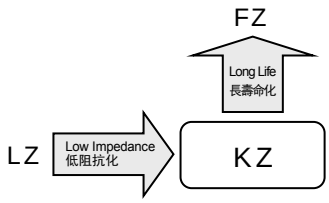
EXTRA LOWER IMPEDANCE

極低阻抗品

- Extra low impedance with temperature range -55 ~ +105°C
  極低阻抗和適用於 -55 ~ +105°C 的溫度範圍
- Impedance 40~60% less than LZ series
  阻抗值比 LZ 系列低 40~60%
- 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 使用温度範圍	-55 ~ +105°C
Voltage Range 額定工作電壓範圍	6.3 ~ 50V
Capacitance Range 靜電容量範圍	4.7 ~ 4700μF
Capacitance Tolerance 靜電容量允許偏差	±20% at 120Hz, 20°C
Leakage Current 漏電流	Leakage current (∅4~∅10) ≦0.01CV or 3μA, whichever is greater (after 2 minutes application of rated voltage) Leakage current (∅12.5~∅16) ≦0.03CV or 4μA, whichever is greater (after 1 minute application of rated voltage) 漏電流 (∅4~∅10) ≦0.01CV 或 3μA，取較大值（施加額定工作電壓 2 分鐘後） 漏電流 (∅12.5~∅16) ≦0.03CV 或 4μA，取較大值（施加額定工作電壓 1 分鐘後）
Dissipation Factor (tan δ) 損耗角正切	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
tan δ (max.) 最大損耗角正切	∅4~∅10	0.22	0.19	0.16	0.14	0.12	0.12
	∅12.5~∅16	0.26	0.22	0.18	0.16	0.14	0.12

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
Impedance Ratio 阻抗比 ZT/Z20 (max.)	∅4~∅10	Z(-25°C) / Z(20°C)	2	2	2	2	2	2
		Z(-55°C) / Z(20°C)	5	4	4	3	3	3
	∅12.5~∅16	Z(-25°C) / Z(20°C)	3	3	2	2	2	2
		Z(-55°C) / Z(20°C)	10	8	6	4	3	3

Load Life
高溫負荷特性

After 3000 hrs. (2000 hrs. for ∅4~∅6.3×5.4&∅6.3×7.7) 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（∅4~∅6.3×5.4&∅6.3×7.7 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 ±30% of initial value 初始值的±30%以內
Dissipation Factor 損耗角正切	300% or less of initial specified value 不大於規範值的 300%
Leakage Current 漏電流	initial specified value or less 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。

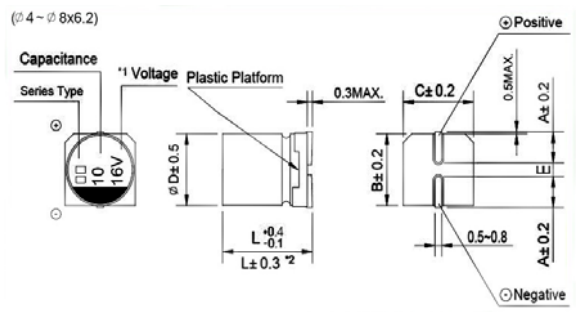
Resistance to Soldering Heat
耐焊接熱特性

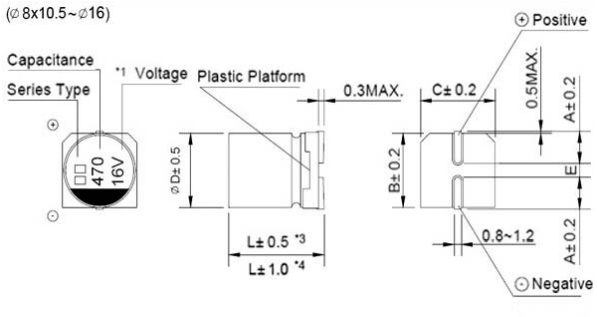
After reflow soldering and restored at room temperature, they meet the characteristics listed below.
經過回流焊並冷卻至室溫後，電容器的特性符合下表的要求。

Capacitance Change 靜電容量變化率	Within ±10% of initial value 初始值的±10%以內
Dissipation Factor 損耗角正切	initial specified value or less 不大於規範值
Leakage Current 漏電流	initial specified value or less 不大於規範值

Marking 標示 — Black print on the case top. 鋁殼頂部黑字印刷。

☐ DRAWING (Unit: mm) 外形圖





*1. Voltage mark for 6.3V is [6V] 6.3V的產品標識為 [6V]
*2. Applicable to ∅6.3×7.7 適用於∅6.3×7.7
*3. Applicable to ∅8×10.5~∅10 適用於∅8×10.5~∅10
*4. Applicable to ∅12.5~∅16 適用於∅12.5~∅16

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☐ DIMENSIONS (Unit: mm) 尺寸表

ØD x L	4 x 5.4	5 x 5.4	6.3 x 5.4	6.3 x 7.7	8 x 6.2	8 x 10.5	10 x 10.5	10 x 12.5	12.5 x 13.5	12.5 x 16	16 x 16.5
A	2.0	2.2	2.6	2.6	3.3	3.0	3.2	3.2	4.7	4.7	5.8
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	12.8	12.8	17.0
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	12.8	12.8	17.0
E ± 0.2	1.0	1.5	2.1	2.1	2.2	3.1	4.6	4.6	4.6	4.6	6.4
L	5.4	5.4	5.4	7.7	6.2	10.5	10.5	13.5	13.5	16.0	16.5

☐ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE 規格尺寸及最大允許紋波電流及阻抗值

WV / Code 代碼 / μF		6.3			10			16		
		0J			1A			1C		
10	100							4 × 5.4	1.8	80
15	150							4 × 5.4	1.8	80
22	220	4 × 5.4	1.8	80	4 × 5.4	1.8	80	5 × 5.4 (4 × 5.4)	0.76 (1.8)	150 (80)
33	330	5 × 5.4 (4 × 5.4)	0.76 (1.8)	150 (80)	5 × 5.4 (4 × 5.4)	0.76 (1.8)	150 (80)	6.3 × 5.4 （5 × 5.4）	0.44 （0.76）	230 (150)
47	470	5 × 5.4 (4 × 5.4)	0.76 (1.8)	150 (80)	6.3 × 5.4 (5 × 5.4)	0.44 (0.76)	230 (150)	6.3 × 5.4 (5 × 5.4)	0.44 (0.76)	230 (150)
56	560	5 × 5.4	0.76	150	6.3 × 5.4	0.44	230	6.3 × 5.4	0.44	230
68	680	6.3 × 5.4 (5 × 5.4)	0.44 (0.76)	230 (150)	6.3 × 5.4	0.44	230	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	0.34 (0.44) (0.34)	280 (230) (280)
100	101	6.3 × 5.4 (5 × 5.4)	0.44 (0.76)	230 (150)	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	0.34 (0.44) (0.34)	280 (230) (280)	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	0.34 (0.44) (0.34)	280 (230) (280)
150	151	6.3 × 5.4	0.44	230	6.3 × 5.8 6.3 × 7.7	0.46 0.34	250 280	6.3 × 7.7	0.34	280
220	221	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	0.34 (0.44) (0.34)	280 (230) (280)	6.3 × 7.7 (8 × 6.2)	0.34 (0.34)	280 (280)	8 × 10.5 (6.3 × 7.7)	0.17 (0.34)	450 (280)
330	331	6.3 × 7.7 (8 × 6.2)	0.34 (0.34)	280 (280)	8 × 10.5	0.17	450	10 × 10.5 (8 × 10.5)	0.09 (0.17)	670 (450)
470	471	8 × 10.5	0.17	450	8 × 10.5	0.17	450	10 × 10.5 (8 × 10.5)	0.09 (0.17)	670 (450)
680	681	10 × 10.5 (8 × 10.5)	0.09 (0.17)	670 (450)	10 × 10.5	0.09	670	10 × 12.5 (10 × 10.5)	0.075 (0.09)	800 (670)
1000	102	10 × 10.5 (8 × 10.5)	0.09 (0.17)	670 (450)	10 × 10.5	0.09	670	16 × 16.5 (12.5 × 16) (12.5 × 13.5)	0.055 (0.06) (0.065)	1350 (1050) (900)
1500	152	10 × 12.5 (10 × 10.5)	0.075 (0.09)	800 (670)	12.5 × 13.5	0.065	900	16 × 16.5	0.055	1350
2200	222	12.5×13.5	0.065	900	12.5×16	0.060	1050	16×16.5	0.055	1350
3300	332	12.5×16	0.060	1050	16×16.5	0.055	1350			
4700	472	16×16.5	0.055	1350						

WV / Code 代碼 / μF		25			35			50		
		1E			1V			1H		
4.7	4R7				4 × 5.4	1.8	80	5 × 5.4 (4 × 5.4)	1.52 (3.0)	85 (60)
10	100	4 × 5.4	1.8	80	5 × 5.4 (4 × 5.4)	0.76 (1.8)	150 (80)	6.3 × 5.4 (5 × 5.4)	0.88 (1.52)	165 (85)
15	150	5 × 5.4	0.76	150	5 × 5.4	0.76	150	6.3 × 5.4	0.88	165
22	220	6.3 × 5.4 (5 × 5.4)	0.44 (0.76)	230 (150)	6.3 × 5.4 (5 × 5.4)	0.44 (0.76)	230 (150)	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	0.68 (0.88) (0.68)	185 (165) (185)
33	330	6.3 × 5.4 (5 × 5.4)	0.44 (0.76)	230 (150)	6.3 × 5.4 (8 × 6.2)	0.44 (0.34)	230 (280)	6.3 × 7.7 (8 × 6.2)	0.68 (0.68)	185 (185)
47	470	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	0.34 (0.44) (0.34)	280 (230) (280)	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	0.34 (0.44) (0.34)	280 (230) (280)	6.3 × 7.7 (8 × 6.2)	0.68 (0.68)	185 (185)
56	560	6.3 × 7.7 (6.3 × 5.4)	0.34 (0.44)	280 (230)	6.3 × 7.7	0.34	280	8 × 10.5 (6.3 × 7.7)	0.34 (0.68)	350 (185)
68	680	6.3 × 7.7	0.34	280	6.3 × 7.7	0.34	280	8 × 10.5	0.34	350
100	101	6.3 × 7.7 (8 × 6.2)	0.34 (0.34)	280 (280)	6.3 × 7.7 8 × 10.5	0.34 0.17	280 450	10 × 10.5 (8 × 10.5)	0.18 (0.34)	670 (350)
150	151	8 × 10.5 (6.3 × 7.7)	0.17 (0.34)	450 (280)	10 × 10.5	0.09	670	10 × 10.5 Case size ØD×L(mm) 尺寸	0.18 Impedance (Ω) at 20°C 100KHz 阻抗值	670 Ripple current (mA rms) at 105°C 100KHz 紋波電流

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WV / Code 代碼 / μF		25			35			50		
		1E			1V			1H		
220	221	8 × 10.5	0.17	450	8 × 10.5 10 × 10.5	0.17 0.09	600 670	10 × 12.5 (10 × 10.5)	0.16 (0.18)	750 (670)
330	331	10 × 10.5 (8 × 10.5)	0.09 (0.17)	670 (450)	10 × 10.5	0.09	670	12.5×13.5	0.14	800
470	471	10 × 12.5 (10 × 10.5)	0.075 (0.09)	800 (670)	12.5×13.5 (10×12.5)	0.065 (0.075)	900 (800)	16×16.5 (12.5×16)	0.10 (0.12)	1150 (900)
680	681	12.5×13.5	0.065	900	12.5×16 (12.5×13.5)	0.060 (0.065)	1050 (900)			
1000	102	16×16.5 (12.5×16)	0.055 (0.060)	1350 (1050)	16×16.5	0.055	1350	Case size ∅D×L(mm) 尺寸	Impedance (Ω) at 20°C 100KHz 阻抗值	Ripple current (mA rms) at 105°C 100KHz 紋波電流
1500	152	16×16.5	0.055	1350						

WV / Code 代碼 / μF		63								
		1J								
47	470	8 × 10.5	0.8	250						
								Case size ∅D×L(mm) 尺寸	Impedance (Ω) at 20°C 100KHz 阻抗值	Ripple current (mA rms) at 105°C 100KHz 紋波電流

☐ 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	Ø4 ~ Ø10	4.7 ~ 68μF	0.35	0.50	0.64	0.83	1.00
		100 ~ 1500μF	0.40	0.55	0.70	0.85	1.00
	Ø12.5 ~ Ø16	~ 680μF	0.45	0.65	0.80	0.90	1.00
		1000 ~ 4700μF	0.65	0.85	0.95	1.00	1.00

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