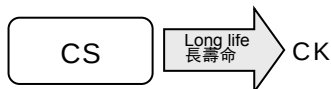


CS Series

STANDARD

標準品

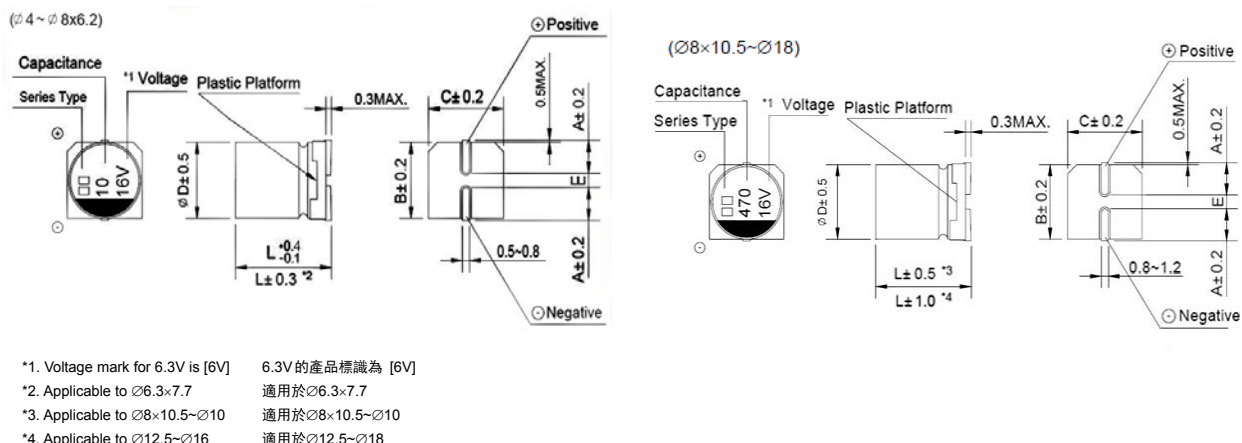
- Operating with general temperature range -55 ~ +105°C
適用於 -55 ~ +105°C 的常規溫度範圍
- Load life of 1000 hours
負荷壽命 1000 小時
- Comply with the RoHS directive
符合 RoHS 指令



SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性
Operation Temperature Range 使用溫度範圍	-55 ~ +105°C
Voltage Range 額定工作電壓範圍	4 ~ 450V
Capacitance Range 靜電容量範圍	0.1 ~ 10000μF
Capacitance Tolerance 靜電容量允許偏差	±20% at 120Hz, 20°C
Leakage Current 漏電流	Rated Voltage 額定工作電壓
	6.3~100V
	160~450V
	Case size 尺寸
Time 時間	after 2 min.(application of rated voltage) 2 分鐘後 (施加額定工作電壓)
	after 1 min.(application of rated voltage) 1 分鐘後 (施加額定工作電壓)
	after 5 min.(application of rated voltage) 5 分鐘後 (施加額定工作電壓)
	Leakage Current 漏電流
Dissipation Factor (tan δ) 損耗角正切	Measurement frequency 測試頻率: 120Hz, Temperature 溫度: 20°C
	Rated Voltage (V) 額定工作電壓
	tan δ (max.) 最大損耗角正切
	最大損耗角正切
Stability at Low Temperature 低溫特性	Measurement frequency 測試頻率: 120Hz
	Rated Voltage (V) 額定工作電壓
	Impedance Ratio 阻抗比
	ZT/Z20 (max.)
Load Life 高溫負荷特性	After 1000 hrs. 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 1000 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
	Dissipation Factor 損耗角正切
	Leakage Current 漏電流
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。
	Resistance to Soldering Heat 耐焊接熱特性
	Capacitance Change 靜電容量變化率
	Dissipation Factor 損耗角正切
	Leakage Current 漏電流
Marking 標示	Black print on the case top. 鋁殼頂部黑字印刷。

DRAWING (Unit: mm) 外形圖



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CS Series

□ DIMENSIONS (Unit: mm) 尺寸表

∅D × L	4 × 5.4	5 × 5.4	6.3 × 5.4/7.7	8 × 6.2	8 × 10.5	10 × 10.5	10 × 12.5	12.5 × 13.5	12.5 × 16	16 × 16.5	18 × 16.5/18.5
A	2.0	2.2	2.6	3.3	3.0	3.2	3.2	4.6	4.6	5.8	6.2
B	4.3	5.3	6.6	8.3	8.3	10.3	10.3	12.8	12.8	17.0	19.0
C	4.3	5.3	6.6	8.3	8.3	10.3	10.3	12.8	12.8	17.0	19.0
E ± 0.2	1.0	1.5	2.1	2.2	3.1	4.6	4.6	4.6	4.6	6.4	6.4
L	5.4	5.4	5.4/7.7	6.2	10.5	10.5	12.5	13.5	16.0	16.5	16.5/18.5

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

WV Code 代碼 μF		4		6.3		10		16		25	
		0G		0J		1A		1C		1E	
4.7	4R7									4 × 5.4	13
10	100							4 × 5.4	18	5 × 5.4 (4 × 5.4)	20 (14)
22	220			4 × 5.4	22	5 × 5.4 (4 × 5.4)	25 (20)	5 × 5.4 (4 × 5.4)	27 (20)	6.3 × 5.4 (5 × 5.4)	36 (25)
33	330	5 × 5.4 (4 × 5.4)	30 (18)	5 × 5.4 (4 × 5.4)	27 (22)	5 × 5.4 (4 × 5.4)	30 (22)	6.3 × 5.4 (5 × 5.4)	40 (28)	6.3 × 5.4 (5 × 5.4)	44 (29)
47	470	5 × 5.4 (4 × 5.4)	36 (24)	5 × 5.4 (4 × 5.4)	33 (25)	6.3 × 5.4 (5 × 5.4) (4 × 5.4)	41 (30) (25)	6.3 × 5.4 (5 × 5.4)	48 (31)	6.3 × 5.4 (8 × 6.2)	48 (91)
56	560	4 × 5.4	32	5 × 5.4	40	6.3 × 5.4	50	6.3 × 5.4	65	6.3 × 5.4	75
68	680	5 × 5.4	40	5 × 5.4	45	6.3 × 5.4	65	6.3 × 5.4	75	6.3 × 5.4	85
100	101	6.3 × 5.4 (5 × 5.4)	60 (43)	6.3 × 5.4 (5 × 5.4)	50 (39)	6.3 × 5.4 (5 × 5.4)	53 (49)	6.3 × 5.4 (8 × 6.2)	60 (120)	6.3 × 7.7 8 × 6.2	91 130
150	151	6.3 × 5.4	52	6.3 × 5.4	55	6.3 × 5.4	62	6.3 × 7.7	95	8 × 10.5 (6.3 × 7.7)	140 (100)
220	221	6.3 × 5.4	57	6.3 × 7.7 (6.3 × 5.4)	105 (67)	6.3 × 7.7 (8 × 6.2) 6.3 × 5.4	105 (105) 85	8 × 10.5 (6.3 × 7.7) (8 × 6.2)	150 (105) (85)	6.3 × 7.7 8 × 10.5	110 175
330	331	6.3 × 7.7	100	6.3 × 7.7	105	8 × 10.5	196	8 × 10.5	195	10 × 10.5 (8 × 10.5)	240 (220)
470	471	6.3 × 7.7	105	8 × 10.5 (6.3 × 7.7)	210 (120)	10 × 10.5 (8 × 10.5) (6.3 × 7.7)	260 (210) (120)	10 × 10.5 (8 × 10.5)	295 (230)	10 × 10.5	280
680	681	8 × 10.5	210	8 × 10.5	210	10 × 10.5	270	10 × 10.5	315	10 × 12.5	400
1000	102	8 × 10.5	230	10 × 10.5 (8 × 10.5)	300 (230)	10 × 10.5 (8 × 10.5)	315 (230)	12.5 × 13.5 (10 × 12.5) (10 × 10.5)	500 (390) (340)	12.5 × 13.5	580
1500	152	10 × 10.5	315	10 × 12.5 (10 × 10.5)	450 (315)	10 × 12.5	460	12.5 × 13.5	550	12.5 × 16	850
2200	222	10 × 12.5 (10 × 10.5)	440 (340)	12.5 × 13.5 (10 × 12.5)	620 (500)	12.5 × 13.5	680	16 × 16.5 (12.5 × 16)	950 (750)	16 × 16.5	1050
3300	332	10 × 12.5	490	12.5 × 16 (12.5 × 13.5)	700 (660)	16 × 16.5	1000	16 × 16.5	1000	18 × 16.5	1450
4700	472	12.5 × 13.5	600	16 × 16.5	1000	16 × 16.5	1450	18 × 16.5	1600	18 × 18.5	1750
6800	682	16 × 16.5 (12.5 × 16)	950 (650)	18 × 16.5	1700	18 × 16.5	1700	18 × 18.5	2000	Case size 尺寸	Ripple current 紋波電流
10000	103			18 × 18.5	2000	18 × 18.5	2000				

WV Code 代碼 μF		35		50		63		100	
		1V		1H		1J		2A	
0.1	0R1			4 × 5.4	0.7	4 × 5.4	0.7		
0.22	R22			4 × 5.4	1.6	4 × 5.4	1.6		
0.33	R33			4 × 5.4	2.5	4 × 5.4	2.5		
0.47	R47			4 × 5.4	3.5	4 × 5.4	3.5		
1	010			4 × 5.4	7	4 × 5.4	7	4 × 5.4	7
2.2	2R2			4 × 5.4	11	4 × 5.4	11	6.3 × 5.4	14
3.3	3R3	4 × 5.4	13	4 × 5.4	13	5 × 5.4	13	6.3 × 7.7 (6.3 × 5.4)	32 (20)
4.7	4R7	4 × 5.4	14	5 × 5.4 (4 × 5.4)	16 (13)	6.3 × 5.4 (5 × 5.4)	21 (16)	6.3 × 7.7 (6.3 × 5.4) 5 × 5.4	35 (21) 18
10	100	5 × 5.4 (4 × 5.4)	21 (14)	6.3 × 5.4 (5 × 5.4)	34 (27)	6.3 × 7.7 (6.3 × 5.4)	55 (34)	8 × 10.5 (6.3 × 7.7) (8 × 6.2)	110 (50) (50)
22	220	5 × 5.4 6.3 × 5.4	23 54	6.3 × 5.4 (8 × 6.2)	60 (120)	8 × 10.5 (6.3 × 7.7) (8 × 6.2)	140 (70) (35)	10 × 10.5 (8 × 10.5)	180 (120)
								Case size 尺寸	Ripple current 紋波電流

•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

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CS Series

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

WV		35		50		63		100		160	
μF		1V		1H		1J		2A		2C	
22	220									10 × 13.5	100
33	330	6.3 × 5.4 (8 × 6.2)	42 (84)	6.3 × 7.7 (8 × 6.2)	60 (65)	8 × 10.5 (6.3 × 7.7)	112 (60)	10 × 10.5	133	12.5 × 13.5	290
47	470	6.3 × 5.4 6.3 × 7.7 (8 × 6.2)	50 70 (65)	10 × 10.5 (8 × 10.5) (6.3 × 7.7)	130 (110) (63)	10 × 10.5 (8 × 10.5)	160 (119)	10 × 12.5 (10 × 10.5) 12.5 × 13.5	160 (140) 250	12.5 × 13.5 (16 × 16.5)	300 (370)
56	560	6.3 × 7.7	56	6.3 × 7.7	70	10 × 10.5	170			12.5 × 16	390
68	680	6.3 × 7.7	50	8 × 10.5	120	10 × 10.5	190			16 × 16.5	500
100	101	8 × 10.5 (6.3 × 7.7)	120 (84)	10 × 10.5 (8 × 10.5)	170 (140)	12.5 × 13.5 (10 × 12.5) (10 × 10.5)	270 (210) (196)	12.5 × 13.5	380	16 × 16.5 (18 × 16.5)	650 (690)
150	151	8 × 10.5	155	10 × 10.5	170	10 × 12.5	225				
220	221	10 × 10.5 (8 × 10.5)	220 (190)	10 × 12.5 (10 × 10.5)	280 (220)	12.5 × 13.5	470 (235)	16 × 16.5	550		
330	331	10 × 10.5	245	12.5 × 13.5 (10 × 12.5)	420 (295)	16 × 16.5 (12.5 × 16)	700 (510)	18 × 16.5	780		
470	471	12.5 × 13.5 (10 × 12.5) (10 × 10.5)	520 (375) (280)	16 × 16.5 (12.5 × 13.5)	700 (420)	16 × 16.5	750				
680	681	12.5 × 13.5 (10 × 12.5)	530 (395)	16 × 16.5	750	18 × 16.5	1100				
1000	102	16 × 16.5 (12.5 × 16)	750 (600)	18 × 16.5	1350						
2200	222	18 × 16.5	1450							Case size 尺寸	Ripple current 紋波電流
3300	333	18 × 18.5	1750								

WV		200		250		350		400		450	
μF Code 代碼		2D		2E		2V		2G		2W	
3.3	3R3							10 × 13.5	80	10 × 13.5	80
4.7	4R7					10 × 13.5	115	10 × 13.5 (12.5 × 13.5)	100 (120)	10 × 13.5 (12.5 × 13.5)	100 (120)
10	100	10 × 13.5	135	10 × 13.5	135	12.5 × 13.5	120	12.5 × 13.5	120	12.5 × 13.5 (12.5 × 16)	100 (130)
22	220	12.5 × 13.5	240	12.5 × 13.5	150	16 × 16.5	140	16 × 16.5	140	16 × 16.5	140
33	330	12.5 × 13.5	300	12.5 × 16 (16 × 16.5)	240 (300)	16 × 16.5	140	16 × 16.5	140	18 × 16.5	180
47	470	16 × 16.5	420	16 × 16.5	340	18 × 16.5	280	18 × 16.5	280	Case size 尺寸	Ripple current 紋波電流
100	101	16 × 16.5	420	18 × 16.5	440	18 × 16.5	350	18 × 16.5	350		

• 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

□ 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	$\varnothing 4 \sim \varnothing 10$	0.1 ~ 68 μF	0.70	1.00	1.17	1.36	1.50
		100 ~ 3300 μF	0.85	1.00	1.08	1.20	1.30
	$\varnothing 12.5 \sim \varnothing 16$	~ 68 μF	0.75	1.00	1.35	1.57	2.00
		100 ~ 680 μF	0.80	1.00	1.23	1.34	1.50
		1000 ~ 6800 μF	0.85	1.00	1.10	1.13	1.15

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