



P6SMAFJ5.0(C)A THRU P6SMAFJ440(C)A

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

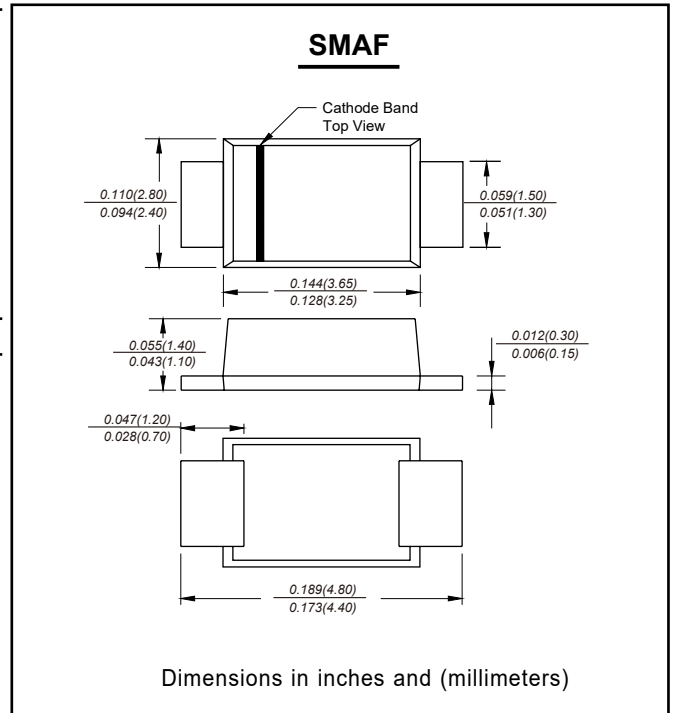
Stand - Off Voltage - 5.0 to 440 Volts Peak Pulse Power - 600 Watt

FEATURES

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

MECHANICAL DATA

- **Case:** JEDEC SMAF molded plastic body over passivated chip
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.00095 oz, 27 mg



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

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T = 25^\circ\text{C}$) (Note 1)	P_{pk}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Note 1, 2, & 3)	I_{FSM}	100	A
Instantaneous Forward Voltage @ $I_F=35A$ $V_{BR}<100V$ $V_{BR}\geq 100V$	V_F	3.5 5.0	V
Operating Junction Temperature and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	$^\circ\text{C}$

Notes :

- (1) Non-repetitive current pulse at $T_a = 25^\circ\text{C}$, per waveform of Fig. 2.
- (2) Non-repetitive current pulse at $T_a = 25^\circ\text{C}$, per waveform of Fig. 5.
- (3) Mounted with recommended minimum pad size, DC board FR4.



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ELECTRICAL CHARACTERISTICS @25°C

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
			V _{BR} @ I _T					
		V _{RRM}	Min	Max	I _T	I _R @ V _{RRM}	V _C @ I _{PP}	I _{PP}
UNI	BI	V	V	V	mA	µA	V	A
P6SMAFJ5.0	P6SMAFJ5.0C	5	6.4	7.55	10	800	9.6	62.5
P6SMAFJ5.0A	P6SMAFJ5.0CA	5	6.4	7.25	10	800	9.2	65.2
P6SMAFJ6.0	P6SMAFJ6.0C	6	6.67	8.45	10	800	11.4	52.6
P6SMAFJ6.0A	P6SMAFJ6.0CA	6	6.67	7.67	10	800	10.3	58.3
P6SMAFJ6.5	P6SMAFJ6.5C	6.5	7.22	9.14	10	500	12.3	48.8
P6SMAFJ6.5A	P6SMAFJ6.5CA	6.5	7.22	8.3	10	500	11.2	53.6
P6SMAFJ7.0	P6SMAFJ7.0C	7	7.78	9.86	10	200	13.3	45.1
P6SMAFJ7.0A	P6SMAFJ7.0CA	7	7.78	8.95	10	200	12	50
P6SMAFJ7.5	P6SMAFJ7.5C	7.5	8.33	10.67	1	100	14.3	42
P6SMAFJ7.5A	P6SMAFJ7.5CA	7.5	8.33	9.58	1	100	12.9	46.5
P6SMAFJ8.0	P6SMAFJ8.0C	8	8.89	11.3	1	50	15	40
P6SMAFJ8.0A	P6SMAFJ8.0CA	8	8.89	10.23	1	50	13.6	44.1
P6SMAFJ8.5	P6SMAFJ8.5C	8.5	9.44	11.92	1	20	15.9	37.7
P6SMAFJ8.5A	P6SMAFJ8.5CA	8.5	9.44	10.82	1	20	14.4	41.7
P6SMAFJ9.0	P6SMAFJ9.0C	9	10	12.6	1	10	16.9	35.5
P6SMAFJ9.0A	P6SMAFJ9.0CA	9	10	11.5	1	10	15.4	39
P6SMAFJ10	P6SMAFJ10C	10	11.1	14.1	1	5	18.8	31.9
P6SMAFJ10A	P6SMAFJ10CA	10	11.1	12.8	1	5	17	35.3
P6SMAFJ11	P6SMAFJ11C	11	12.2	15.4	1	5	20.1	29.9
P6SMAFJ11A	P6SMAFJ11CA	11	12.2	14	1	5	18.2	33
P6SMAFJ12	P6SMAFJ12C	12	13.3	16.9	1	5	22	27.3
P6SMAFJ12A	P6SMAFJ12CA	12	13.3	15.3	1	5	19.9	30.2
P6SMAFJ13	P6SMAFJ13C	13	14.4	18.2	1	5	23.8	25.2
P6SMAFJ13A	P6SMAFJ13CA	13	14.4	16.5	1	5	21.5	27.9
P6SMAFJ14	P6SMAFJ14C	14	15.6	19.8	1	5	25.8	23.3
P6SMAFJ14A	P6SMAFJ14CA	14	15.6	17.9	1	5	23.2	25.9
P6SMAFJ15	P6SMAFJ15C	15	16.7	21.1	1	5	26.9	22.3
P6SMAFJ15A	P6SMAFJ15CA	15	16.7	19.2	1	5	24.4	24.6
P6SMAFJ16	P6SMAFJ16C	16	17.8	22.6	1	5	28.8	20.8
P6SMAFJ16A	P6SMAFJ16CA	16	17.8	20.5	1	5	26	23.1
P6SMAFJ17	P6SMAFJ17C	17	18.9	23.9	1	5	30.5	19.7
P6SMAFJ17A	P6SMAFJ17CA	17	18.9	21.7	1	5	27.6	21.7
P6SMAFJ18	P6SMAFJ18C	18	20	25.3	1	5	32.2	18.6
P6SMAFJ18A	P6SMAFJ18CA	18	20	23.3	1	5	29.2	20.5
P6SMAFJ20	P6SMAFJ20C	20	22.2	28.1	1	5	35.8	16.8
P6SMAFJ20A	P6SMAFJ20CA	20	22.2	25.5	1	5	32.4	18.5
P6SMAFJ22	P6SMAFJ22C	22	24.4	30.9	1	5	39.4	15.2
P6SMAFJ22A	P6SMAFJ22CA	22	24.4	28	1	5	35.5	16.9
P6SMAFJ24	P6SMAFJ24C	24	26.7	33.8	1	5	43	14
P6SMAFJ24A	P6SMAFJ24CA	24	26.7	30.7	1	5	38.9	15.4
P6SMAFJ26	P6SMAFJ26C	26	28.9	36.6	1	5	46.6	12.9
P6SMAFJ26A	P6SMAFJ26CA	26	28.9	33.2	1	5	42.1	14.3
P6SMAFJ28	P6SMAFJ28C	28	31.1	39.4	1	5	50	12
P6SMAFJ28A	P6SMAFJ28CA	28	31.1	35.8	1	5	45.4	13.2
P6SMAFJ30	P6SMAFJ30C	30	33.3	42.2	1	5	53.5	11.2
P6SMAFJ30A	P6SMAFJ30CA	30	33.3	38.3	1	5	48.4	12.4
P6SMAFJ33	P6SMAFJ33C	33	36.7	46.5	1	5	59	10.2
P6SMAFJ33A	P6SMAFJ33CA	33	36.7	42.2	1	5	53.3	11.3
P6SMAFJ36	P6SMAFJ36C	36	40	50.7	1	5	64.3	9.3
P6SMAFJ36A	P6SMAFJ36CA	36	40	46	1	5	58.1	10.3
P6SMAFJ40	P6SMAFJ40C	40	44.4	56.3	1	5	71.4	8.4
P6SMAFJ40A	P6SMAFJ40CA	40	44.4	51.1	1	5	64.5	9.3
P6SMAFJ43	P6SMAFJ43C	43	47.8	60.5	1	5	76.7	7.8
P6SMAFJ43A	P6SMAFJ43CA	43	47.8	54.9	1	5	69.4	8.6
P6SMAFJ45	P6SMAFJ45C	45	50	63.3	1	5	80.3	7.5



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Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
			$V_{BR} @ I_T$					
		V_{RRM}	Min	Max	I_T	$I_R @ V_{RRM}$	$V_C @ I_{PP}$	I_{PP}
UNI	BI	V	V	V	mA	µA	V	A
P6SMAFJ45A	P6SMAFJ45CA	45	50	57.5	1	5	72.7	8.3
P6SMAFJ48	P6SMAFJ48C	48	53.3	67.5	1	5	85.5	7
P6SMAFJ48A	P6SMAFJ48CA	48	53.3	61.3	1	5	77.4	7.8
P6SMAFJ51	P6SMAFJ51C	51	56.7	71.8	1	5	91.1	6.6
P6SMAFJ51A	P6SMAFJ51CA	51	56.7	65.2	1	5	82.4	7.3
P6SMAFJ54	P6SMAFJ54C	54	60	76	1	5	96.3	6.2
P6SMAFJ54A	P6SMAFJ54CA	54	60	69	1	5	87.1	6.9
P6SMAFJ58	P6SMAFJ58C	58	64.4	81.6	1	5	103	5.8
P6SMAFJ58A	P6SMAFJ58CA	58	64.4	74.1	1	5	93.6	6.4
P6SMAFJ60	P6SMAFJ60C	60	66.7	84.5	1	5	107	5.6
P6SMAFJ60A	P6SMAFJ60CA	60	66.7	76.7	1	5	96.8	6.2
P6SMAFJ64	P6SMAFJ64C	64	71.1	90.1	1	5	114	5.3
P6SMAFJ64A	P6SMAFJ64CA	64	71.1	81.8	1	5	103	5.8
P6SMAFJ70	P6SMAFJ70C	70	77.8	98.6	1	5	125	4.8
P6SMAFJ70A	P6SMAFJ70CA	70	77.8	89.5	1	5	113	5.3
P6SMAFJ75	P6SMAFJ75C	75	83	105.7	1	5	134	4.5
P6SMAFJ75A	P6SMAFJ75CA	75	83	95.8	1	5	121	5
P6SMAFJ78	P6SMAFJ78C	78	86	109.8	1	5	139	4.3
P6SMAFJ78A	P6SMAFJ78CA	78	86	99.7	1	5	126	4.8
P6SMAFJ85	P6SMAFJ85C	85	94	119.2	1	5	151	4
P6SMAFJ85A	P6SMAFJ85CA	85	94	108.2	1	5	137	4.4
P6SMAFJ90	P6SMAFJ90C	90	100	126.5	1	5	160	3.8
P6SMAFJ90A	P6SMAFJ90CA	90	100	115.5	1	5	146	4.1
P6SMAFJ100	P6SMAFJ100C	100	111	141	1	5	179	3.4
P6SMAFJ100A	P6SMAFJ100CA	100	111	128	1	5	162	3.7
P6SMAFJ110	P6SMAFJ110C	110	122	154.5	1	5	196	3.1
P6SMAFJ110A	P6SMAFJ110CA	100	122	140.5	1	5	177	3.4
P6SMAFJ120	P6SMAFJ120C	120	133	169	1	5	214	2.8
P6SMAFJ120A	P6SMAFJ120CA	120	133	153	1	5	193	3.1
P6SMAFJ130	P6SMAFJ130C	130	144	182.5	1	5	231	2.6
P6SMAFJ130A	P6SMAFJ130CA	130	144	165.5	1	5	209	2.9
P6SMAFJ150	P6SMAFJ150C	150	167	211.5	1	5	268	2.2
P6SMAFJ150A	P6SMAFJ150CA	150	167	192.5	1	5	243	2.5
P6SMAFJ160	P6SMAFJ160C	160	178	226	1	5	287	2.1
P6SMAFJ160A	P6SMAFJ160CA	160	178	205	1	5	259	2.3
P6SMAFJ170	P6SMAFJ170C	170	189	239.5	1	5	304	2
P6SMAFJ170A	P6SMAFJ170CA	170	189	217.5	1	5	275	2.2
P6SMAFJ180	P6SMAFJ180C	180	200	253.8	1	5	321	1.9
P6SMAFJ180A	P6SMAFJ180CA	180	200	230.4	1	5	290	2.1
P6SMAFJ190	P6SMAFJ190C	190	211	267.9	1	5	339	1.8
P6SMAFJ190A	P6SMAFJ190CA	190	211	243.2	1	5	306	2
P6SMAFJ200	P6SMAFJ200C	200	222	282	1	5	356	1.7
P6SMAFJ200A	P6SMAFJ200CA	200	222	256	1	5	322	1.9
P6SMAFJ210	P6SMAFJ210C	210	233	296.1	1	5	375	1.6
P6SMAFJ210A	P6SMAFJ210CA	210	233	268.8	1	5	339	1.8



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Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
			$V_{BR} @ I_T$					
		V_{RRM}	Min	Max	I_T	$I_R @ V_{RRM}$	$V_C @ I_{PP}$	I_{PP}
UNI	BI	V	V	V	mA	µA	V	A
P6SMAFJ220	P6SMAFJ220C	220	244	310.2	1	5	392	1.5
P6SMAFJ220A	P6SMAFJ220CA	220	244	281.6	1	5	355	1.7
P6SMAFJ250	P6SMAFJ250C	250	278	342.5	1	5	447	1.3
P6SMAFJ250A	P6SMAFJ250CA	250	278	309	1	5	403	1.5
P6SMAFJ300	P6SMAFJ300C	300	333	411	1	5	535	1.1
P6SMAFJ300A	P6SMAFJ300CA	300	333	371	1	5	484	1.2
P6SMAFJ350	P6SMAFJ350C	350	389	479.5	1	5	624	1
P6SMAFJ350A	P6SMAFJ350CA	350	389	432	1	5	565	1.1
P6SMAFJ400	P6SMAFJ400C	400	444	548	1	5	687	0.9
P6SMAFJ400A	P6SMAFJ400CA	400	444	494	1	5	645	0.9
P6SMAFJ440	P6SMAFJ440C	440	489	602.8	1	5	786	0.8
P6SMAFJ440A	P6SMAFJ440CA	440	489	543	1	5	710	0.8

Note:

- (1) V_{BR} measured after I_T applied for 300 µs., I_T square wave pulse or equivalent.
- (2) Surge Current Waveform per Figure 5 and Derate per Figure 1
- (3) A Transient suppressor is normally selected according to the revers
" Stand-off Voltage " (V_{WM}) which should be
equal to or greater then the D.C. or continuous peak operating voltage level.



P6SMAFJ5.0(C)A THRU P6SMAFJ440(C)A RATINGS AND CHARACTERISTIC CURVES

Fig.1 Peak Pulse Power Rating Curve

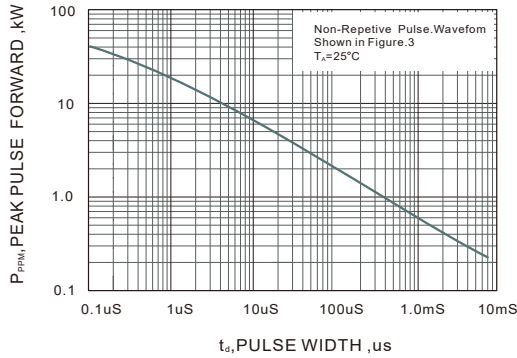


Fig.2 Forward Current Derating Curve

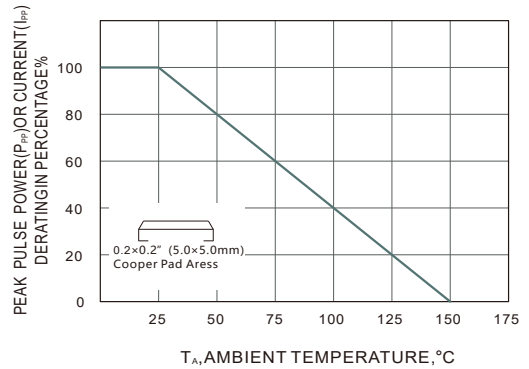


Fig.3 Pulse Waveform

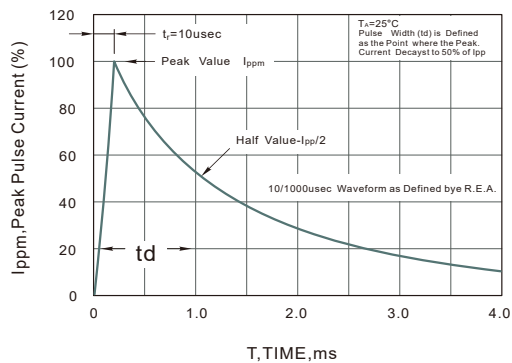


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

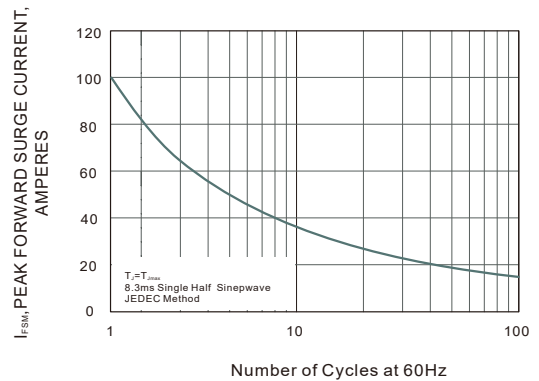


Fig.5 Typical Junction Capacitance

