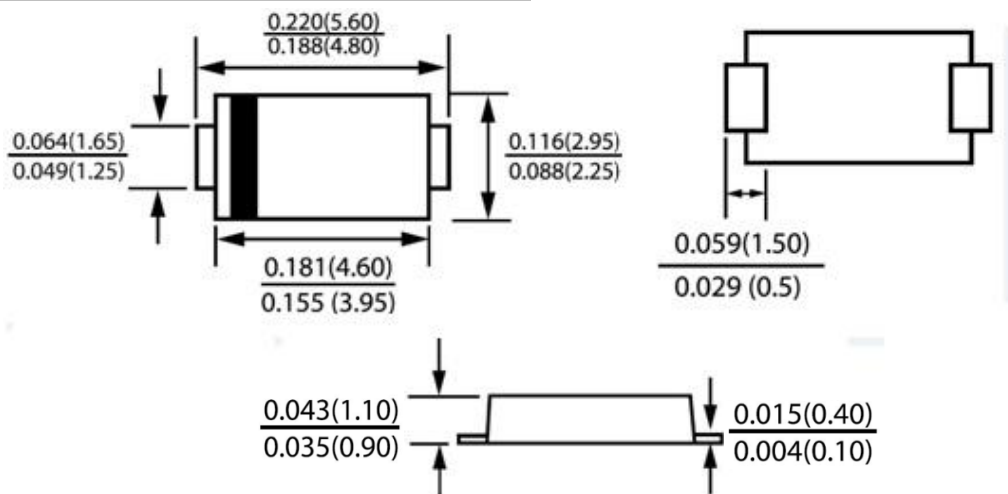


Fig. 4 - Typical Junction Capacitance



Package Outline Dimensions

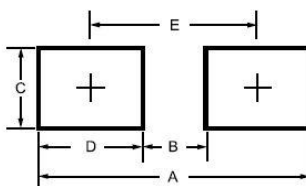


SMAF

Dimensions in inches and (millimeters)

Suggested Pad Layout

Dimension	Outline	SMAF millimeter
A		6.50
B		1.50
C		1.70
D		2.50
E		4.00



Tap & Reel Specification

Item	Symbol	SMAF millimeter
Carrier width	A	3.0±0.1
Carrier length	B	5.6±0.1
Carrier depth	C	1.2±0.1
Sprocket hole	d	1.50±0.1
Reel outside diameter	D	330±2.0
Feed hole diameter	D0	13.5±1
Reel inner diameter	D1	50 (min.)
Sprocket hole position	E	1.75±0.1
Punch hole position	F	5.5±0.05
Sprocket hole pitch	P	4.0±0.1
Sprocket hole pitch	P0	4.0±0.05
Embossment center	P1	2.0±0.05
Overall tape thickness	T	0.25±0.05
Tape width	W	12.0±0.2
Reel width	W2	18.4 (max)
Reel width	W1	14.4 (max)

