



SMPJ5.0 THRU SMPJ100CA

Stand-off Voltage - 5.0 to 100 Volts Peak Pulse Power: 5000 Watts

TRANSIENT VTAGE SUPPRESSOR

Features

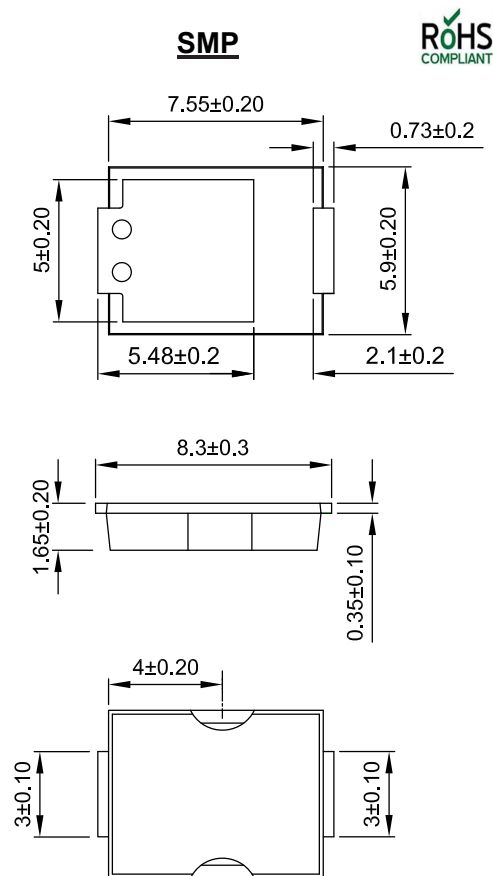
- ◆ Excellent clamping capability
- ◆ Low dynamic impedance
- ◆ Solder dip 260 °C max. 10 s, per JESD 22-B106

Mechanical Data

Case : JEDEC SMP Molded plastic body

Terminals : Tin plated leads, solderable per J-STD- 002 and JESD22-B102

Mounting Position : Any



Maximum Ratings & Electrical Characteristics

Ratings at TA = 25°C unless otherwise specified

Dimensions in inches and (millimeters)

PARAMETER	SYMBOL	UNIT	Max
Peak power dissipation, with a 10/1000us waveform (1) (2)	P _{PPM}	W	5000
Power dissipation, on infinite heat sink at TL=75°C (2)	P _D	W	8.0
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only (3)	I _{FSM}	A	400
Operating junction and storage temperature range	T _J , T _{STG}	°C	-55 to +150
Maximum instantaneous forward voltage at 100A for unidirectional only(4)	V _{FM}	V	3.5
Junction to ambient Junction to lead	R _{θJA}	°C/W	75
	R _{θJL}	°C/W	15

Notes:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25°C per Fig.2.
- (2) Mounted on 0.31 x 0.31" (8.0 x 8.0 mm) copper pads to each terminal
- (3) Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.
- (4) V_F=3.5V Max for devices of V_{BR}≤220v, and V_F=5.0v Max for devices of V_{BR}>220v.
- (5) Mounted on minimum recommended pad layout.



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ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Part No.		Peak Power Dissipation 10/1000 μ sec(W)	Reverse Stand-Off Voltage $V_{RWM}(V)$	Breakdown Voltage $V_{BR}(V)$ Min @ I_T	Breakdown Voltage $V_{BR}(V)$ Max @ I_T	Test Current I_T (mA)	Max Clamping Voltage $V_C(V)$ @ I_{PP}	Peak Pulse Current $I_{PP}(A)$	Reverse Leakage $I_R(\mu A)$ @ V_{RWM}
SMPJ5.0A	SMPJ5.0CA	5000	5.0	6.40	7.00	10	9.20	543.48	1000
SMPJ6.0A	SMPJ6.0CA	5000	6.0	6.67	7.37	10	10.30	485.44	1000
SMPJ6.5A	SMPJ6.5CA	5000	6.5	7.22	7.98	10	11.20	446.43	500
SMPJ7.0A	SMPJ7.0CA	5000	7.0	7.78	8.60	10	12.00	416.67	200
SMPJ7.5A	SMPJ7.5CA	5000	7.5	8.33	9.21	1	12.90	387.60	100
SMPJ8.0A	SMPJ8.0CA	5000	8.0	8.89	9.83	1	13.60	367.65	50
SMPJ8.5A	SMPJ8.5CA	5000	8.5	9.44	10.40	1	14.40	347.22	25
SMPJ9.0A	SMPJ9.0CA	5000	9.0	10.00	11.10	1	15.40	324.68	10
SMPJ10A	SMPJ10CA	5000	10.0	11.10	12.30	1	17.00	294.12	5
SMPJ11A	SMPJ11CA	5000	11.0	12.20	13.50	1	18.20	274.73	5
SMPJ12A	SMPJ12CA	5000	12.0	13.30	14.70	1	19.90	251.26	5
SMPJ13A	SMPJ13CA	5000	13.0	14.40	15.90	1	21.50	232.56	5
SMPJ14A	SMPJ14CA	5000	14.0	15.60	17.20	1	23.20	215.52	5
SMPJ15A	SMPJ15CA	5000	15.0	16.70	18.50	1	24.40	204.92	5
SMPJ16A	SMPJ16CA	5000	16.0	17.80	19.70	1	26.00	192.31	5
SMPJ17A	SMPJ17CA	5000	17.0	18.90	20.90	1	27.60	181.16	5
SMPJ18A	SMPJ18CA	5000	18.0	20.00	22.10	1	29.20	171.23	5
SMPJ19A	SMPJ19CA	5000	19.0	21.10	23.30	1	30.80	162.44	5
SMPJ20A	SMPJ20CA	5000	20.0	22.20	24.50	1	32.40	154.32	5
SMPJ22A	SMPJ22CA	5000	22.0	24.40	26.90	1	35.50	140.85	5
SMPJ24A	SMPJ24CA	5000	24.0	26.70	29.50	1	38.90	128.53	5
SMPJ26A	SMPJ26CA	5000	26.0	28.90	31.90	1	42.10	118.76	5
SMPJ28A	SMPJ28CA	5000	28.0	31.10	34.40	1	45.40	110.13	5
SMPJ30A	SMPJ30CA	5000	30.0	33.30	36.80	1	48.40	103.31	5
SMPJ33A	SMPJ33CA	5000	33.0	36.70	40.60	1	53.30	93.81	5
SMPJ36A	SMPJ36CA	5000	36.0	40.00	44.20	1	58.10	86.06	5
SMPJ40A	SMPJ40CA	5000	40.0	44.40	49.10	1	64.50	77.52	5
SMPJ43A	SMPJ43CA	5000	43.0	47.80	52.80	1	69.40	72.05	5
SMPJ45A	SMPJ45CA	5000	45.0	50.00	55.30	1	72.70	68.78	5
SMPJ48A	SMPJ48CA	5000	48.0	53.30	58.90	1	77.40	64.60	5
SMPJ51A	SMPJ51CA	5000	51.0	56.70	62.70	1	82.40	60.68	5
SMPJ54A	SMPJ54CA	5000	54.0	60.00	66.30	1	87.10	57.41	5
SMPJ58A	SMPJ58CA	5000	58.0	64.40	71.20	1	93.60	53.42	5
SMPJ60A	SMPJ60CA	5000	60.0	66.70	73.70	1	96.80	51.65	5
SMPJ64A	SMPJ64CA	5000	64.0	71.10	78.60	1	103.0	48.54	5
SMPJ70A	SMPJ70CA	5000	70.0	77.80	86.00	1	113.0	44.25	5
SMPJ75A	SMPJ75CA	5000	75.0	83.30	92.10	1	121.0	41.32	5
SMPJ78A	SMPJ78CA	5000	78.0	86.70	95.80	1	126.0	39.68	5
SMPJ80A	SMPJ80CA	5000	80.0	88.80	97.60	1	129.6	38.58	5
SMPJ85A	SMPJ85CA	5000	85.0	94.40	104.00	1	137.0	36.50	5
SMPJ90A	SMPJ90CA	5000	90.0	100.00	111.00	1	146.0	34.25	5
SMPJ100A	SMPJ100CA	5000	100.0	111.00	123.00	1	162.0	30.86	5

Typical Characteristics

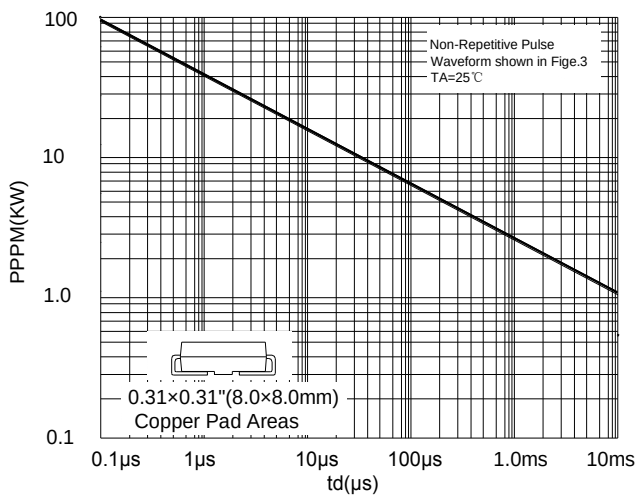


FIG1: Peak Pulse Power Rating Curve

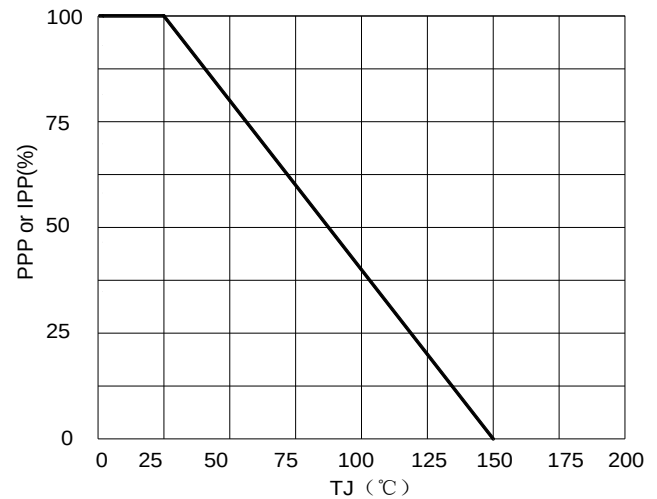


FIG2: Pulse Power or Current vs. Initial Junction Temperature

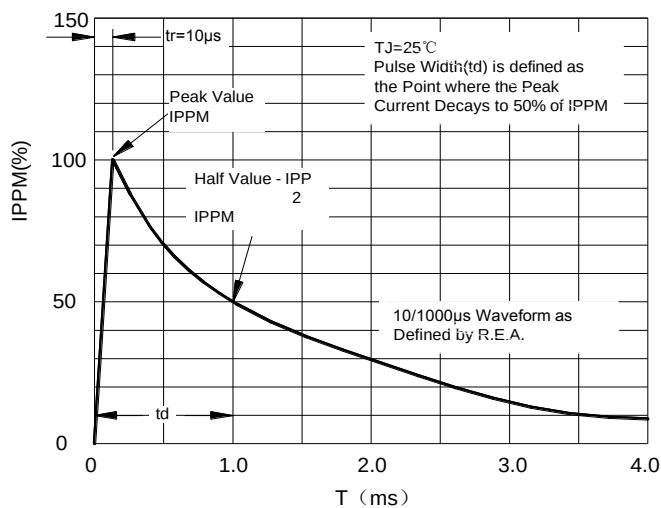


FIG3: Pulse Waveform

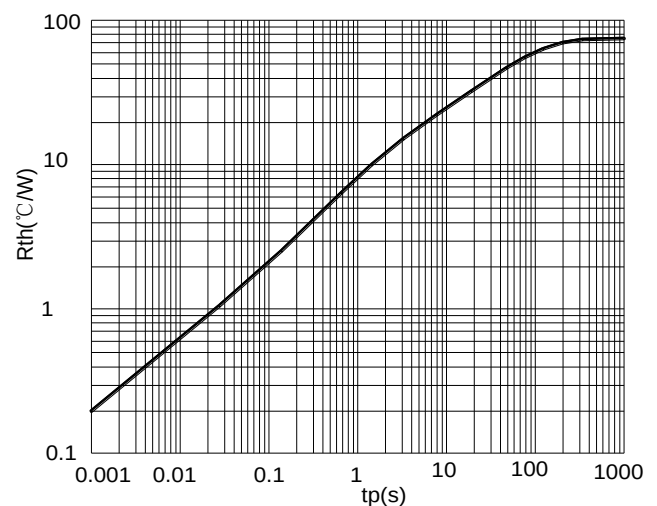


FIG4: Typical Transient Thermal Impedance

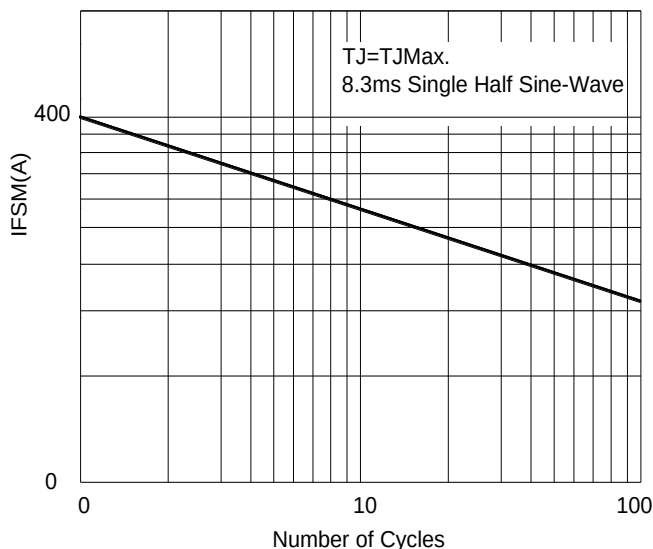


FIG5: Maximum Non-Repetitive Surge Current

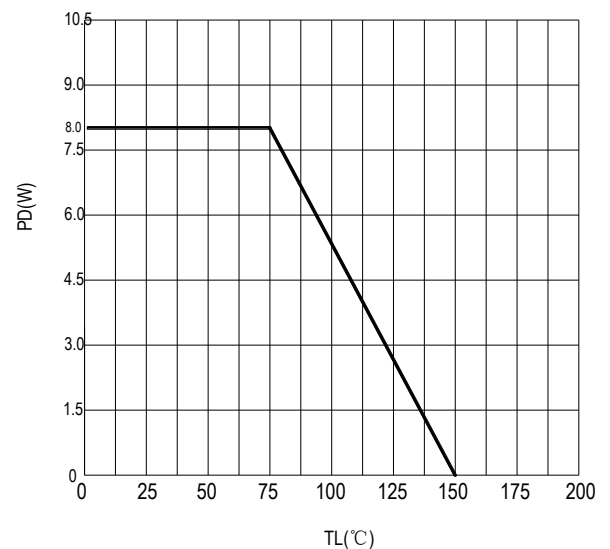


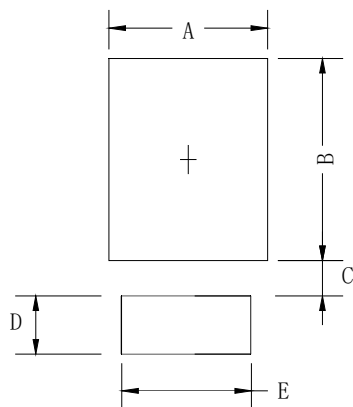
FIG6: Steady State Power Dissipation



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Mounting Pad Layout(unit:mm)



Dim	Millimeters
A	5.40
B	5.90
C	2.10
D	1.90
E	4.00

Note: based on the center of the small pad,Maximum Displacement 0.3mm。

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