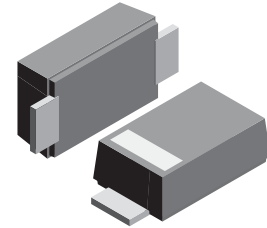


**VOLTAGE RANGE: 5.0 - 440V**

**POWER: 400Watts**

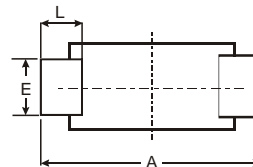
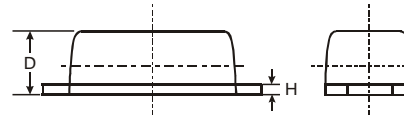
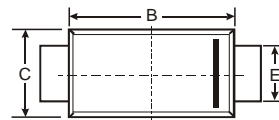


### Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0

### Mechanical Data

- Case: SMAF, Plastic
- Terminals: Solder plated, solderable per MIL-STD, Method 2026
- Marking: Date Code and Marking Code See Page 2
- Polarity : Color band denotes cathode end
- Weight: 0.0018 ounce, 0.064 grams



SMAF			
Dim	Min	Max	Typ
A	4.75	4.85	4.80
B	3.68	3.72	3.70
C	2.57	2.63	2.60
D	0.097	1.03	1.00
E	1.38	1.42	1.40
H	0.13	0.17	0.15
L	0.63	0.67	0.65
All Dimensions in mm			

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$ ) (Note 1)	$P_{PK}$	400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	$I_{FSM}$	40	A
Instantaneous Forward Voltage @ $I_{PP} = 35\text{A}$ (Notes 1, 2, & 3)	$V_F$	3.5	V
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +150	$^\circ\text{C}$

- Notes:
1. Valid provided that terminals are kept at ambient temperature.
  2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
  3. Unidirectional units only.

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RMW</sub>
(Uni)	(Bi)	V <sub>RMW</sub> (V)	V <sub>BR</sub> MIN (V)	V <sub>BR</sub> MAX(V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> ( $\mu$ A)
SMAF5.0	SMAF5.0C	5.0	6.40	7.55	10.0	9.6	41.7	800.0
SMAF5.0A	SMAF5.0CA	5.0	6.40	7.25	10.0	9.2	43.5	800.0
SMAF6.0	SMAF6.0C	6.0	6.67	8.45	10.0	11.4	35.1	800.0
SMAF6.0A	SMAF6.0CA	6.0	6.67	7.67	10.0	10.3	38.8	800.0
SMAF6.5	SMAF6.5C	6.5	7.22	9.14	10.0	12.3	32.5	500.0
SMAF6.5A	SMAF6.5CA	6.5	7.22	8.30	10.0	11.2	35.7	500.0
SMAF7.0	SMAF7.0C	7.0	7.78	9.86	10.0	13.3	30.1	200.0
SMAF7.0A	SMAF7.0CA	7.0	7.78	8.95	10.0	12.0	33.3	200.0
SMAF7.5	SMAF7.5C	7.5	8.33	10.67	1.0	14.3	28.0	100.0
SMAF7.5A	SMAF7.5CA	7.5	8.33	9.58	1.0	12.9	31.0	100.0
SMAF8.0	SMAF8.0C	8.0	8.89	11.3	1.0	15.0	26.7	50.0
SMAF8.0A	SMAF8.0CA	8.0	8.89	10.23	1.0	13.6	29.4	50.0
SMAF8.5	SMAF8.5C	8.5	9.44	11.92	1.0	15.9	25.2	20.0
SMAF8.5A	SMAF8.5CA	8.5	9.44	10.82	1.0	14.4	27.8	20.0
SMAF9.0	SMAF9.0C	9.0	10.0	12.6	1.0	16.9	23.7	10.0
SMAF9.0A	SMAF9.0CA	9.0	10.0	11.5	1.0	15.4	26.0	10.0
SMAF10	SMAF10C	10	11.1	14.1	1.0	18.8	21.3	5.0
SMAF10A	SMAF10CA	10	11.1	12.8	1.0	17.0	23.5	5.0
SMAF11	SMAF11C	11	12.2	15.4	1.0	20.1	19.9	5.0
SMAF11A	SMAF11CA	11	12.2	14.0	1.0	18.2	22.0	5.0
SMAF12	SMAF12C	12	13.3	16.9	1.0	22.0	18.2	5.0
SMAF12A	SMAF12CA	12	13.3	15.3	1.0	19.9	20.1	5.0
SMAF13	SMAF13C	13	14.4	18.2	1.0	23.8	16.8	5.0
SMAF13A	SMAF13CA	13	14.4	16.5	1.0	21.5	18.6	5.0
SMAF14	SMAF14C	14	15.6	19.8	1.0	25.8	15.5	5.0
SMAF14A	SMAF14CA	14	15.6	17.9	1.0	23.2	17.2	5.0
SMAF15	SMAF15C	15	16.7	21.1	1.0	26.9	14.9	5.0
SMAF15A	SMAF15CA	15	16.7	19.2	1.0	24.4	16.4	5.0
SMAF16	SMAF16C	16	17.8	22.6	1.0	28.8	13.9	5.0
SMAF16A	SMAF16CA	16	17.8	20.5	1.0	26.0	15.4	5.0
SMAF17	SMAF17C	17	18.9	23.9	1.0	30.5	13.1	5.0
SMAF17A	SMAF17CA	17	18.9	21.7	1.0	27.6	14.5	5.0
SMAF18	SMAF18C	18	20.0	25.3	1.0	32.2	12.4	5.0
SMAF18A	SMAF18CA	18	20.0	23.3	1.0	29.2	13.7	5.0
SMAF20	SMAF20C	20	22.2	28.1	1.0	35.8	11.2	5.0
SMAF20A	SMAF20CA	20	22.2	25.5	1.0	32.4	12.3	5.0
SMAF22	SMAF22C	22	24.4	30.9	1.0	39.4	10.2	5.0
SMAF22A	SMAF22CA	22	24.4	28.0	1.0	35.5	11.3	5.0
SMAF24	SMAF24C	24	26.7	33.8	1.0	43.0	9.3	5.0

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(Uni)	(Bi)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMAF24A	SMAF24CA	24	26.7	30.7	1.0	38.9	10.3	5.0
SMAF26	SMAF26C	26	28.9	36.6	1.0	46.6	8.6	5.0
SMAF26A	SMAF26CA	26	28.9	33.2	1.0	42.1	9.5	5.0
SMAF28	SMAF28C	28	31.1	39.4	1.0	50.0	8.0	5.0
SMAF28A	SMAF28CA	28	31.1	35.8	1.0	45.4	8.8	5.0
SMAF30	SMAF30C	30	33.3	42.2	1.0	53.5	7.5	5.0
SMAF30A	SMAF30CA	30	33.3	38.3	1.0	48.4	8.3	5.0
SMAF33	SMAF33C	33	36.7	46.5	1.0	59.0	6.8	5.0
SMAF33A	SMAF33CA	33	36.7	42.2	1.0	53.3	7.5	5.0
SMAF36	SMAF36C	36	40.0	50.7	1.0	64.3	6.2	5.0
SMAF36A	SMAF36CA	36	40.0	46.0	1.0	58.1	6.9	5.0
SMAF40	SMAF40C	40	44.4	56.3	1.0	71.4	5.6	5.0
SMAF40A	SMAF40CA	40	44.4	51.1	1.0	64.5	6.2	5.0
SMAF43	SMAF43C	43	47.7	60.5	1.0	76.7	5.2	5.0
SMAF43A	SMAF43CA	43	47.8	54.9	1.0	69.4	5.8	5.0
SMAF45	SMAF45C	45	50.0	63.3	1.0	80.3	5.0	5.0
SMAF45A	SMAF45CA	45	50.0	57.5	1.0	72.7	5.5	5.0
SMAF48	SMAF48C	48	53.3	67.5	1.0	85.5	4.7	5.0
SMAF48A	SMAF48CA	48	53.3	61.3	1.0	77.4	5.2	5.0
SMAF51	SMAF51C	51	56.7	71.8	1.0	91.1	4.4	5.0
SMAF51A	SMAF51CA	51	56.7	65.2	1.0	82.4	4.9	5.0
SMAF54	SMAF54C	54	60.0	76.0	1.0	96.3	4.2	5.0
SMAF54A	SMAF54CA	54	60.0	69.0	1.0	87.1	4.6	5.0
SMAF58	SMAF58C	58	64.4	81.6	1.0	103	3.9	5.0
SMAF58A	SMAF58CA	58	64.4	74.1	1.0	93.6	4.3	5.0
SMAF60	SMAF60C	60	66.7	84.5	1.0	107	3.7	5.0
SMAF60A	SMAF60CA	60	66.7	76.7	1.0	96.8	4.1	5.0
SMAF64	SMAF64C	64	71.1	90.1	1.0	114	3.5	5.0
SMAF64A	SMAF64CA	64	71.1	81.8	1.0	103	3.9	5.0
SMAF70	SMAF70C	70	77.8	98.6	1.0	125	3.2	5.0
SMAF70A	SMAF70CA	70	77.8	89.5	1.0	113	3.5	5.0
SMAF75	SMAF75C	75	83.0	105.7	1.0	134	3.0	5.0
SMAF75A	SMAF75CA	75	83.0	95.8	1.0	121	3.3	5.0
SMAF78	SMAF78C	78	86.0	109.8	1.0	139	2.9	5.0
SMAF78A	SMAF78CA	78	86.0	99.7	1.0	126	3.2	5.0
SMAF85	SMAF85C	85	94.0	119.2	1.0	151	2.6	5.0
SMAF85A	SMAF85CA	85	94.0	108.2	1.0	137	2.9	5.0



TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(Uni)	(Bi)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMAF90	SMAF90C	90	100	126.5	1.0	160	2.5	5.0
SMAF90A	SMAF90CA	90	100	115.5	1.0	146	2.7	5.0
SMAF100	SMAF100C	100	111	141.0	1.0	179	2.2	5.0
SMAF100A	SMAF100CA	100	111	128.0	1.0	162	2.5	5.0
SMAF110	SMAF110C	110	122	154.5	1.0	196	2.0	5.0
SMAF110A	SMAF110CA	110	122	140.5	1.0	177	2.3	5.0
SMAF120	SMAF120C	120	133	169.0	1.0	214	1.9	5.0
SMAF120A	SMAF120CA	120	133	153.0	1.0	193	2.1	5.0
SMAF130	SMAF130C	130	144	182.5	1.0	231	1.7	5.0
SMAF130A	SMAF130CA	130	144	165.5	1.0	209	1.9	5.0
SMAF150	SMAF150C	150	167	211.5	1.0	268	1.5	5.0
SMAF150A	SMAF150CA	150	167	192.5	1.0	243	1.6	5.0
SMAF160	SMAF160C	160	178	226.0	1.0	287	1.4	5.0
SMAF160A	SMAF160CA	160	178	205.0	1.0	259	1.5	5.0
SMAF170	SMAF170C	170	189	239.5	1.0	304	1.3	5.0
SMAF170A	SMAF170CA	170	189	217.5	1.0	275	1.5	5.0
SMAF180	SMAF180C	180	200	253.8	1.0	321	1.2	5.0
SMAF180A	SMAF180CA	180	200	230.4	1.0	290	1.4	5.0
SMAF190	SMAF190C	190	211	267.9	1.0	339	1.2	5.0
SMAF190A	SMAF190CA	190	211	243.2	1.0	306	1.3	5.0
SMAF200	SMAF200C	200	222	282.0	1.0	356	1.1	5.0
SMAF200A	SMAF200CA	200	222	256.0	1.0	322	1.2	5.0
SMAF210	SMAF210C	210	233	296.1	1.0	375	1.1	5.0
SMAF210A	SMAF210CA	210	233	268.8	1.0	339	1.2	5.0
SMAF220	SMAF220C	220	244	310.2	1.0	392	1.0	5.0
SMAF220A	SMAF220CA	220	244	281.6	1.0	355	1.1	5.0
SMAF250	SMAF250C	250	278	342.5	1.0	447	0.9	5.0
SMAF250A	SMAF250CA	250	278	309.0	1.0	403	1.0	5.0
SMAF300	SMAF300C	300	333	411.0	1.0	535	0.7	5.0
SMAF300A	SMAF300CA	300	333	371.0	1.0	484	0.8	5.0
SMAF350	SMAF350C	350	389	479.5	1.0	624	0.6	5.0
SMAF350A	SMAF350CA	350	389	432.0	1.0	565	0.7	5.0
SMAF400	SMAF400C	400	444	548.0	1.0	687	0.6	5.0
SMAF400A	SMAF400CA	400	444	494.0	1.0	645	0.6	5.0
SMAF440	SMAF440C	440	489	602.8	1.0	786	0.5	5.0
SMAF440A	SMAF440CA	440	489	543.0	1.0	710	0.6	5.0

## Ratings and Characteristic Curves $T_A=25^\circ\text{C}$ unless otherwise noted

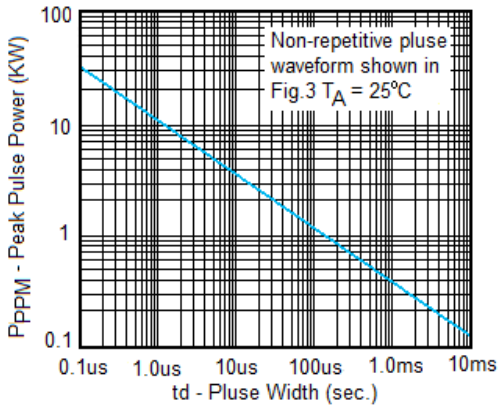


Fig. 1 Peak Pulse Power Rating

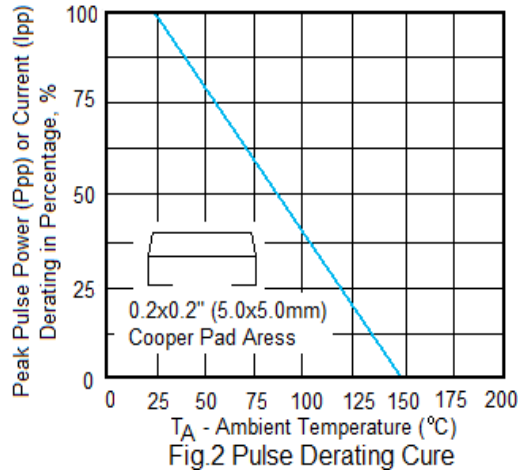


Fig.2 Pulse Derating Curve

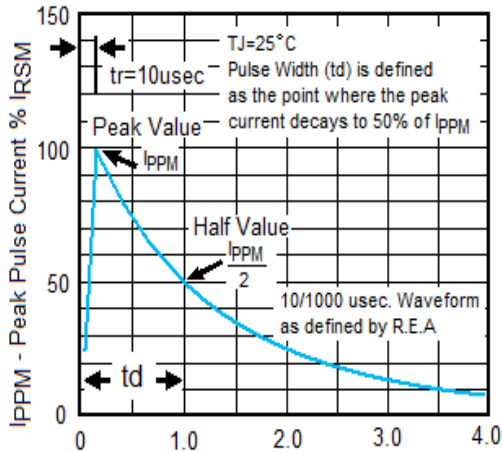


Fig.3 Pulse Waveform

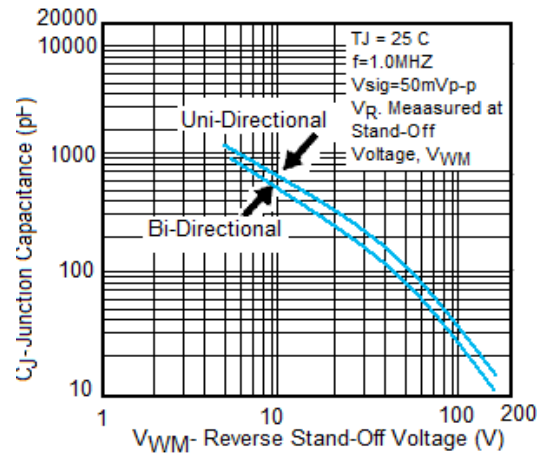


Fig. 4- Typical Junction Capacitance