Elektronische Bauelemente

S6AF SERIES

5V ~ 85V, 600W

Peak Power Surface Mount TVS

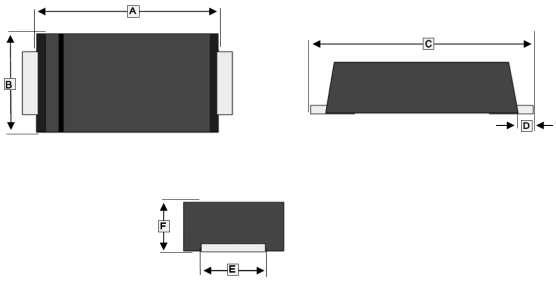
RoHS Compliant Product

A suffix of “-C” specifies halogen-free and lead-free

FEATURES

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

SMAF



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	3.95	4.60	D	0.75	1.50
B	2.25	2.95	E	1.25	1.65
C	4.80	5.60	F	0.90	1.10

MECHANICAL DATA

- 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
- Mounting position: Any
- Weight: 0.035 grams (approximate)

PACKAGE INFORMATION

Package	MPQ	Leader Size
SMAF	3K	7 inch

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.)

Rating	Symbol	Value	Unit
Peak Power Dissipation with a 10/1000μs waveform	P_{PP}	Minimum 600	W
Peak Pulse Current	I_{PP}	See next table	A
Power Dissipation on a infinite heatsink @T_A=50℃	P_D	3	W
Peak Forward Surge Current@ 8.3ms single Half Sine-Wave [1]	I_{FSM}	60	A
Maximum Instantaneous Forward voltage@25A	V_F	3.5	V
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ 150	℃

Note:

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

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Part Number	Marking Code	Breakdown Voltage V_{BR} @ I_T			Maximum Reverse Leakage I_R@ V_{RRM}	Reverse Stand-off Voltage	Maximum Reverse Surge Current	Maximum Clamping Voltage V_C @I_{PP}
		Min	Max	I_T	I_R	V_{RRM}	I_{PP}	V_C
Uni-directional	Uni-directional	V		mA	μA	V	A	V
S6AF5.0A	6J5.0A	6.4	7.00	10	800	5.0	65.3	9.2
S6AF6.0A	6J6.0A	6.67	7.37	10	800	6.0	58.3	10.3
S6AF6.5A	6J6.5A	7.22	7.98	10	500	6.5	53.6	11.2
S6AF7.0A	6J7.0A	7.78	8.60	10	200	7.0	50	12.0
S6AF7.5A	6J7.5A	8.33	9.21	1	100	7.5	46.6	12.9
S6AF8.0A	6J8.0A	8.89	9.83	1	50	8.0	44.2	13.6
S6AF8.5A	6J8.5A	9.44	10.4	1	20	8.5	41.7	14.4
S6AF9.0A	6J9.0A	10.0	11.1	1	10	9.0	39	15.4
S6AF10A	6J10A	11.1	12.3	1	5	10	35.3	17.0
S6AF11A	6J11A	12.2	13.5	1	1	11	33	18.2
S6AF12A	6J12A	13.3	14.7	1	1	12	30.2	19.9
S6AF13A	6J13A	14.4	15.9	1	1	13	28	21.5
S6AF14A	6J14A	15.6	17.2	1	1	14	25.9	23.2
S6AF15A	6J15A	16.7	18.5	1	1	15	24.6	24.4
S6AF16A	6J16A	17.8	19.7	1	1	16	23.1	26.0
S6AF17A	6J17A	18.9	20.9	1	1	17	21.8	27.6
S6AF18A	6J18A	20.0	22.1	1	1	18	20.6	29.2
S6AF19A	6J19A	21.1	23.3	1	1	19	19.5	30.8
S6AF20A	6J20A	22.2	24.5	1	1	20	18.6	32.4
S6AF22A	6J22A	24.4	26.9	1	1	22	16.9	35.5
S6AF24A	6J24A	26.7	29.5	1	1	24	15.5	38.9
S6AF26A	6J26A	28.9	31.9	1	1	26	14.3	42.1
S6AF28A	6J28A	31.1	34.4	1	1	28	13.3	45.4
S6AF30A	6J30A	33.3	36.8	1	1	30	12.4	48.4
S6AF33A	6J33A	36.7	40.6	1	1	33	11.3	53.3
S6AF36A	6J36A	40.0	44.2	1	1	36	10.4	58.1
S6AF40A	6J40A	44.4	49.1	1	1	40	9.3	64.5
S6AF43A	6J43A	47.8	52.8	1	1	43	8.7	69.4
S6AF45A	6J45A	50.0	55.3	1	1	45	8.3	72.7
S6AF48A	6J48A	53.3	58.9	1	1	48	7.8	77.4
S6AF51A	6J51A	56.7	62.7	1	1	51	7.3	82.4

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Part Number	Marking Code	Breakdown Voltage V_{BR} @ I_T			Maximum Reverse Leakage I_R@ V_{RRM}	Reverse Stand-off Voltage	Maximum Reverse Surge Current	Maximum Clamping Voltage V_C @I_{PP}
		Min	Max	I_T	I_R	V_{RRM}	I_{PP}	V_C
Uni-directional	Uni-directional	V		mA	μA	V	A	V
S6AF54A	6J54A	60.0	66.3	1	1	54	6.9	87.1
S6AF58A	6J58A	64.4	71.2	1	1	58	6.5	93.6
S6AF60A	6J60A	66.7	73.7	1	1	60	6.2	96.8
S6AF64A	6J64A	71.1	78.6	1	1	64	5.9	103.0
S6AF70A	6J70A	77.8	86.0	1	1	70	5.3	113.0
S6AF75A	6J75A	83.3	92.1	1	1	75	5.0	121.0
S6AF78A	6J78A	86.7	95.8	1	1	78	4.8	126.0
S6AF80A	6J80A	88.8	97.6	1	1	80	4.7	129.6
S6AF85A	6J85A	94.4	104	1	1	85	4.4	137.0

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

CHARACTERISTICS CURVE

Fig. 1 - Pulse Derating Curve

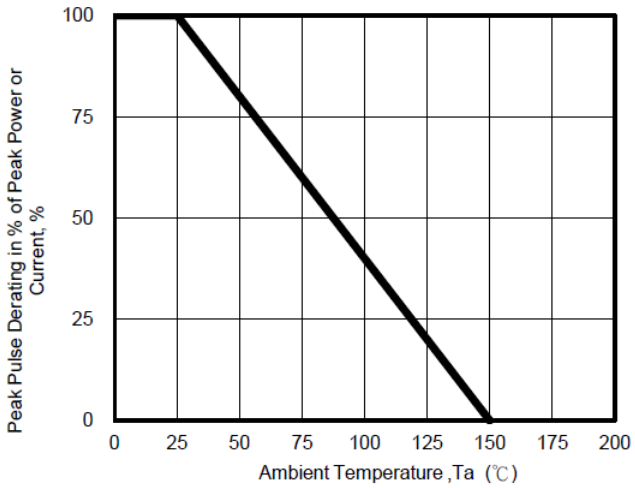


Fig. 2 - Maximum Non-Repetitive Surge Current

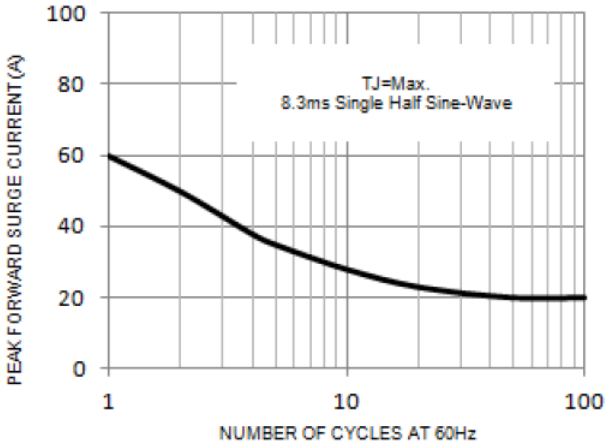


Fig. 3 - Pulse Waveform

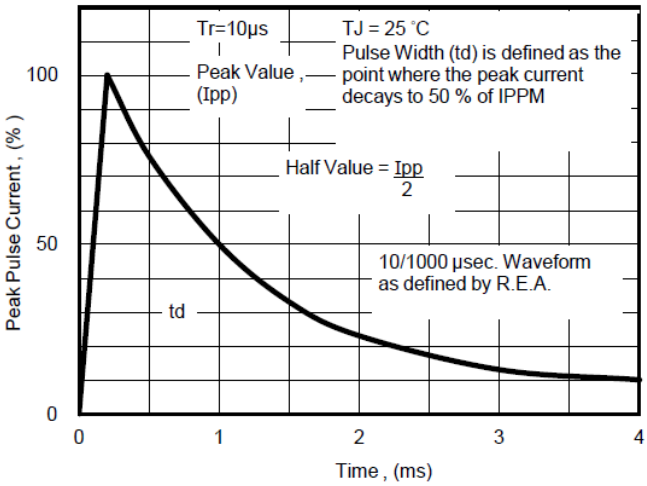


Fig. 4 - Typical Junction Capacitance