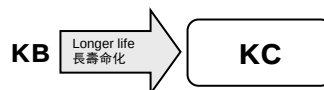


KC Series

WIDE TEMPERATURE

寬溫品

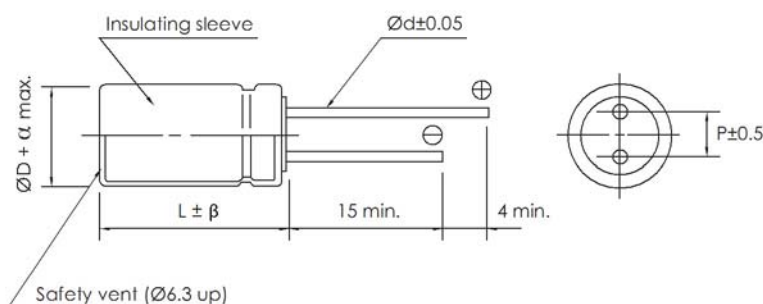
- Wide temperature range of $-40 \sim +105^{\circ}\text{C}$
適用於 $-40 \sim +105^{\circ}\text{C}$ 的寬溫範圍
- Standard series for general purposes
標準品通用型
- Load life of 2000~3000 hours at 105°C
在 105°C 環境中負荷壽命 2000~3000 小時
- Comply with the RoHS directive
符合 RoHS 指令



□ SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性											
Operation Temperature Range 使用溫度範圍	-40 ~ +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						1 ~ 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											
	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		3		8
		Z(-40°C) / Z(20°C)		8		6		4		3		—
Load Life 高溫負荷特性	After 3000 hours (Ø5~Ø8 products are for 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 3000 小時（Ø5~Ø8 產品為 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						
	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	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 (PET) or printed with white colour on green sleeve (PVC). 黑色膠管白字印刷（PET）或綠色膠管白字印刷（PVC）。											

□ DRAWING (Unit: mm) 外形圖



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 係數	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

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

WV Code 代碼	μF	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 (6.3x11.5)	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 (6.3x11.5)	106 (110)	6.3 x 11.5	125	6.3 x 11.5	130
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)	150 (180)	8 x 11.5 (10x12)	188 (200)	10 x 12	295
220	221	5 x 11	150	5 x 11 (6.3x11.5)	155 (175)	6.3 x 11.5	190	6.3 x 11.5 (8x11.5)	190 (236)	8 x 11.5	270	10 x 12 (10x16)	345 (370)	10 x 16	390
330	331	6.3 x 11.5	170	6.3 x 11.5	200	8 x 11.5	270	8 x 11.5 (10x12)	310 (335)	10 x 12 (8x16)	395 (455)	10 x 16 (10x20)	420 (460)	10 x 20 (13x21)	510 (560)
470	471	6.3 x 11.5	230	6.3 x 11.5 (8x11.5)	260 (290)	8 x 11.5	310	8 x 11.5 (8x16) (10x12)	325 (350) (380)	10 x 16 (10x20)	520 (550)	13 x 21	560	13 x 21 (13x25)	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)	13 x 25	720	16x25	800
1000	102	8 x 11.5	380	8 x 11.5 (8x16) (10x12)	400 (425) (585)	8 x 20 (10x16) (10x20)	580 (645) (700)	10 x 20 (13x21)	775 (845)	13 x 21 (13x25)	810 (930)	16 x 25	1080	16 x 25	930
2200	222	10 x 12 (10x16)	630 (690)	10 x 20 (13x21)	760 (815)	13 x 21	760	13 x 21 (13x25)	890 (1110)	13 x 25 (16x25)	1080 (1260)	16 x 35 (18x35)	1470 (1530)	16 x 31 (18x35)	1565 (2180)
3300	332	10 x 20 (13x21)	845 (920)	13 x 25	1130	13 x 21 (13x25)	980 (1170)	16 x 25	1440	16 x 31 (16x35)	1420 (1480)	18 x 35	1770		
4700	472	13 x 25	1240	13 x 25	1280	16 x 25	1320	16 x 31	1650	18 x 35	1900	22 x 40	2340		
6800	682	16 x 25	1480	16 x 31	1510	16 x 31	1930	18 x 35	2160	22 x 40					
10000	103	16 x 31	1920	16 x 35	2220	18 x 35	2350								
15000	153	18 x 31	2390												

WV Code 代碼	μF	100		160		200		250		350		400		450	
		2A		2C		2D		2E		2V		2G		2W	
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	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 (8x11.5)	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 (8x11.5)	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 (10x12)	50 (55)	10 x 12	55
5.6	5R6	5 x 11	40	6.3 x 11.5	42	8 x 11.5	46	8 x 11.5	45	10 x 12	55	8 x 11.5 (10x12)	50 (57)	10 x 12	60
6.8	6R8	5 x 11	52	8 x 11.5	48	8 x 11.5	52	8 x 11.5	52	10 x 16	62	8 x 16 (10x16)	65 (80)	10 x 16	90
7	7R0	5 x 11	52	8 x 11.5	48	8 x 11.5	52	8 x 11.5 (10x12)	52 (57)	10 x 16	62	8 x 16 (10x16)	65 (80)	10 x 16	90
8.2	8R2	6.3x11.5	70	8 x 11.5 (10x12)	58 (60)	8 x 11.5 (10x12)	60 (68)	8 x 11.5 (10x12)	62 (90)	8 x 16 (10x16)	65 (90)	8 x 16 (10x16)	67 (90)	10 x 20 (13x21)	115 (120)
10	100	6.3x11.5	73	8 x 11.5 (10x12)	65 (60)	8 x 11.5 (10x12)	65 (70)	10 x 12 (10x16)	92 (116)	10 x 16	95	10 x 16 (10x20)	95 (105)	10 x 20 (13x21)	120 (125)
22	220	6.3 x 11.5	104	10 x 12	96	10 x 16	140	10 x 16 (10x20)	140 (145)	13 x 21	220	13 x 21 (13x25)	160 (170)	13 x 25	185
33	330	8 x 11.5	150	10 x 20	155	10 x 20	170	13 x 21	190	13 x 25	215	13 x 25 (16x25)	185 (245)	16 x 20 (16x25)	207 (260)
47	470	10 x 12	190	13 x 21	220	13 x 21	220	13 x 25	250	16 x 25	285	16 x 25 (16x31)	295 (320)	16 x 25 (16x31)	305 (313)
68	680	10 x 16	239	13 x 21	275	13 x 25	270	16 x 25	365	16 x 31	370	16 x 31 (16x35)	350 (405)	16 x 35 (18x31)	435 (450)
100	101	10 x 20	320	13 x 25	355	16 x 25	385	16 x 31	485	18 x 35	485	18 x 31 (18x35)	420 (540)	18 x 35 (18x40)	520 (560)
220	221	13 x 25	450	16 x 31	660	16 x 35 (18x31)	695 (755)	18 x 35	760						
330	331	13 x 25	625	18 x 35	820	18 x 35	820							Case size 尺寸	Ripple current 紋波電流

•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

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