

SPA series

sales016@heyuecap.com

- Low ESR.
- High Voltage, Long Life.
- 105°C, 5,000~10,000hrs.
- RoHS compliant
- For high reliability applications. (Automotive equipment, Base station equipment, etc.)



SPA

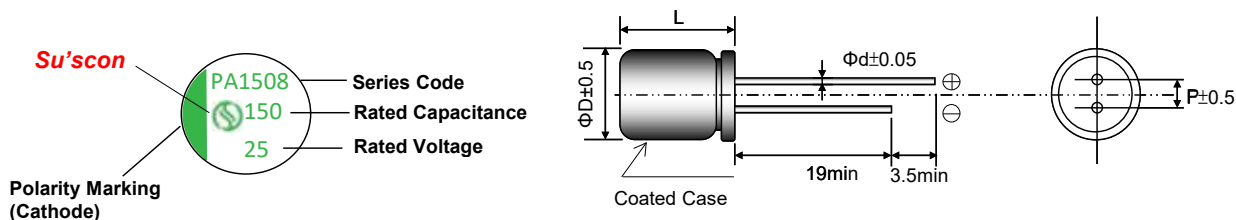
SPECIFICATIONS

Items	Conditions	Characteristics	
Category Temperature Range	—	-55 to +105°C	
Rated Voltage Range	—	16 ~ 125V	
Capacitance Tolerance	at 20°C, 120Hz	±20%(M)	
Surge Voltage	at 15 ~ 35°C	Rated voltage × 1.15V	
Leakage Current	at 20°C after 2 minutes	I ≤ 0.01CV or 3(μA) Whichever is greater measured, after 2 minutes application of rated working voltage at +20°C. Please see the attached characteristics list	
Dissipation Factor (tan δ)	at 20°C, 120Hz	Please see the attached characteristics list	
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 5,000 to 10,000 hours at 105°C. Φ6.3=5,000hrs, D ≥ Φ8=10,000hrs;	Appearance	No significant damage.
		Capacitance change	±30% of the initial value.
		DF(tan δ)	≤ 200% of the initial specified value.
		ESR	≤ 200% of the initial specified value.
		Leakage current	≤ The initial specified value.
Damp Heat (Steady State)	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to 90 to 95% RH for 1,000 hours, without DC applied.	Appearance	No significant damage.
		Capacitance change	±30% of the initial value.
		DF(tan δ)	≤ 200% of the initial specified value.
		ESR	≤ 200% of the initial specified value.
		Leakage current	≤ The initial specified value.
Surge Voltage	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltages specified at 15~35°C for 30 seconds through a protective resistor (R=1kΩ) and discharge for 5 minutes 30 seconds	Appearance	No significant damage.
		Capacitance change	±30% of the initial value.
		DF(tan δ)	≤ 200% of the initial specified value.
		ESR	≤ 200% of the initial specified value.
		Leakage current	≤ The initial specified value.
Standards	IEC 60384-4 (JIS C 5101-4)		

※ Note: If any doubt arises, measure the leakage current after following voltage treatment.

Voltage treatment: DC rated voltage are applied to the capacitors for 120 minutes at 105°C.

MARKING AND DIMENSIONS



(Unit:mm)

Size Code	6.3x7.2	8x9.5	10x9.5	10x11.5
ΦD	6.3	8	10	10
L	L+1.5 max	L+1.5max	L+1.5 max	L+1.5max
Φd	0.5	0.6	0.6	0.6
P	2.5	3.5	5.0	5.0

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STANDARD RATINGS

Rated voltage (S.V.)	Cap (μF)	Size Code D×L	Leakage current (μA) max.	ESR (mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms) 100kHz / 105°C	D.F. (tanδ) max. 120Hz / 20°C
16 (18.4)	120	6.3×7.2	19	40	1500	0.16
	270	8×9.5	43	26	2000	0.16
	470	10×9.5	75	21	2600	0.16
	560	10×11.5	90	15	3000	0.16
25 (28.8)	68	6.3×7.2	17	45	1400	0.16
	150	8×9.5	38	27	1900	0.16
	270	10×9.5	68	22	2500	0.16
	330	10×11.5	83	16	2900	0.16
35 (40.3)	47	6.3×7.2	16	60	1300	0.16
	100	8×9.5	35	30	1800	0.16
	150	10×9.5	53	23	2400	0.16
	220	10×11.5	77	17	2800	0.16
40 (46.0)	27	6.3×7.2	11	70	1200	0.16
	56	8×9.5	22	32	1700	0.16
	100	10×9.5	40	24	2400	0.16
	120	10×11.5	48	18	2700	0.16
50 (57.5)	15	6.3×7.2	8	80	1200	0.16
	33	8×9.5	17	35	1600	0.16
	56	10×9.5	28	25	2300	0.16
	82	10×11.5	41	19	2600	0.16
63 (72.5)	10	6.3×7.2	6	100	1000	0.16
	22	8×9.5	14	40	1500	0.16
	33	8×9.5	21	40	1500	0.16
		10×9.5	21	30	2100	0.16
	47	10×9.5	30	30	2100	0.16
	56	10×11.5	35	22	2400	0.16
80 (92.0)	12	10×9.5	10	70	1600	0.16
	15	10×9.5	12	70	1600	0.16
	18	10×11.5	14	50	1800	0.16
100 (115.0)	10	10×9.5	10	80	1400	0.16
	12	10×9.5	12	80	1400	0.16
	15	10×11.5	15	60	1600	0.16
125 (143.8)	10	10×9.5	13	90	1200	0.16

Frequency Coefficient of Permissible Ripple Current

Frequency (Hz)	100 ≤ F < 1K	1K ≤ F < 10K	10K ≤ F < 100K	100K ≤ F
Capacitance (μF)				
4.7 < C ≤ 33	0.05	0.32	0.67	1.00
33 < C	0.10	0.35	0.70	1.00