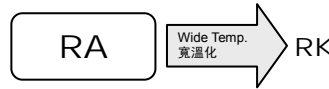


## STANDARD

### 標準品

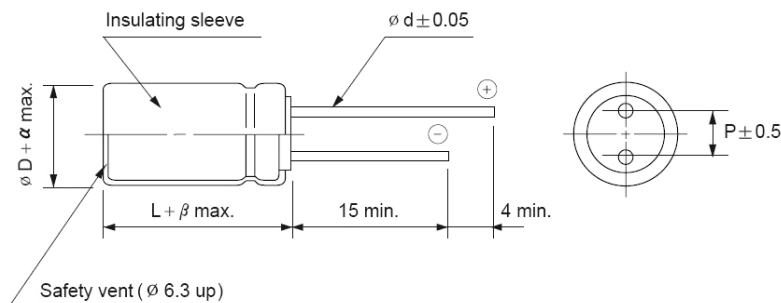
- Standard series for general purpose  
標準品通用型
- High performance and high reliability  
高性能與高可靠
- Load life of 2000 hours at 85°C  
在 85°C 環境中負荷壽命 2000 小時
- Comply with the RoHS directive  
符合 RoHS 指令



### □ SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性	
Operation Temperature Range 使用溫度範圍	-40 ~ +85°C	-25 ~ +85°C
Voltage Range 額定工作電壓範圍	6.3 ~ 100V	160 ~ 450V
Capacitance Range 靜電容量範圍	0.1 ~ 22000μF	0.47 ~ 470μF
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) 漏電流 = 0.01CV 或 3μA, 取較大值 (施加額定工作電壓 2 分鐘後)	Leakage current = 0.02CV + 15μA (after 5 minutes application of rated voltage) 漏電流 = 0.02CV + 15μA (施加額定工作電壓 5 分鐘後)
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 溫度: 20°C	
Stability at Low Temperature 低溫特性	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
Load Life 高溫負荷特性	Measurement frequency 測試頻率: 120Hz	
	Rated Voltage (V) 額定工作電壓	6.3 10 16 25 35~100 160 200~350 400~450
Shelf Life 高溫貯存特性	Impedance Ratio Z(-25°C) / Z(20°C)	4 3 2 2 2 4 8 16
	Impedance Ratio Z(-40°C) / Z(20°C)	10 8 6 4 3 8 12 —
Marking 標識	After 2000 hours application of the rated voltage at 85°C, they meet the characteristics listed below. 在 85°C 環境中施加額定工作電壓 2000 小時後, 電容器的特性符合下表的要求。	
	Capacitance Change 靜電容量變化率	Within ±20% of initial measured value 初始值的±20%以內
Marking 標識	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
Marking 標識	After leaving capacitors under no load at 85°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在 85°C 環境中無負荷放置 1000 小時後, 電容器的特性符合高溫負荷特性中所列的規定值。	
	Printed with white colour on navy blue sleeve (PVC) or printed with white colour on green sleeve (PET). 深藍色膠管白字印刷 (PVC) 或綠色膠管白字印刷 (PET)。	

### □ DRAWING (Unit: mm) 外形圖



∅D	5	6.3	8	10	12.5	16	18	22	25
P	2.0	2.5	3.5	5.0	7.5	10.0	12.5		
∅d	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	0.75	1.0	1.35	1.55	2.0
	0.80	1.0	1.25	1.34	1.5
	0.85	1.0	1.10	1.13	1.15

**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。

## □ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT 規格尺寸及最大允許紋波電流

WV Code 代碼	6.3		10		16		25		35		50		63		
	0J		1A		1C		1E		1V		1H		1J		
0.1	0R1										5 × 11	6.4	5 × 11	7	
0.22	R22										5 × 11	9.5	5 × 11	11	
0.33	R33										5 × 11	11	5 × 11	13	
0.47	R47										5 × 11	14	5 × 11	15	
0.68	R68										5 × 11	17	5 × 11	19	
1	010										5 × 11	20	5 × 11	22	
2.2	2R2										5 × 11	25	5 × 11	34	
3.3	3R3										5 × 11	35	5 × 11	40	
4.7	4R7										5 × 11	42	5 × 11	48	
6.8	6R8										5 × 11	50	5 × 11	60	
10	100					5 × 11	50	5 × 11	65	5 × 11	60	5 × 11	65	5 × 11	65
22	220			5 × 11	50	5 × 11	55	5 × 11	90	5 × 11	95	5 × 11	100	5 × 11	120
33	330			5 × 11	65	5 × 11	85	5 × 11	95	5 × 11	110	5 × 11 (6.3×11.5)	112 (120)	6.3 × 11.5	145
47	470			5 × 11	80	5 × 11	90	5 × 11	105	5 × 11	120	6.3 × 11.5	148	6.3 × 11.5	155
68	680			5 × 11	80	5 × 11	104	5 × 11	120	6.3 × 11.5	162	6.3 × 11.5	175	8 × 11.5	200
100	101	5 × 11	134	5 × 11	140	5 × 11	180	5 × 11	190	6.3 × 11.5	207	8 × 11.5	225	8 × 11.5	370
220	221	5 × 11	200	5 × 11	210	6.3 × 11.5	260	6.3 × 11.5	327	8 × 11.5	375	8 × 16 (10×12)	425 (482)	10 × 16	470
330	331	6.3 × 11.5	240	6.3 × 11.5	245	6.3 × 11.5 (8×11.5)	300 (340)	8 × 11.5	400	10 × 12	490	10 × 16	560	10 × 20	565
470	471	6.3 × 11.5	340	6.3 × 11.5 (8×11.5)	290 (366)	8 × 11.5	440	8 × 11.5 (8×16)	470 (510)	10 × 16	600	10 × 20	720	12.5 × 20	745
680	681	8 × 11.5	468	8 × 11.5	390	8 × 16	560	10 × 16	600	10 × 20	730	12.5 × 20	786	12.5 × 25	880
1000	102	8 × 11.5	580	8 × 16 (10×12)	630 (680)	8 × 16 (10×16)	770 (845)	10 × 16 (10×20)	860 (900)	12.5 × 21	960	12.5 × 25	1150	16 × 25 (16×31)	1300 (1450)
2200	222	10 × 16	950	10 × 20	1000	10 × 20	1210	12.5 × 20 (12.5×25)	1300 (1400)	16 × 25	1400	16 × 31 (18×35)	1700 (1990)	18 × 35	1950
3300	332	10 × 20	1100	12.5 × 20	1200	12.5 × 25	1400	12.5 × 20 (16×25)	1500 (1600)	16 × 31	1900	18 × 35	2000	22 × 40	2240
4700	472	12.5 × 20	1300	12.5 × 25	1500	16 × 25	1700	16 × 31	1900	16 × 31 (18×35)	2000 (2100)	22 × 40	2240	25 × 40	3200
6800	682	12.5 × 25	1600	16 × 25	1700	16 × 31	2000	18 × 35	2100	22 × 35	2235	25 × 40	2840		
10000	103	16 × 31	1800	16 × 35	1900	18 × 35	2200	22 × 40	2300						
15000	153	18 × 31	2152	16 × 35	2820	22 × 40	2850								
22000	223	22 × 40	3140												

WV Code 代碼	100		160		200		250		350		400		450		
	2A		2C		2D		2E		2V		2G		2W		
0.1	0R1	5 × 11	7.2												
0.22	R22	5 × 11	11												
0.33	R33	5 × 11	13												
0.47	R47	5 × 11	16	5 × 11	12	5 × 11	12	5 × 11	12	6.3 × 11.5	16	6.3 × 11.5	17		
0.68	R68	5 × 11	20	5 × 11	15	5 × 11	15	5 × 11	15	6.3 × 11.5	20	6.3 × 11.5	20		
1	010	5 × 11	25	5 × 11	18	5 × 11	18	6.3 × 11.5	18	6.3 × 11.5	24	6.3 × 11.5	24	8 × 11.5	24
2.2	2R2	5 × 11	30	6.3 × 11.5	25	6.3 × 11.5	25	6.3 × 11.5	28	6.3 × 11.5	37	8 × 11.5	37	8 × 11.5 (10×12)	37 (48)
3.3	3R3	5 × 11	38	6.3 × 11.5	35	6.3 × 11.5	35	6.3 × 11.5	40	8 × 11.5	45	8 × 11.5	45	10 × 12	50
4.7	4R7	5 × 11	44	6.3 × 11.5	42	6.3 × 11.5	45	8 × 11.5	45	8 × 11.5	52	10 × 12	56	10 × 16	60
6.8	6R8	5 × 11	55	8 × 11.5	58	8 × 11.5	58	8 × 11.5	58	10 × 12	70	10 × 16	76	10 × 20	76
10	100	5 × 11	80	10 × 12	71	10 × 12	80	10 × 12	80	10 × 16	92	10 × 20	108	12.5 × 20	108
22	220	6.3 × 11.5	124	10 × 16	124	10 × 16	124	10 × 20	139	12.5 × 20	170	12.5 × 20	170	12.5 × 25	190
33	330	8 × 11.5	177	10 × 16	170	10 × 20	170	12.5 × 20	186	12.5 × 25	210	12.5 × 25	232	16 × 25	254
47	470	10 × 12	230	12.5 × 20	210	12.5 × 20	225	12.5 × 20	246	16 × 25	270	16 × 25	312	16 × 31	312
68	680	10 × 16	278	12.5 × 20	265	12.5 × 25	310	16 × 25	310	16 × 31	376	16 × 35	403	16 × 35	424
100	101	10 × 20	405	12.5 × 25	380	16 × 25	380	16 × 25	416	18 × 35	520	18 × 35	586	18 × 40	603
220	221	12.5 × 25	580	16 × 31	700	16 × 35 (18×31)	720 (740)	18 × 35	780						
330	331	12.5 × 25	675	18 × 31	900	18 × 35	925								
470	471	16 × 25	850	18 × 40	1020										
680	681	16 × 31	1100												
1000	102	18 × 40	1400											Case size 尺寸	Ripple current 紋波電流

• Case size  $\varnothing D \times L$  (mm), ripple current (mA rms) at 85°C 120Hz • 尺寸  $\varnothing D \times L$  (mm), 紋波電流 (mA rms) 於 85°C 120Hz

- Please refer to page 16, 18 about the formed or taped product spec. 編帶與引線成型標準請參閱第 16, 18 頁。
- Please refer to page 17 for the minimum package quantity. 最小包裝數量請參閱第 17 頁。

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