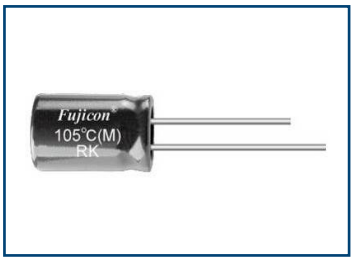
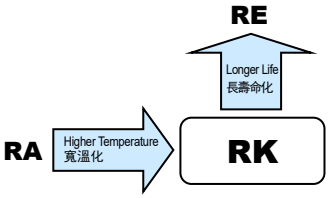
RK Series

WIDE TEMPERATURE

寬溫品



- Wide temperature range of –40(-25)~+105°C
  適用於-40(-25)~+105°C 的寬溫範圍
- Standard series for general purposes
  標準品通用型
- Endurance 2000 hours
  耐久性 2000 小時
- Comply with the RoHS & REACH
  符合 RoHS 與 REACH



☐ SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性	
Category Temperature Range 工作溫度範圍	-40 ~ +105°C	-25 ~ +105°C
Voltage Range 額定工作電壓範圍	6.3 ~ 100V	160 ~ 450V
Capacitance Range 靜電容量範圍	0.47 ~ 15000μF	0.47 ~ 1000μF
Capacitance Tolerance 靜電容量允許偏差	±20% at 120Hz, 20°C	
Leakage Current 漏電流	Leakage current ≤0.01CV or 3μA, whichever is greater (after 2 minutes application of rated voltage at 20°C) 漏電流 ≤0.01CV 或 3μA, 取較大值 (在 20°C 環境中施加額定工作電壓 2 分鐘後)	Leakage current ≤0.02CV + 15μA (after 5 minutes application of rated voltage at 20°C) 漏電流 ≤0.02CV + 15μA (在 20°C 環境中施加額定工作電壓 5 分鐘後)
	C: Nominal capacitance (μF) 標稱靜電容量, V: Rated voltage (V) 額定電壓	
Dissipation Factor (tan δ) 損耗角正切	When nominal capacitance is over 1000μF, tan δ shall be added 0.02 to the listed value with increase of every 1000μF. 當標稱靜電容量大於 1000μF，其標稱靜電容量每增加 1000μF，損耗角正切增加 0.02。 Measurement frequency 測試頻率: 120Hz, Temperature 温度: 20°C	

Rated Voltage (V) 額定工作電壓	6.3	10	16	25	35	50	63	100	160~250	350~450
tan δ (max.) 最大損耗角正切	0.24	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20

Stability at Low Temperature 低溫特性

Measurement frequency 測試頻率: 120Hz

Rated Voltage (V) 額定工作電壓		6.3	10	16	25~100	160~350	400,450
Impedance Ratio 阻抗比	Z(-25°C) / Z(+20°C)	4	3	2	2	3	8
	Z(-40°C) / Z(+20°C)	8	6	4	3	4	—

Endurance 耐久性

When the capacitors are restored to 20°C after 2000 hours application of the rated voltage at 105°C, they meet the characteristics listed below.
在 105°C 環境中施加額定工作電壓 2000 小時後，待電容器恢復至 20°C 時進行測量，電容器的特性符合下表要求。

Capacitance Change 靜電容量變化率	Within ±20% of initial measured value 初始值的±20%以內
Dissipation Factor 損耗角正切	≤200% of initial specified value 不大於規範值的 200%
Leakage Current 漏電流	≤initial specified value 不大於規範值

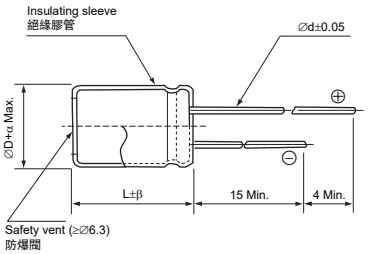
Shelf Life 高溫貯存特性

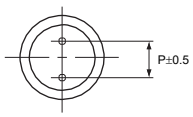
When the capacitors are restored to 20°C after leaving under no load at 105°C for 1000 hours, they meet the specified value for endurance characteristics listed above.
在 105°C 環境中無負荷放置 1000 小時後，待電容器恢復至 20°C 時進行測量，電容器的特性符合耐久性特性中所列的規定值。

Marking 標識

Printed with white colour on black sleeve (PVC) or printed with white colour on green sleeve (PET).
黑色膠管白字印刷（PVC）或綠色膠管白字印刷（PET）。

☐ DRAWING & DIMENSIONS 外形圖及尺寸 (Unit: mm)





ØD	5	6.3	8 (L≤11.5)	8 (L≥16)	10	13	16	18	22	25
P	2.0	2.5	3.5		5.0		7.5		10.0	12.5
Ød	0.5			0.6			0.8			
β	1.5					2.0				
α	0.5								1.0	

☐ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT 紋波電流頻率補償系數

Frequency 頻率		50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient 系數	0.47 ~ 47μF	0.75	1.00	1.35	1.55	2.00
	68 ~ 680μF	0.80	1.00	1.25	1.34	1.50
	1000 ~ 15000μF	0.85	1.00	1.10	1.13	1.15

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5~10°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced. 鋁電解電容器在疊加紋波電流後會引起發熱，溫度每上升 5~10°C 壽命會減半。若要保持長壽命性能，請在使用過程中適當降低紋波電流。

Note: All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.
注：以上所提供的設計及特性參數僅供參考，任何修改不作預先通知。如果在使用上有疑問，請在採購前與我們聯繫，以便提供技術上的協助。

RK Series

□ DIMENSIONS & STANDARD RATINGS 規格尺寸及標準參數

WV / Code / μF / 代碼		6.3		10		16		25		35		50		63	
		0J		1A		1C		1E		1V		1H		1J	
0.47	R47											5 x 11	8	5 x 11	8
0.68	R68											5 x 11	9	5 x 11	9
1	010											5 x 11	11	5 x 11	13
2.2	2R2											5 x 11	20	5 x 11	15
3.3	3R3											5 x 11	30	5 x 11	19
4.7	4R7											5 x 11	33	5 x 11	22
6.8	6R8											5 x 11	42	5 x 11	34
10	100					5 x 11	50	5 x 11	38	5 x 11	41	5 x 11	50	5 x 11	50
22	220			5 x 11	50	5 x 11	54	5 x 11	57	5 x 11	61	5 x 11 (6.3 x 11.5)	78 (85)	6.3 x 11.5	86
33	330			5 x 11	60	5 x 11	64	5 x 11	69	5 x 11	75	6.3 x 11.5	95	6.3 x 11.5	100
47	470	5 x 11	62	5 x 11	71	5 x 11	80	5 x 11	106	5 x 11 (6.3 x 11.5)	106 (110)	6.3 x 11.5	125	6.3 x 11.5 (8 x 11.5)	130 (150)
68	680	5 x 11	80	5 x 11	83	5 x 11	85	5 x 11	114	6.3 x 11.5	121	8 x 11.5	144	8 x 11.5	128
100	101	5 x 11	95	5 x 11	100	5 x 11 (6.3 x 11.5)	120 (135)	5 x 11 (6.3 x 11.5)	120 (145)	6.3 x 11.5 (8 x 11.5)	150 (180)	8 x 11.5 (10 x 12)	188 (200)	8 x 11.5 (10 x 12)	200 (295)
220	221	5 x 11	150	5 x 11 (6.3 x 11.5)	155 (175)	6.3 x 11.5 (8 x 11.5)	190 (230)	6.3 x 11.5 (8 x 11.5)	190 (236)	8 x 11.5	270	10 x 12 (10 x 16)	345 (370)	10 x 12 (10 x 16)	390 (440)
330	331	6.3 x 11.5	170	6.3 x 11.5	200	8 x 11.5	270	8 x 11.5 (10 x 12)	310 (335)	10 x 12 (8 x 16)	395 (455)	10 x 16 (10 x 20)	420 (460)	10 x 20 (13 x 21)	510 (560)
470	471	6.3 x 11.5	230	6.3 x 11.5 (8 x 11.5) (10 x 12)	260 (290) (320)	8 x 11.5	310	8 x 11.5 (8 x 16) (10 x 12)	325 (350) (380)	10 x 16 (10 x 20)	520 (550)	10 x 20 (13 x 21)	560 (630)	13 x 21 (13 x 25)	650 (700)
680	681	8 x 11.5	314	8 x 11.5 (8 x 16)	345 (390)	8 x 16 (10 x 16)	480 (520)	10 x 16	520	10 x 16 (10 x 20)	550 (590)	13 x 25	720	13 x 25 (16 x 25)	780 (800)
1000	102	8 x 11.5	380	8 x 11.5 (8 x 16) (10 x 12)	400 (425) (585)	8 x 20 (10 x 16) (10 x 20)	580 (645) (700)	10 x 16 (10 x 20) (13 x 21)	705 (775) (845)	13 x 21 (13 x 25)	810 (930)	13 x 25 (16 x 25)	950 (1080)	16 x 25	930
2200	222	10 x 12 (10 x 16)	630 (690)	10 x 20 (13 x 21)	760 (815)	10 x 20 (13 x 21)	735 (760)	13 x 21 (13 x 25)	890 (1110)	13 x 25 (16 x 25)	1080 (1260)	16 x 35 (18 x 35)	1470 (1530)	16 x 31 (18 x 35)	1565 (2180)
3300	332	10 x 20 (13 x 21)	845 (920)	13 x 25	1130	13 x 21 (13 x 25)	980 (1170)	16 x 25	1440	16 x 31 (16 x 35)	1420 (1480)	18 x 35	1770	22 x 40	2510
4700	472	13 x 21 (13 x 25)	1200 (1240)	13 x 25	1280	16 x 25	1320	16 x 31	1650	16 x 35 (18 x 35)	1720 (1900)	18 x 40 (22 x 40)	2055 (2340)	25 x 40	3000
6800	682	16 x 25	1480	16 x 31	1510	16 x 25 (16 x 31)	1620 (1930)	18 x 35	2160	22 x 40	2216	25 x 40	2530		
10000	103	16 x 31	1920	16 x 31 (16 x 35)	2100 (2220)	18 x 35 (22 x 30)	2350 (2450)	18 x 40	2500						
15000	153	18 x 31	2390												

WV / Code / μF / 代碼		100		160		200		250		350		400		450	
		2A		2C		2D		2E		2V		2G		2W	
0.47	R47	5 x 11	14	5 x 11	12	5 x 11	12	5 x 11	12	6.3 x 11.5	12	6.3 x 11.5	12	6.3 x 11.5	12
0.68	R68	5 x 11	15	5 x 11	13	5 x 11	13	5 x 11	13	6.3 x 11.5	13	6.3 x 11.5	13	8 x 11.5	13
1	010	5 x 11	19	5 x 11	16	5 x 11	16	6.3 x 11.5	16	6.3 x 11.5	16	6.3 x 11.5 (8 x 11.5)	21 (25)	8 x 11.5	27
2.2	2R2	5 x 11	30	6.3 x 11.5	23	6.3 x 11.5	30	6.3 x 11.5	35	8 x 11.5	38	6.3 x 11.5 (8 x 11.5)	32 (39)	8 x 11.5	39
3.3	3R3	5 x 11	32	6.3 x 11.5	34	6.3 x 11.5	39	8 x 11.5	42	8 x 11.5	43	6.3 x 11.5 (8 x 11.5)	40 (45)	8 x 11.5	45
4.7	4R7	5 x 11	38	6.3 x 11.5	40	8 x 11.5	46	8 x 11.5	45	10 x 12	55	8 x 11.5 (10 x 12)	50 (55)	8 x 11.5 (10 x 12)	50 (55)
6.8	6R8	5 x 11	52	8 x 11.5	48	8 x 11.5	52	8 x 11.5 (10 x 12)	52 (57)	10 x 16	62	8 x 16 (10 x 12) (10 x 16)	65 (70) (80)	10 x 16	90
10	100	5 x 11 (6.3 x 11.5)	66 (73)	8 x 11.5 (10 x 12)	65 (60)	8 x 11.5 (10 x 12)	65 (70)	10 x 12 (10 x 16)	92 (116)	10 x 16	95	10 x 16 (10 x 20)	95 (105)	10 x 20 (13 x 21)	115 (125)
15	151											10 x 15	95		
22	220	6.3 x 11.5 (8 x 11.5)	104 (120)	10 x 16	96	10 x 16	140	10 x 16 (10 x 20)	140 (145)	13 x 21	220	13 x 21 (13 x 25) (16 x 20)	160 (170) (185)	13 x 25	185
27	270											13 x 21	160		
33	330	8 x 11.5	150	10 x 20	155	10 x 16 (10 x 20)	155 (170)	13 x 21	190	13 x 25	215	13 x 25 (16 x 25)	185 (245)	16 x 20 (16 x 25)	207 (260)
47	470	10 x 12	190	13 x 21	220	13 x 21	220	13 x 21 (13 x 25)	210 (250)	16 x 25	285	16 x 25 (16 x 31)	295 (320)	16 x 25 (16 x 31)	305 (313)
68	680	10 x 16	239	13 x 21	275	13 x 21 (13 x 25)	240 (270)	16 x 25	365	16 x 31	370	16 x 31 (16 x 35)	350 (405)	16 x 35 (18 x 31)	435 (450)
100	101	10 x 20	320	13 x 25	355	16 x 25 (16 x 31)	385 (465)	16 x 31	485	16 x 31 (18 x 35)	395 (485)	18 x 31 (18 x 35)	420 (540)	18 x 35 (18 x 40)	520 (560)
150	151	13 x 21	380	16 x 25	460	16 x 25	465	18 x 25	530	18 x 35	570	18 x 40	600		
220	221	13 x 25	450	16 x 31	660	16 x 35 (18 x 31)	695 (755)	18 x 35	760			22x 40	650		
330	331	13 x 25	625	18 x 35	820	18 x 35 (18 x 40)	820 (965)								
470	471	16 x 25	780	18 x 40	975	22 x 40	1050								
680	681	16 x 35	1021											Case size 尺寸	Ripple current 紋波電流
1000	102	18 x 40	1344												

•Case size ∅D×L(mm), ripple current (mA rms) at 105°C, 120Hz •尺寸∅D×L(mm)，紋波電流(mA rms)於 105°C, 120Hz

- Please refer to page 21 “Taping Specifications” & page 23 “Lead Forming & Cutting” about the taped or formed product spec. 編帶與引線成型標準請查閱第 21 頁“編帶標準”及第 23 頁“引線成型與剪腳”。
- Please refer to page 22 “Packaging Specifications” for the minimum package quantity. 最小包裝數量請查閱第 22 頁“包裝標準”。
- Please refer to page 18 for the Part Number System. 產品編碼規則請查閱第 18 頁。

Note: All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.

注：以上所提供的設計及特性參數僅供參考，任何修改不作預先通知。如果在使用上有疑問，請在採購前與我們聯繫，以便提供技術上的協助。