Elektronische Bauelemente

S4AF SERIES

5V ~ 85V, 400W

Peak Power Surface Mount TVS

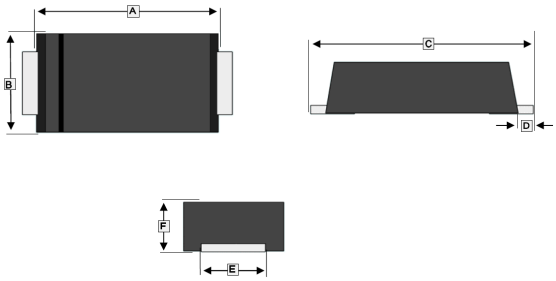
RoHS Compliant Product

A suffix of "-C" specifies halogen-free and lead-free

FEATURES

- Constructed with Glass Passivated Die
- 400W 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	10K	13 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 400	W
Peak Pulse Current	I_{PP}	See next table	A
Power Dissipation on a infinite heatsink @T_A=50°C	P_D	1	W
Peak Forward Surge Current@ 8.3ms single Half Sine-Wave [1]	I_{FSM}	40	A
Maximum Instantaneous Forward voltage@35A	V_F	3.5	V
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ 150	°C

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°C 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
S4AF5.0A	4J5.0A	6.4	7.00	10	800	5.0	43.48	9.2
S4AF6.0A	4J6.0A	6.67	7.37	10	800	6.0	38.83	10.3
S4AF6.5A	4J6.5A	7.22	7.98	10	500	6.5	35.71	11.2
S4AF7.0A	4J7.0A	7.78	8.60	10	200	7.0	33.3	12.0
S4AF7.5A	4J7.5A	8.33	9.21	1	100	7.5	31.01	12.9
S4AF8.0A	4J8.0A	8.89	9.83	1	50	8.0	29.41	13.6
S4AF8.5A	4J8.5A	9.44	10.4	1	10	8.5	27.78	14.4
S4AF9.0A	4J9.0A	10.0	11.1	1	5	9.0	25.97	15.4
S4AF10A	4J10A	11.1	12.3	1	5	10	23.5	17.0
S4AF11A	4J11A	12.2	13.5	1	5	11	21.98	18.2
S4AF12A	4J12A	13.3	14.7	1	5	12	20.1	19.9
S4AF13A	4J13A	14.4	15.9	1	5	13	18.6	21.5
S4AF14A	4J14A	15.6	17.2	1	5	14	17.24	23.2
S4AF15A	4J15A	16.7	18.5	1	5	15	16.39	24.4
S4AF16A	4J16A	17.8	19.7	1	5	16	15.38	26.0
S4AF17A	4J17A	18.9	20.9	1	5	17	14.49	27.6
S4AF18A	4J18A	20.0	22.1	1	5	18	13.7	29.2
S4AF19A	4J19A	21.1	23.3	1	5	19	13.0	30.8
S4AF20A	4J20A	22.2	24.5	1	5	20	12.3	32.4
S4AF22A	4J22A	24.4	26.9	1	5	22	11.27	35.5
S4AF24A	4J24A	26.7	29.5	1	5	24	10.28	38.9
S4AF26A	4J26A	28.9	31.9	1	5	26	9.5	42.1
S4AF28A	4J28A	31.1	34.4	1	5	28	8.81	45.4
S4AF30A	4J30A	33.3	36.8	1	5	30	8.26	48.4
S4AF33A	4J33A	36.7	40.6	1	5	33	7.5	53.3
S4AF36A	4J36A	40.0	44.2	1	5	36	6.88	58.1
S4AF40A	4J40A	44.4	49.1	1	5	40	6.2	64.5
S4AF43A	4J43A	47.8	52.8	1	5	43	5.76	69.4
S4AF45A	4J45A	50.0	55.3	1	5	45	5.5	72.7
S4AF48A	4J48A	53.3	58.9	1	5	48	5.17	77.4
S4AF51A	4J51A	56.7	62.7	1	5	51	4.85	82.4

ELECTRICAL CHARACTERISTICS (T_A=25°C 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
S4AF54A	4J54A	60.0	66.3	1	5	54	4.59	87.1
S4AF58A	4J58A	64.4	71.2	1	5	58	4.27	93.6
S4AF60A	4J60A	66.7	73.7	1	5	60	4.13	96.8
S4AF64A	4J64A	71.1	78.6	1	5	64	3.88	103.0
S4AF70A	4J70A	77.8	86.0	1	5	70	3.54	113.0
S4AF75A	4J75A	83.3	92.1	1	5	75	3.31	121.0
S4AF78A	4J78A	86.7	95.8	1	5	78	3.17	126.0
S4AF80A	4J80A	88.8	97.6	1	5	80	3.09	129.6
S4AF85A	4J85A	94.4	104	1	5	85	2.92	137.0

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

CHARACTERISTICS CURVE

Fig. 1 - Pulse Derating Curve

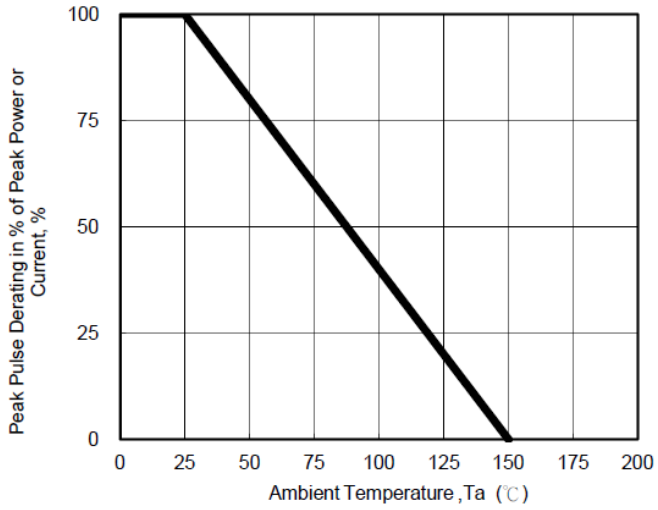


Fig. 2 - Maximum Non-Repetitive Surge Current

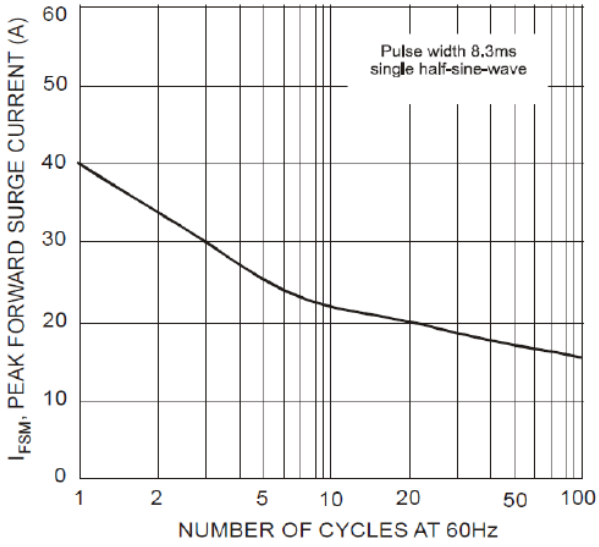


Fig. 3 - Pulse Waveform

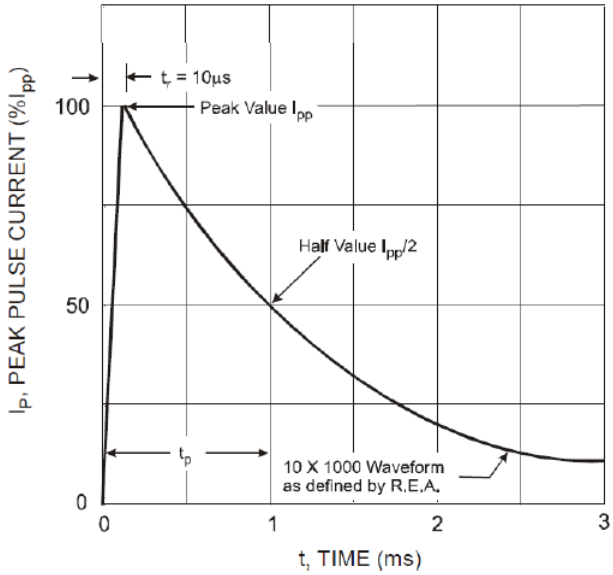


Fig. 4 - Typical Junction Capacitance

