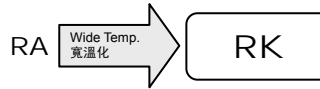


WIDE TEMPERATURE

寬溫品

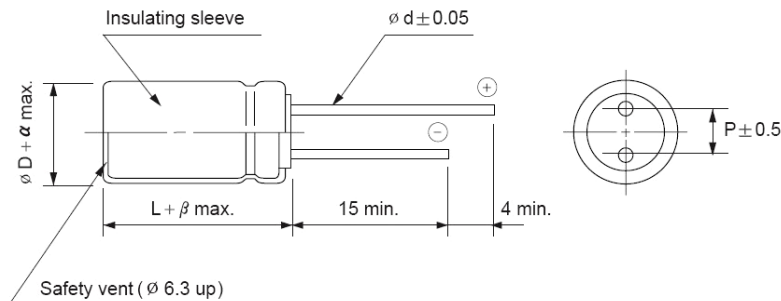
- Wide temperature range of $-40 \sim +105^{\circ}\text{C}$
適用於 $-40 \sim +105^{\circ}\text{C}$ 的寬溫範圍
- Standard series for general purposes
標準品通用型
- Load life of 2000 hours at 105°C
在 105°C 環境中負荷壽命 2000 小時
- Comply with the RoHS directive
符合 RoHS 指令



□ SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性	
Operation Temperature Range 使用溫度範圍	$-40 \sim +105^{\circ}\text{C}$	$-25 \sim +105^{\circ}\text{C}$
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 ~ 15000 μF	0.47 ~ 470 μF
Capacitance Tolerance 靜電容量允許偏差	$\pm 20\%$ at 120Hz, 20°C	
Leakage Current 漏電流	Leakage current = 0.01CV or $3\mu\text{A}$, whichever is greater (after 2 minutes application of rated voltage) 漏電流 = 0.01CV 或 $3\mu\text{A}$, 取較大值 (施加額定工作電壓 2 分鐘後)	Leakage current = 0.02CV + $15\mu\text{A}$ (after 5 minutes application of rated voltage) 漏電流 = 0.02CV + $15\mu\text{A}$ (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 1000 μF , tan δ shall be added 0.02 to the listed value with increase of every 1000 μF . 當標稱靜電容量大於 1000 μF , 其標稱靜電容量每增加 1000 μF , 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	Measurement frequency 測試頻率: 120Hz	
	Rated Voltage (V) 額定工作電壓	6.3 10 16 25 35 50 63 100 160~250 350~450
Load Life 高溫負荷特性	Impedance Ratio $Z(-25^{\circ}\text{C}) / Z(20^{\circ}\text{C})$	4 3 2 2 3 3 3 3 3 3
	Impedance Ratio $Z(-40^{\circ}\text{C}) / Z(20^{\circ}\text{C})$	8 6 4 4 3 3 3 3 3 3
Shelf Life 高溫貯存特性	Capacitance Change 靜電容量變化率	Within $\pm 20\%$ of initial measured value 初始值的 $\pm 20\%$ 以內
	Dissipation Factor 損耗角正切	$\leq 200\%$ of initial specified value 不大於規範值的 200%
	Leakage Current 漏電流	\leq initial specified value 不大於規範值
	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在 105°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。	
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 (Unit: mm) 外形圖



ϕD	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		
ϕd	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 ~ 47 μF	0.75	1.00	1.35	2.00
	68 ~ 680 μF	0.80	1.00	1.25	1.50
	1000 ~ 15000 μF	0.85	1.00	1.10	1.13

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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		
0.47	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	14	5 x 11	15
3.3	3R3											5 x 11	17	5 x 11	19
4.7	4R7											5 x 11	20	5 x 11	22
6.8	6R8											5 x 11	25	5 x 11	34
10	100					5 x 11	50	5 x 11	38	5 x 11	41	5 x 11	46	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 (6.3x11.5)	68 (75)	6.3 x 11.5	82
33	330			5 x 11	60	5 x 11	64	5 x 11	69	5 x 11	75	6.3 x 11.5	90	6.3 x 11.5	85
47	470	5 x 11	62	5 x 11	71	5 x 11	80	5 x 11	106	5 x 11 (6.3x11.5)	106 (110)	6.3 x 11.5	125	6.3 x 11.5	90
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 (6.3x11.5)	120 (135)	5 x 11 (6.3x11.5)	120 (145)	6.3 x 11.5 (8x11.5)	165 (210)	8 x 11.5 (10x12)	180 (200)	8 x 11.5 (10x12)	200 (295)
220	221	5 x 11	150	5 x 11 (6.3x11.5)	155 (165)	6.3 x 11.5	175	6.3 x 11.5 (8x11.5)	175 (185)	8 x 11.5	250	10 x 12 (10x16)	345 (370)	10 x 12	390
330	331	6.3 x 11.5	170	6.3 x 11.5	180	8 x 11.5	195	8 x 11.5 (10x12)	245 (265)	10 x 12 (8x16)	395 (455)	10 x 16 (10x20)	420 (460)	10 x 20 (12.5x20)	450 (500)
470	471	6.3 x 11.5	205	6.3 x 11.5 (8x11.5)	260 (275)	8 x 11.5	305	8 x 11.5 (8x16) (10x12)	270 (320) (330)	10 x 16 (10x20)	520 (550)	10 x 20	560	12.5 x 20 (12.5x25)	650 (700)
680	681	8 x 11.5	314	8 x 11.5 (8x16)	345 (390)	8 x 16 (10x16)	480 (520)	10 x 16	520	10 x 16 (10x20)	550 (590)	12.5 x 25	720	12.5 x 25 (16x25)	780 (800)
1000	102	8 x 11.5	380	8 x 11.5 (8x16) (10x12)	400 (425) (585)	10 x 16 (10x20)	645 (700)	10 x 16 (8x16) (12.5x20)	705 (775) (845)	12.5 x 20 (12.5x25)	800 (930)	12.5 x 25 (16x25)	830 (960)	16 x 25	870
2200	222	10 x 12 (10x16)	630 (630)	10 x 20 (12.5x20)	560 (715)	10 x 20 (12.5x20)	735 (760)	12.5 x 20 (10x20) (12.5x25)	890 (920)	16 x 25	1120	16 x 35 (18x35)	1230 (1300)	16 x 31 (18x35)	1145 (1340)
3300	332	10 x 20 (12.5x20)	845 (920)	12.5 x 25	1030	12.5 x 25	1080	16 x 25	1300	16 x 31 (16x35)	1280 (1410)	18 x 35	1560	22 x 40	1712
4700	472	12.5 x 25	1240	12.5 x 25	1280	16 x 25	1320	16 x 31	1380	18 x 35	1800	22 x 40	1925	25 x 40	1940
6800	682	16 x 25	1370	16 x 31	1510	16 x 31	1560	18 x 35	1680	22 x 40	2016	25 x 40	2200		
10000	103	16 x 31	1620	16 x 35	1820	18 x 35	1860								
5000	103	18 x 31	2030												

WV Code 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 (8x11.5)	16 (20)	8 x 11.5	17
2.2	2R2	5 x 11	25	6.3 x 11.5	23	6.3 x 11.5	23	6.3 x 11.5	24	8 x 11.5	24	6.3 x 11.5 (8x11.5)	20 (26)	8 x 11.5	30
3.3	3R3	5 x 11	32	6.3 x 11.5	34	6.3 x 11.5	34	8 x 11.5	34	8 x 11.5	34	6.3 x 11.5 (8x11.5)	25 (30)	8 x 11.5	40
4.7	4R7	5 x 11	38	6.3 x 11.5	40	8 x 11.5	40	8 x 11.5	40	10 x 12	47	8 x 11.5 (10x12)	40 (47)	10 x 12	48
6.8	6R8	5 x 11	52	8 x 11.5	48	8 x 11.5	52	10 x 12	57	10 x 16	62	8 x 16 (10x16)	57 (62)	10 x 16	62
10	100	5 x 11 (6.3x11.5)	66 (73)	8 x 11.5 (10x12)	55 (60)	8 x 11.5 (10x12)	55 (60)	10 x 12	70	10 x 16	75	10 x 16 (10x20)	78 (82)	12.5 x 20	88
22	220	6.3 x 11.5	104	10 x 16	96	10 x 16	105	10 x 17 (10x20)	120 (121)	12.5 x 20	143	12.5 x 20 (12.5x25)	145 (155)	12.5 x 25	167
33	330	8 x 11.5	150	10 x 20	140	10 x 20	140	12.5 x 20	175	12.5 x 25	190	16 x 25	211	16 x 25	234
47	470	10 x 12	190	12.5 x 20	160	12.5 x 20	170	12.5 x 25	227	16 x 25	252	16 x 25 (16x31)	250 (276)	16 x 31	313
68	680	10 x 16	239	12.5 x 20	220	12.5 x 25	227	16 x 25	303	16 x 31	332	16 x 35	373	16 x 35	422
100	101	10 x 20	320	12.5 x 25	255	16 x 25	360	16 x 31	402	18 x 35	425	18 x 35	428	18 x 35 (18x40)	450 (484)
220	221	12.5 x 25	450	16 x 31	493	16 x 35	520	18 x 35	554						
330	331	12.5 x 25	625	18 x 35	647	18 x 40	671								
470	471	16 x 25	780	18 x 40	820										
680	681	16 x 35	1021												
1000	102	18 x 40	1344												

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