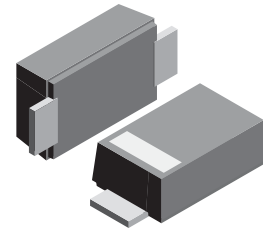


**VOLTAGE RANGE: 6.8 - 440 V**  
**POWER: 400Watts**

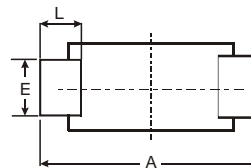
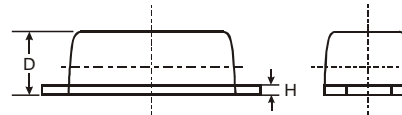
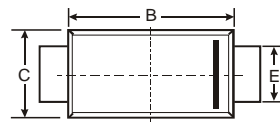


### Features

- 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, Molded Plastic
- Polarity Indicator: Cathode Band  
(Note: Bi-directional devices have no polarity indicator.)
- Marking: Date Code and Marking Code  
See Page 2
- 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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above T <sub>A</sub> = 25°C) (Note 1)	P <sub>PK</sub>	400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I <sub>FSM</sub>	40	A
Instantaneous Forward Voltage @ I <sub>PP</sub> = 35A (Notes 1, 2, & 3)	V <sub>F</sub>	3.5	V
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°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>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)
P4SMAF6.8	P4SMAF6.8C	5.50	6.12	7.48	10	10.8	38.0	1000.0
P4SMAF6.8A	P4SMAF6.8CA	5.80	6.45	7.14	10	10.5	40.0	1000.0
P4SMAF7.5	P4SMAF7.5C	6.05	6.75	8.25	10	11.7	36.0	500.0
P4SMAF7.5A	P4SMAF7.5CA	6.40	7.13	7.88	10	11.3	37.0	500.0
P4SMAF8.2	P4SMAF8.2C	6.63	7.38	9.02	10	12.5	33.0	200.0
P4SMAF8.2A	P4SMAF8.2CA	7.02	7.79	8.61	10	12.1	35.0	200.0
P4SMAF9.1	P4SMAF9.1C	7.37	8.19	10.0	1.0	13.8	30.0	50.0
P4SMAF9.1A	P4SMAF9.1CA	7.78	8.65	9.55	1.0	13.4	31.0	50.0
P4SMAF10	P4SMAF10C	8.10	9.00	11.0	1.0	15.0	28.0	10.0
P4SMAF10A	P4SMAF10CA	8.55	9.50	10.5	1.0	14.5	29.0	10.0
P4SMAF11	P4SMAF11C	8.92	9.90	12.1	1.0	16.2	26.0	5.0
P4SMAF11A	P4SMAF11CA	9.40	10.5	11.6	1.0	15.6	27.0	5.0
P4SMAF12	P4SMAF12C	9.72	10.8	13.2	1.0	17.3	24.0	5.0
P4SMAF12A	P4SMAF12CA	10.2	11.4	12.6	1.0	16.7	25.0	5.0
P4SMAF13	P4SMAF13C	10.5	11.7	14.3	1.0	19.0	22.0	5.0
P4SMAF13A	P4SMAF13CA	11.1	12.4	13.7	1.0	18.2	23.0	5.0
P4SMAF15	P4SMAF15C	12.1	13.5	16.5	1.0	22.0	19.0	5.0
P4SMAF15A	P4SMAF15CA	12.8	14.3	15.8	1.0	21.2	20.0	5.0
P4SMAF16	P4SMAF16C	12.9	14.4	17.6	1.0	23.5	18.0	5.0
P4SMAF16A	P4SMAF16CA	13.6	15.2	16.8	1.0	22.5	19.0	5.0
P4SMAF18	P4SMAF18C	14.5	16.2	19.8	1.0	26.5	16.0	5.0
P4SMAF18A	P4SMAF18CA	15.3	17.1	18.9	1.0	25.2	17.0	5.0
P4SMAF20	P4SMAF20C	16.2	18.0	22.0	1.0	29.1	14.0	5.0
P4SMAF20A	P4SMAF20CA	17.1	19.0	21.0	1.0	27.7	15.0	5.0
P4SMAF22	P4SMAF22C	17.8	19.8	24.2	1.0	31.9	13.0	5.0
P4SMAF22A	P4SMAF22CA	18.8	20.9	23.1	1.0	30.6	14.0	5.0
P4SMAF24	P4SMAF24C	19.4	21.6	26.4	1.0	34.7	12.0	5.0
P4SMAF24A	P4SMAF24CA	20.5	22.8	25.2	1.0	33.2	13.0	5.0
P4SMAF27	P4SMAF27C	21.8	24.3	29.7	1.0	39.1	11.0	5.0
P4SMAF27A	P4SMAF27CA	23.1	25.7	28.4	1.0	37.5	11.2	5.0
P4SMAF30	P4SMAF30C	24.3	27.0	33.0	1.0	43.5	10.0	5.0
P4SMAF30A	P4SMAF30CA	25.6	28.5	31.5	1.0	41.4	10.0	5.0
P4SMAF33	P4SMAF33C	26.8	29.7	36.3	1.0	47.7	9.0	5.0
P4SMAF33A	P4SMAF33CA	28.2	31.4	34.7	1.0	45.7	9.0	5.0
P4SMAF36	P4SMAF36C	29.1	32.4	39.6	1.0	52.0	8.0	5.0
P4SMAF36A	P4SMAF36CA	30.8	34.2	37.8	1.0	49.9	8.4	5.0
P4SMAF39	P4SMAF39C	31.6	35.1	42.9	1.0	56.4	7.4	5.0
P4SMAF39A	P4SMAF39CA	33.3	37.1	41.0	1.0	53.9	7.8	5.0
P4SMAF43	P4SMAF43C	34.8	38.7	47.3	1.0	61.9	6.8	5.0
P4SMAF43A	P4SMAF43CA	36.8	40.9	45.2	1.0	59.3	7.1	5.0
P4SMAF47	P4SMAF47C	38.1	42.3	51.7	1.0	67.8	6.2	5.0
P4SMAF47A	P4SMAF47CA	40.8	44.7	49.4	1.0	64.8	5.0	5.0
P4SMAF51	P4SMAF51C	41.3	45.9	56.1	1.0	73.5	5.7	5.0
P4SMAF51A	P4SMAF51CA	43.6	48.5	53.6	1.0	70.1	6.0	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)
P4SMAF56	P4SMAF56C	45.4	50.4	61.6	1.0	80.5	5.2	5.0
P4SMAF56A	P4SMAF56CA	47.8	53.2	58.8	1.0	77.0	5.5	5.0
P4SMAF62	P4SMAF62C	50.2	55.8	68.2	1.0	89.0	4.7	5.0
P4SMAF62A	P4SMAF62CA	53.0	58.9	65.1	1.0	85.0	5.0	5.0
P4SMAF68	P4SMAF68C	55.1	61.2	74.8	1.0	98.0	4.3	5.0
P4SMAF68A	P4SMAF68CA	58.1	64.6	71.4	1.0	92.0	4.6	5.0
P4SMAF75	P4SMAF75C	60.7	67.5	82.5	1.0	108	3.9	5.0
P4SMAF75A	P4SMAF75CA	64.1	71.3	78.8	1.0	103	4.1	5.0
P4SMAF82	P4SMAF82C	66.4	73.8	90.2	1.0	118	3.6	5.0
P4SMAF82A	P4SMAF82CA	70.4	77.9	86.1	1.0	113	3.7	5.0
P4SMAF91	P4SMAF91C	73.7	81.9	100	1.0	131	3.2	5.0
P4SMAF91A	P4SMAF91CA	77.8	86.5	95.5	1.0	125	3.4	5.0
P4SMAF100	P4SMAF100C	81.0	90.0	110	1.0	144	2.9	5.0
P4SMAF100A	P4SMAF100CA	85.5	95.0	105	1.0	137	3.1	5.0
P4SMAF110	P4SMAF110C	89.2	99.0	121	1.0	158	2.7	5.0
P4SMAF110A	P4SMAF110CA	94.0	105	116	1.0	152	2.8	5.0
P4SMAF120	P4SMAF120C	97.2	108	132	1.0	173	2.4	5.0
P4SMAF120A	P4SMAF120CA	102	114	126	1.0	165	2.5	5.0
P4SMAF130	P4SMAF130C	105	117	143	1.0	187	2.2	5.0
P4SMAF130A	P4SMAF130CA	111	124	137	1.0	179	2.3	5.0
P4SMAF150	P4SMAF150C	121	135	165	1.0	215	2.0	5.0
P4SMAF150A	P4SMAF150CA	128	143	158	1.0	207	2.0	5.0
P4SMAF160	P4SMAF160C	130	144	176	1.0	230	1.8	5.0
P4SMAF160A	P4SMAF160CA	136	152	168	1.0	219	1.9	5.0
P4SMAF170	P4SMAF170C	138	153	187	1.0	244	1.7	5.0
P4SMAF170A	P4SMAF170CA	145	162	179	1.0	234	1.8	5.0
P4SMAF180	P4SMAF180C	146	162	198	1.0	258	1.6	5.0
P4SMAF180A	P4SMAF180CA	154	171	189	1.0	246	1.7	5.0
P4SMAF200	P4SMAF200C	162	180	220	1.0	287	1.5	5.0
P4SMAF200A	P4SMAF200CA	171	190	210	1.0	274	1.53	5.0
P4SMAF220	P4SMAF220C	175	198	242	1.0	344	1.16	5.0
P4SMAF220A	P4SMAF220CA	185	209	231	1.0	328	1.22	5.0
P4SMAF250	P4SMAF250C	202	225	275	1.0	360	1.1	5.0
P4SMAF250A	P4SMAF250CA	214	237	263	1.0	344	1.16	5.0
P4SMAF300	P4SMAF300C	243	270	330	1.0	430	0.93	5.0
P4SMAF300A	P4SMAF300CA	256	285	315	1.0	414	0.97	5.0
P4SMAF350	P4SMAF350C	284	315	385	1.0	504	0.79	5.0
P4SMAF350A	P4SMAF350CA	300	333	368	1.0	482	0.83	5.0
P4SMAF400	P4SMAF400C	324	360	440	1.0	574	0.70	5.0
P4SMAF400A	P4SMAF400CA	342	380	420	1.0	548	0.73	5.0
P4SMAF440	P4SMAF440C	356	396	484	1.0	631	0.63	5.0
P4SMAF440A	P4SMAF440CA	376	418	462	1.0	602	0.65	5.0

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

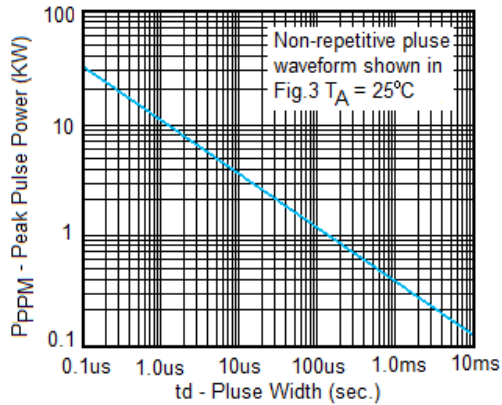


Fig. 1 Peak Pulse Power Rating

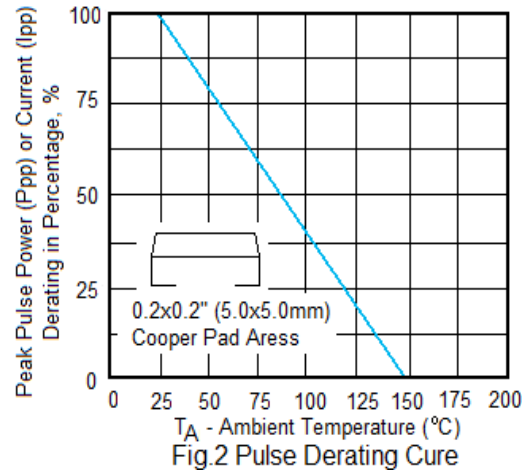


Fig.2 Pulse Derating Curve

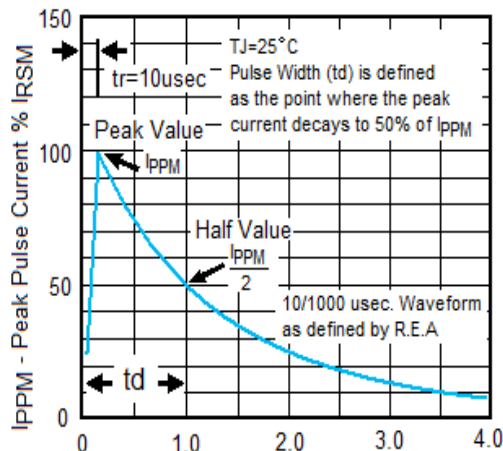


Fig.3 Pulse Waveform

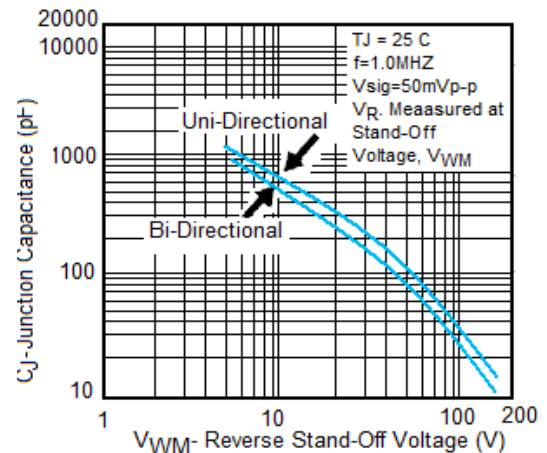


Fig. 4- Typical Junction Capacitance