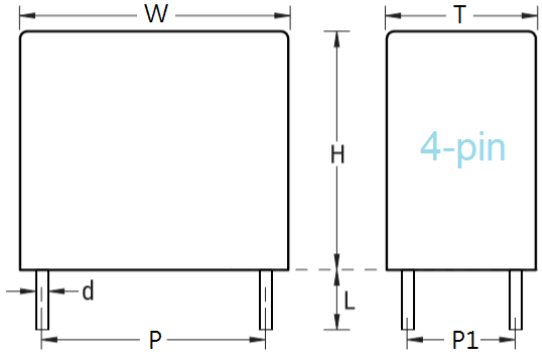
金屬化聚丙烯膜電容器 (交流濾波) - SMCA series

Metallized Polypropylene Film Capacitor (For AC Filter)

■ **外形圖 Outline Drawing (For Example)**



■ **典型應用 Typical Applications**

適用於小功率交流濾波器，即 UPS，
帶 LCL 濾波器的太陽能光伏直流/交流逆變器

Suitable for small power AC filter, i.e. UPS,
Solar Photovoltaic DC/AC inverter with LCL filter

■ **特徵 Features**

金屬化聚丙烯膜結構
採用矩形塑料盒型設計
塑料外殼封裝（UL94V-0）, 環氧樹脂密封
使用 2 或 4 根鍍錫引線

Metalized polypropylene film membrane structure
with a rectangular, plastic box-type design,
Plastic shell package (UL94v-0), Epoxy resin sealing
and uses 2 or 4 tinned wires.

■ **規格 Specifications**

參考標準 Reference Standard	GB/T 17702 (IEC 61071)		
氣候類別 Climatic Category	40/85/56		
最大允許外殼溫度（T_{case}） Maximum permissible case temperature (T_{case})	-40℃~105℃		
	85℃ (85℃~105℃: Decreasing factor 1.5% per ℃ for U_{NAC})		
應用 Application	AC Filtering 250VAC rating recommended ONLY for controlled output filtering		
容值範圍 Capacitance Range	1μF ~ 40μF		
額定均方根電壓 Rated RMS Voltage (U_{RMS})	250 Vac	310 Vac	350 Vac
額定交流電壓 Rated AC Voltage (U_N) 50/60Hz	350 Vac	425 Vac	480 Vac
最大連續直流電壓 Continuous DC voltage (U_{NDC})	475 Vdc	560 Vdc	600 Vdc
容值公差 Capacitance Tolerance	±5%(J)、±10%(K)		
引線 Leads	Tinned wires - standard lead wire length 6 (+1/−2) mm		
包裝 Packaging	Packed in cardboard trays with protection for the terminals		

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■ 電氣特性 Electrical Characteristics

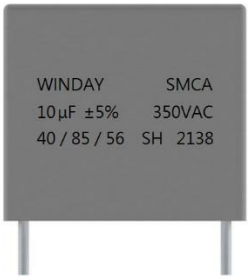
端子間耐受電壓 Withstanding voltage (V_{TT})		1.5 x U_{NDC} for 10 s, cut off current 10 mA		
絕緣電阻 Insulation Resistance (IR x C_N)		≥ 3 000 s (25℃, 100Vdc, 60 seconds)		
浪湧電壓 Surge Voltage		1.5 * V_{NDC} for maximum 10 times in lifetime at T = 25°C ±5°C		
過電壓 Over voltage	1.1 x U_N	有負荷時間的 30%	一天內最長持續時間 Maximum duration within one day	30% of on-load duration
	1.15 x U_N	30 分鐘		30 minutes
	1.2 x U_N	5 分鐘		5 minutes
	1.3 x U_N	1 分鐘		1 minutes
自感 Self Inductance (L_S)		< 1nH per mm of lead spacing)		
最大峰值電流 Maximum peak current ↑ (A)		↑ = C x dV/dt		

■ 產品代碼構成 Product code system (For Example)

SMCA	G	505	J	0310	A	2	28	06
型號 Type	內部使用 Internal use	容值 Capacitance	公差 Tolerance	額定電壓 Rated Voltage	交直流 AC/DC	引線類型 Lead form	引線間距 Lead Pitch	引線長度 Lead Length
SMCA= AC Filter Capacitor (Boxed)	--	505 =5,000nF =5μF	J=±5% K=±10%	0250=250V 0310=310V 0350=350V	A=AC	2=2 pins 4=4 pins P1=10.2mm 5=4 pins P1=12.7mm 6=4 pins P1=20.3mm	28=27.5mm 38=37.5mm 53=52.5mm	06=6.0mm 08=8.0mm DP= Flat quick-connectors

■ 標示 Mark (For Example)

Marking



1. Manufacturer's name: WINDAY	2. SMCA: Type Construction
3. Capacitance: 10μF	4. Capacitors Tolerance: ±5%
5. Rated Voltage: 350VAC	6. Climatic Category: 40/85/56
7. Self-Healing in nature such as SH	8. Date Code : 2138, Years = 2021, Weeks = 38

金屬化聚丙烯膜電容器 (交流濾波) - SMCA series

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■ Dimensions (mm)

U_{RMS} 250Vac / U_N 350Vac / U_{NDC} 475Vdc												
Cap. μF	$W_{\pm1.0}$	$H_{\pm1.0}$	$T_{\pm1.0}$	$P_{\pm1.0}$	$P1_{\pm0.5}$	Pins	$d_{\pm0.05}$	ESR @10kHz (mΩ)	dV/dt (V/us)	I_{PEAK} (A)	I_{RMS} @10kHz (A)	Part number
1.0	32	18	9	27.5	--	2	1.0	19.3	90	90	3	SMCA_105+0250A22806
1.5	32	20	11	27.5	--	2	1.0	12.9	90	135	4	SMCA_155+0250A22806
2.0	32	22	13	27.5	--	2	1.0	9.6	90	180	5	SMCA_205+0250A22806
2.2	32	22	13	27.5	--	2	1.0	8.8	90	198	6	SMCA_225+0250A22806
2.5	32	22	13	27.5	--	2	1.0	7.7	90	225	6	SMCA_255+0250A22806
3.0	32	24.5	15	27.5	--	2	1.0	6.4	90	270	7	SMCA_305+0250A22806
3.3	32	24.5	15	27.5	--	2	1.0	5.8	90	297	8	SMCA_335+0250A22806
3.5	32	28	14	27.5	--	2	1.0	5.5	90	315	8	SMCA_355+0250A22806
4.0	32	33	18	27.5	--	2	1.2	4.8	90	360	10	SMCA_405+0250A22806
4.5	32	33	18	27.5	--	2	1.2	4.3	90	405	10	SMCA_455+0250A22806
5.0	32	33	18	27.5	--	2	1.2	3.9	90	450	11	SMCA_505+0250A22806
6.8	32	37	22	27.5	--	2	1.2	2.8	90	612	14	SMCA_685+0250A22806
4.7	41	26	15	37.5	--	2	1.2	7.8	60	282	7	SMCA_475+0250A23806
5.0	42	28	14	37.5	--	2	1.2	7.3	60	300	8	SMCA_505+0250A23806
6.0	41	32	17	37.5	--	2	1.2	6.1	60	360	9	SMCA_605+0250A23806
6.5	41	32	17	37.5	--	2	1.2	5.6	60	390	10	SMCA_655+0250A23806
6.8	41	33.5	18.5	37.5	--	2	1.2	5.4	60	408	10	SMCA_685+0250A23806
7.5	41	33.5	18.5	37.5	--	2	1.2	4.9	60	450	11	SMCA_755+0250A23806
8.0	41	37	22	37.5	--	2	1.2	4.6	60	480	12	SMCA_805+0250A23806
10	41	37	22	37.5	--	2	1.2	3.7	60	600	13	SMCA_106+0250A23806
12	41	41	26	37.5	--	2	1.2	3.0	60	720	14	SMCA_126+0250A23806
15	41	41	26	37.5	--	2	1.2	2.4	60	900	14	SMCA_156+0250A23806
18	41	43	28	37.5	--	2	1.2	2.0	60	1080	14	SMCA_186+0250A23806
20	42	45	30	37.5	--	2	1.2	1.8	60	1200	14	SMCA_206+0250A23806
22	42	45	30	37.5	--	2	1.2	1.7	60	1320	14	SMCA_226+0250A23806
25	57	43.5	29.5	52.5	20.3	4	1.2	3.3	30	750	18	SMCA_256+0250A65306
30	57	43.5	29.5	52.5	20.3	4	1.2	2.7	30	900	20	SMCA_306+0250A65306
35	57	50	35	52.5	20.3	4	1.2	2.3	30	1050	23	SMCA_356+0250A65306
40	57	50	35	52.5	20.3	4	1.2	2.0	30	1200	25	SMCA_406+0250A65306

金屬化聚丙烯膜電容器 (交流濾波) - SMCA series

Metallized Polypropylene Film Capacitor (For AC Filter)

■ Dimensions (mm)

U_{RMS} 310Vac / U_N 425Vac / U_{NDC} 560Vdc												
Cap. μF	$W_{\pm1.0}$	$H_{\pm1.0}$	$T_{\pm1.0}$	$P_{\pm1.0}$	$P1_{\pm0.5}$	Pins	$d_{\pm0.05}$	ESR @10kHz (mΩ)	dV/dt (V/us)	I_{PEAK} (A)	I_{RMS} @10kHz (A)	Part number
1.0	32	20	11	27.5	--	2	1.0	15.9	100	100	4	SMCA_105+0310A22806
1.5	32	22	13	27.5	--	2	1.0	10.6	100	150	5	SMCA_155+0310A22806
2.0	32	24.5	15	27.5	--	2	1.0	8.9	100	200	6	SMCA_205+0310A22806
2.2	32	24.5	15	27.5	--	2	1.0	8.0	100	220	7	SMCA_225+0310A22806
2.5	32	28	14	27.5	--	2	1.0	7.2	100	250	8	SMCA_255+0310A22806
3.0	32	33	18	27.5	--	2	1.2	6.4	100	300	9	SMCA_305+0310A22806
3.3	32	33	18	27.5	--	2	1.2	5.3	100	330	10	SMCA_335+0310A22806
3.5	32	33	18	27.5	--	2	1.2	4.8	100	350	10	SMCA_355+0310A22806
4.0	32	33	18	27.5	--	2	1.2	4.6	100	400	11	SMCA_405+0310A22806
4.7	32	37	22	27.5	--	2	1.2	4.0	100	470	13	SMCA_475+0310A22806
5.0	32	37	22	27.5	--	2	1.2	3.4	100	500	13	SMCA_505+0310A22806
6.8	32	37	22	27.5	--	2	1.2	3.2	100	680	14	SMCA_685+0310A22806
3.0	41	26	15	37.5	--	2	1.2	10.1	70	210	6	SMCA_305+0310A23806
3.3	41	26	15	37.5	--	2	1.2	9.2	70	231	7	SMCA_335+0310A23806
3.5	42	28	14	37.5	--	2	1.2	8.6	70	245	7	SMCA_355+0310A23806
4.0	41	32	17	37.5	--	2	1.2	7.6	70	280	8	SMCA_405+0310A23806
4.5	41	32	17	37.5	--	2	1.2	6.7	70	315	9	SMCA_455+0310A23806
4.7	41	32	17	37.5	--	2	1.2	6.4	70	329	9	SMCA_475+0310A23806
5.0	41	33.5	18.5	37.5	--	2	1.2	6.0	70	350	10	SMCA_505+0310A23806
6.0	41	33.5	18.5	37.5	--	2	1.2	5.0	70	420	11	SMCA_605+0310A23806
6.8	41	37	22	37.5	--	2	1.2	4.4	70	476	12	SMCA_685+0310A23806
8.0	41	37	22	37.5	--	2	1.2	3.8	70	560	13	SMCA_805+0310A23806
10	41	41	26	37.5	--	2	1.2	3.0	70	700	14	SMCA_106+0310A23806
12	41	43	28	37.5	--	2	1.2	2.5	70	840	14	SMCA_126+0310A23806
15	42	45	30	37.5	--	2	1.2	2.1	70	1050	14	SMCA_156+0310A23806
18	57	43.5	29.5	52.5	20.3	4	1.2	3.8	40	720	17	SMCA_186+0310A65306
20	57	43.5	29.5	52.5	20.3	4	1.2	3.4	40	800	18	SMCA_206+0310A65306
22	57	43.5	29.5	52.5	20.3	4	1.2	3.1	40	880	20	SMCA_226+0310A65306
25	57	50	35	52.5	20.3	4	1.2	2.7	40	1000	21	SMCA_256+0310A65306
28	57	50	35	52.5	20.3	4	1.2	2.4	40	1120	23	SMCA_286+0310A65306

金屬化聚丙烯膜電容器 (交流濾波) - SMCA series

Metallized Polypropylene Film Capacitor (For AC Filter)

■ Dimensions (mm)

U_{RMS} 350Vac / U_N 480Vac / U_{NDC} 600Vdc												
Cap. μF	$W_{\pm1.0}$	$H_{\pm1.0}$	$T_{\pm1.0}$	$P_{\pm1.0}$	$P1_{\pm0.5}$	Pins	$d_{\pm0.05}$	ESR @10kHz (mΩ)	dV/dt (V/us)	I_{PEAK} (A)	I_{RMS} @10kHz (A)	Part number
0.33	32	18	9	27.5	--	2	0.8	53.9	50	16.5	1.6	SMCA_334+0350A22806
0.39	32	18	9	27.5	--	2	0.8	46	50	19.5	1.7	SMCA_394+0350A22806
0.47	32	18	9	27.5	--	2	0.8	38.6	50	23.5	1.9	SMCA_474+0350A22806
0.68	32	20	11	27.5	--	2	0.8	27.5	50	34	2.5	SMCA_684+0350A22806
0.82	32	22	13	27.5	--	2	0.8	23.3	50	41	3.0	SMCA_824+0350A22806
1.0	32	22	13	27.5	--	2	0.8	19.6	50	50	3.2	SMCA_105+0350A22806
1.5	32	24.5	15	27.5	--	2	0.8	14.0	50	75	4.2	SMCA_155+0350A22806
2.0	32	30	16	27.5	--	2	0.8	11.1	50	100	5.0	SMCA_205+0350A22806
2.2	32	30	16	27.5	--	2	0.8	10.4	50	110	5.2	SMCA_225+0350A22806
2.5	32	33	18	27.5	--	2	1.0	7.0	50	125	6.2	SMCA_255+0350A22806
3.0K	32	33	18	27.5	--	2	1.0	6.1	50	150	6.5	SMCA_305+0350A22806
3.0	32	37	22	27.5	--	2	1.0	5.8	50	150	7.4	SMCA_305+0350A22806
3.3	32	37	22	27.5	--	2	1.0	5.3	50	165	7.7	SMCA_335+0350A22806
3.5	32	37	22	27.5	--	2	1.0	5.0	50	175	7.9	SMCA_355+0350A22806
4.0	32	37	22	27.5	--	2	1.0	4.4	50	200	8.2	SMCA_405+0350A22806
1.0	41	22	11	37.5	--	2	1.0	28	35	35	2.8	SMCA_105+0350A23806
1.5	41	24	13	37.5	--	2	1.0	19.3	35	53	3.7	SMCA_155+0350A23806
2.0	41	26	15	37.5	--	2	1.0	14.9	35	70	4.6	SMCA_205+0350A23806
2.2	41	26	15	37.5	--	2	1.0	13.7	35	77	4.8	SMCA_225+0350A23806
2.5	41	30	16	37.5	--	2	1.0	12.3	35	88	5.3	SMCA_255+0350A23806
3.0	41	30	16	37.5	--	2	1.0	10.5	35	105	5.7	SMCA_305+0350A23806
3.3	41	32	17	37.5	--	2	1.0	9.7	35	116	6.2	SMCA_335+0350A23806
3.5	41	32	17	37.5	--	2	1.0	9.3	35	123	6.4	SMCA_355+0350A23806
4.0	41	33.5	18.5	37.5	--	2	1.0	8.3	35	140	7.0	SMCA_405+0350A23806
4.5	41	37	22	37.5	--	2	1.0	7.6	35	158	8.0	SMCA_455+0350A23806
5.0	41	37	22	37.5	--	2	1.0	7.0	35	175	8.3	SMCA_505+0350A23806
5.5	41	37	22	37.5	--	2	1.0	6.6	35	193	8.6	SMCA_555+0350A23806
6.0	41	41	26	37.5	--	2	1.0	6.2	35	210	9.7	SMCA_605+0350A23806
6.5	41	41	26	37.5	--	2	1.0	5.8	35	228	10	SMCA_655+0350A23806
7.0	41	41	26	37.5	--	2	1.0	5.5	35	245	10.3	SMCA_705+0350A23806

金屬化聚丙烯膜電容器 (交流濾波) - SMCA series

Metallized Polypropylene Film Capacitor (For AC Filter)

■ Dimensions (mm)

U_{RMS} 350Vac / U_N 480Vac / U_{NDC} 600Vdc												
Cap. μF	$W_{\pm1.0}$	$H_{\pm1.0}$	$T_{\pm1.0}$	$P_{\pm1.0}$	$P1_{\pm0.5}$	Pins	$d_{\pm0.05}$	ESR @10kHz (mΩ)	dV/dt (V/us)	I_{PEAK} (A)	I_{RMS} @10kHz (A)	Part number
7.5	41	41	26	37.5	--	2	1.0	5.3	35	263	10.5	SMCA_755+0350A23806
8.0	41	41	26	37.5	--	2	1.0	5.1	35	280	10.5	SMCA_805+0350A23806
8.5	41	43	28	37.5	--	2	1.0	4.9	35	298	10.5	SMCA_855+0350A23806
9.0	41	43	28	37.5	--	2	1.0	4.7	35	315	10.5	SMCA_905+0350A23806
9.5	42	45	30	37.5	--	2	1.0	4.5	35	333	10.5	SMCA_955+0350A23806
10	42	45	30	37.5	--	2	1.0	4.4	35	350	10.5	SMCA_106+0350A23806
10	57	45	25	52.5	--	2	1.2	5.7	25	250	11.6	SMCA_106+0350A25306
11	57	45	25	52.5	--	2	1.2	5.3	25	275	11.9	SMCA_116+0350A25306
12	57	43.5	29.5	52.5	20.3	4	1.2	4.4	25	300	14.1	SMCA_126+0350A65306
15	57	45	35	52.5	20.3	4	1.2	3.7	25	375	16.4	SMCA_156+0350A65306
16	57	45	35	52.5	20.3	4	1.2	3.5	25	400	16.8	SMCA_166+0350A65306
18	57	50	35	52.5	20.3	4	1.2	3.2	25	450	18.1	SMCA_186+0350A65306
20	57	50	40	52.5	20.3	4	1.2	2.9	25	500	19.8	SMCA_206+0350A65306

Notes

(1) The symbol + means capacitance tolerance (J=±5%, K=±10%)

(2) Equivalent series resistance typical values at f = 10 kHz

(3) Rated voltage pulse slope (dV/dt) at voltage U_{NDC}

(4) Maximum RMS current at 10 kHz, θ_{amb}=70 °C (cooling-air temperature), $\Delta\theta_{case}$=15°C (container temperature rise)

(5) Tinned wires - standard lead wire length 6 (+1/−2) mm

■ 檢驗要求 Inspection requirements

測試項目 Test item	性能要求 Performance requirements	試驗條件 Conditions of test
例行試驗 Routine test		
外觀檢查 External inspection	按規定清晰的標記 Legible marking as specified	--
尺寸 Dimensions	見規格圖紙 See specification drawing	--
電容量 Capacitance	在規定公差內 Within the tolerance specified	室溫 1 kHz at room temperature
損耗因素 tan δ Dissipation Factor	$1\mu F \le C_N < 10\mu F$, $DF \le 10 \times 10^{-4}$ $10\mu F \le C_N < 20\mu F$, $DF \le 20 \times 10^{-4}$ $20\mu F \le C_N \le 140\mu F$, $DF \le 40 \times 10^{-4}$	室溫 1 kHz at room temperature
端子間的電壓試驗 Voltage test between terminal	無可見損傷或刺穿，沒有閃絡 No visible damage or puncture, No flashover	$1.5 \times U_{NDC}$ 持續時間 Duration 10 seconds
絕緣電阻 Insulation resistance	$IR \times C_N \ge 3{,}000s$	25℃, 100Vdc, 60 seconds
型式試驗 Type Tests		
引出端強度試驗 Robustness of terminations	無斷線，電容器無損壞 No wire breakage and no damage of capacitor	Tensile Ua1 (Duration : 10s±1s) Wire diameter / Section / Load d ≤ 0.8mm / S ≤ 0.5mm² / 10N (±10%) d ≤ 1.25mm / S ≤ 1.2mm² / 20N (±10%) Bending Ub method 1 (4*90 ˚,Duration : 2s/bend) Wire diameter / Section modulus / Load d ≤ 0.8mm / ≤ 0.050mm³ / 5N (±10%) d ≤ 1.25mm / ≤ 0.019mm³ / 10N (±10%)
耐焊接熱 Resistance to soldering heat	沒有可見的損壞 No visible damage (1) △C/C ≤ 0.5% of the initial value (2) Increase of tan δ ≤ 0.005	無需預先乾燥，方法1A；No pre-drying, method 1A 焊錫槽 Solder Bath: 260±5℃ 持續時間 Duration 10±1s
振動 Vibration		頻率 F=10 Hz to 55 Hz 振幅 Amplitude±0.35mm 測試持續時間 Test duration: 10 frequency cycles 3 個軸向互成 90° 3 axes offset from each other by 90° 1 倍頻程/分钟 1 octave/min
端子間的電壓試驗 DC Voltage test between terminals	(1) △C/C ≤ 0.5% of the initial value (2) Increase of tan δ ≤ 1.2 x initial tan δ + 0.0001 (3) IR ≥ 50 % of specified values	$1.5 \times U_{NDC}$ at T_{amb} 持續時間 Duration 60 s

■ **檢驗要求 Inspection requirements**

測試項目 Test item	性能要求 Performance requirements	試驗條件 Conditions of test
衝擊放電試驗 Surge discharge test	(1) △C/C ≤ 1.0% of the initial value (2) tan δ ≤ 1.2 x initial tan δ + 0.0001	1.1 x U_{NDC} 放電次數 Number of discharges: 5 時間推移 Time lapse: every 2 min (10 min total) 在衝擊放電試驗之後的 5 分鐘內 Within 5 min after the surge discharge test 1.5 x U_{NDC} at T_{amb}，持續時間 Duration 60 s
自愈性試驗 Self-healing test	(1) △C/C ≤ 0.5% of the initial value (2) tan δ ≤ 1.2 x initial tan δ + 0.0001	1.5 x U_{NDC}，持續時間 Duration 10 s 自愈性擊穿次數 Number of clearings ≤ 5，以 100V/s 升壓直到 5 次自愈或 2.5 x U_{NDC}，持續 10 s Increase the voltage at 100 V/s till 5 clearings occur or until voltage reach max. of 2.5 x U_{NDC} for a duration of 10 s
溫度變化 Change of temperature	無擊穿或閃絡 No puncturing or flashover 允許自愈擊穿 Self healing punctures are permitted (1) △C/C ≤ 2.0% of the initial value (2) Increase of tan δ ≤ 0.015	Test Nb: 上限溫度 $T_{max.}$ = +85°C 下限溫度 $T_{min.}$ = -40°C 過渡時間 Transition time: 1h, 5 cycles
恒定濕熱試驗 Damp heat steady state		Test Ca: T = 40°C ±2°C RH = 93% ±3% 持續時間 Duration 56 days
端子間的電壓試驗 Voltage test between terminals		1.5 x U_{NDC} at T_{amb} 持續時間 Duration 60 s
熱穩定性試驗 Thermal stability test under overload conditions	溫升 Temperature rise < 1°C (1) △C/C ≤ 2.0% of the initial value (2) Increase of tan δ ≤ 1.2 x initial δ + 0.015	自然冷卻 Natural cooling T_{amb} ±5°C 1.21 x Pmax. = 1.21 x (I^2_{RMS} / w x C) x tan δ(f) with w = 2 x π x f For I_{RMS} 見參考資料 see specific reference data f = 10 kHz 持續時間 Duration 48 h 在試驗的最後 6 h，每 1.5 h 測量一次溫度 Measure the temperature every 1.5 h during the last 6 h
端子間的耐久性試驗 Endurance test between terminals	(1) △C/C ≤ 3.0% of the initial value (2) Increase of tan δ ≤ 0.015	順序 Sequence: 1.25 x U_{NDC} at $T_{max.}$ = 85°C 持續時間 Duration 500 h 1000 x discharge at 1.4 x Î (最大峰值電流 Maximum peak current) 1.25 x U_{NDC} at $T_{max.}$ = 85°C 持續時間 Duration 500 h

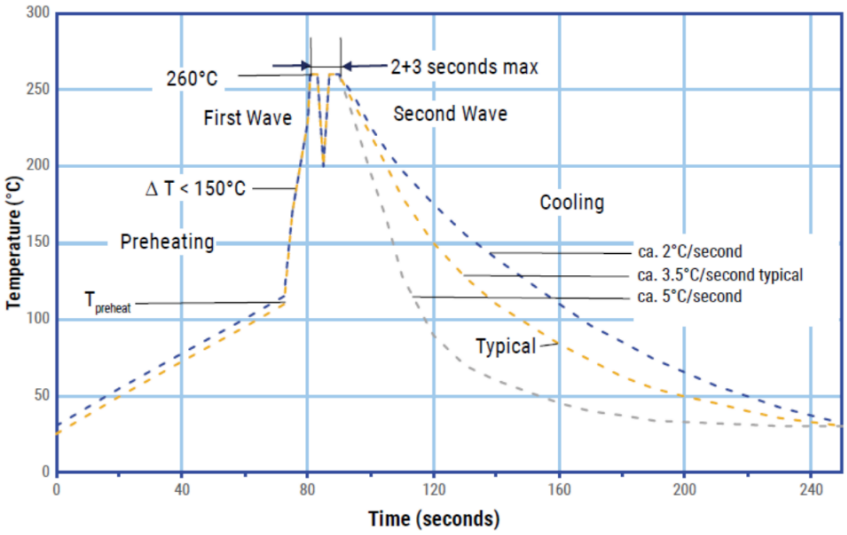
■ 薄膜电容器焊接指南 Soldering Guidelines for Film Capacitors

聚丙烯膜電容器對熱特別敏感 (聚丙烯膜的熔點為 160°C ~ 170°C)，波峰焊可能具有破壞性，尤其是對於小型聚丙烯膜電容器 (引線間距為 5 mm 至 15 mm)，焊接過程中必須非常小心。
一般來說，IEC 出版物 61760–1 第 2 版中的波峰焊接曲線可作為成功焊接的可靠指南。(請參見圖 1)
Polypropylene capacitors are especially sensitive to heat (the melting point of polypropylene is 160 – 170°C).
Wave soldering can be destructive, especially for mechanically small polypropylene capacitors (with lead spacing of 5 – 15 mm), and great care must be taken during soldering. In general, the wave soldering curve from IEC Publication 61760–1 Edition 2 serves as a solid guideline for successful soldering. See Figure 1.

通孔的薄膜电容器不建議採用回流焊。將電容器暴露在超過上述建議限值可能會導致電容器退化或永久性損壞。
Reflow soldering is not recommended for through-hole film capacitors. Exposing capacitors to a soldering profile in excess of the recommended limits may result in degradation or permanent damage to the capacitors.

請勿將聚丙烯膜電容器通過粘合劑固化爐來固化表面安裝部件的樹脂，須在表面安裝零件固化後插入通孔零件。
如果通孔部件必須通過粘合劑固化過程，請咨詢 WINDAY，討論烘箱中的實際溫度分布。
建議最多進行兩次焊接循環。在第二次焊接循環之前，請留出時間使電容器表面溫度恢復到正常溫度。
Do not place the polypropylene capacitor through an adhesive curing oven to cure resin for surface mount components. Insert through-hole parts after curing the surface mount parts. Contact WINDAY to discuss the actual temperature profile in the oven, if through-hole components must pass through the adhesive curing process.
A maximum two soldering cycles is recommended.
Allow time for the capacitor surface temperature to return to normal before the second soldering cycle.

■ 波峰焊建議 Wave Soldering Recommendations (Figure 1)



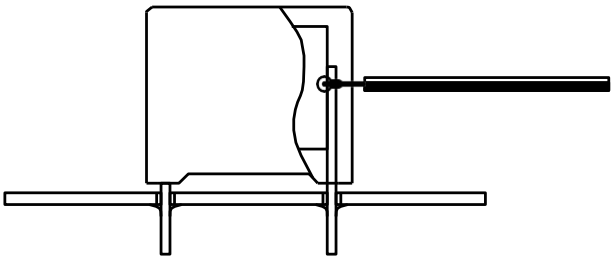
■ 波峰焊建議 Wave Soldering Recommendations (Continue)

1. 該表顯示了焊接過程的最高設置溫度 The tables indicates the maximum set-up temperature of the soldering process

介電薄膜材料 Dielectric Film Material	最高預熱溫度 Max. Preheat Temperature		最高峰值焊接溫度 Max. Peak Soldering Temperature	
	Pitch ≤ 15 mm	Pitch > 15 mm	Pitch ≤ 15 mm	Pitch > 15 mm
聚乙酯膜 Polyester	130°C	130°C	270°C	270°C
聚丙烯膜 Polypropylene	110°C	130°C	260°C	270°C

2. 電容器內部測得的最高溫度 The maximum temperature measured inside the capacitor

介電薄膜材料 Dielectric Film Material	元件內部測得的最高溫度 Maximum Temperature Measured Inside the Element
聚乙酯膜 Polyester	160°C
聚丙烯膜 Polypropylene	110°C



設置溫度，使元件內的最高溫度低於極限：

Set the temperature so that inside the element the maximum temperature is below the limit.

■ 儲存條件和期限 Storage conditions and duration

包裝好的電容器應存放在清潔、通風、乾燥的庫房內，不靠近熱源，不受陽光直射，嚴禁與化學試劑、酸和有害氣體一起儲存。T_{stg} = +5°C 至+35°C，最大相對濕度為 75%，無冷凝，儲存一年。

Packaged capacitors should be kept in clean, ventilated, dry coffers, not near the heat source, not subject to direct sunlight, is strictly prohibited and chemical reagents, acid and harmful gas storage together.

T_{stg} = +5°C to +35°C with relative humidity of maximum 75% without condensation, storage for one year.