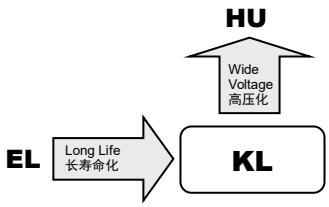
5000 HOURS LONG LIFE ASSURANCE

5000 小时长寿命品

- Wide temperature range -55 ~ +105°C
  适用于 -55 ~ +105°C 的宽温范围
- Load life of 3000~5000 hours
  负荷寿命 3000~5000 小时
- Comply with the RoHS directive
  符合 RoHS 指令



☐ SPECIFICATIONS 特性表

Items 项目	Characteristics 主要特性
Operation Temperature Range 使用温度范围	-55 ~ +105°C
Voltage Range 额定工作电压范围	6.3 ~ 100V
Capacitance Range 静电容量范围	0.1 ~ 1500μF
Capacitance Tolerance 静电容量允许偏差	±20% at 120Hz, 20°C
Leakage Current 漏电流	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) 漏电流 (∅4~∅10) ≦0.01CV 或 3μA，取较大值（施加额定工作电压 2 分钟后） 漏电流 (∅12.5~∅16) ≦0.03CV 或 4μA，取较大值（施加额定工作电压 1 分钟后）
Dissipation Factor (tan δ) 损耗角正切	Measurement frequency 测试频率: 120Hz, Temperature 温度: 20°C

Rated Voltage (V) 额定工作电压		6.3	10	16	25	35	50~100
tan δ (max.) 最大损耗角正切	∅4~∅10	0.28	0.24	0.20	0.16	0.13	0.12
	∅12.5~∅16	0.38	0.34	0.30	0.26	0.22	0.18

Stability at Low Temperature
低温特性

Measurement frequency 测试频率: 120Hz

Rated Voltage (V) 额定工作电压			6.3	10	16	25	35	50~100
Impedance Ratio 阻抗比 ZT/Z20 (max.)	∅4~∅10	Z(-25°C) / Z(20°C)	3	3	2	2	2	2
		Z(-55°C) / Z(20°C)	8	5	4	3	3	3
	∅12.5~∅16	Z(-25°C) / Z(20°C)	5	4	3	2	2	2
		Z(-55°C) / Z(20°C)	12	10	8	5	4	3

Load Life
高温负荷特性

After 5000 hrs. (3000 hrs. for ∅4~∅6.3×5.8 & ∅8×6.2) application of the rated voltage at 105°C, they meet the characteristics listed below. 在 105°C 环境中施加额定工作电压 5000 小时（∅4~∅6.3×5.8 和∅8×6.2 为 3000 小时）后，电容器的特性符合下表的要求。

Capacitance Change 静电容量变化率	Within ±30% of initial value 初始值的±30%以内
Dissipation Factor 损耗角正切	300% or less of initial specified value 不大于规范值的 300%
Leakage Current 漏电流	initial specified value or less 不大于规范值

Shelf Life
高温贮存特性

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 环境中无负荷放置 1000 小时后，电容器的特性符合高温负荷特性中所列的规定值。

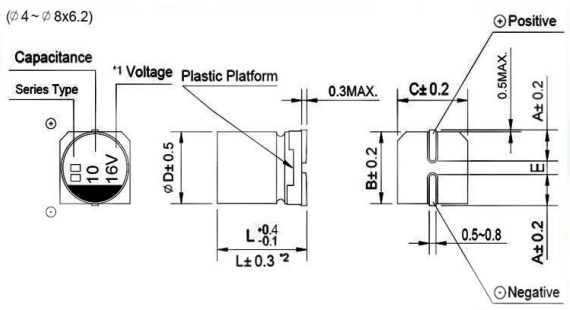
Resistance to Soldering Heat
耐焊接热特性

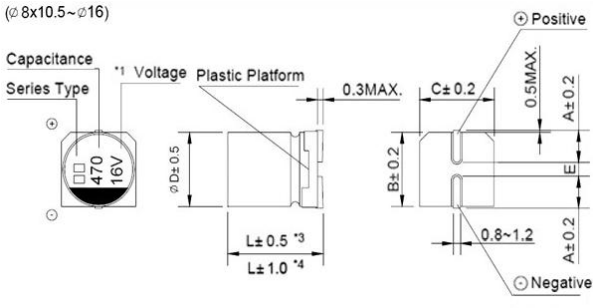
After reflow soldering and restored at room temperature, they meet the characteristics listed below.
经过回流焊并冷却至室温后，电容器的特性符合下表的要求。

Capacitance Change 静电容量变化率	Within ±10% of initial value 初始值的±10%以内
Dissipation Factor 损耗角正切	initial specified value or less 不大于规范值
Leakage Current 漏电流	initial specified value or less 不大于规范值

Marking 标示: Black print on the case top. 铝壳顶部黑字印刷。

☐ DRAWING (Unit: mm) 外形图





*1. Voltage mark for 6.3V is [6V] 6.3V的产品标识为 [6V]
*2. Applicable to ∅6.3×7.7 适用于∅6.3×7.7
*3. Applicable to ∅8×10.5~∅10 适用于∅8×10.5~∅10
*4. Applicable to ∅12.5~∅16 适用于∅12.5~∅16

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☐ DIMENSIONS (Unit: mm) 尺寸表

ØD x L	4 x 5.8	5 x 5.8	6.3 x 5.8	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	1.9	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	1.3	2.2	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 规格尺寸及最大允许纹波电流

WV / Code 代码 / μF		6.3		10		16		25	
		0J		1A		1C		1E	
10	100					4 × 5.8	18	5 × 5.8	27
22	220	4 × 5.8	22	5 × 5.8	30	5 × 5.8	30	6.3 × 5.8	44
33	330	5 × 5.8	35	5 × 5.8	36	6.3 × 5.8	48	6.3 × 5.8	50
47	470	5 × 5.8	38	6.3 × 5.8	50	6.3 × 5.8	50	6.3 × 7.7 (8 × 6.2)	63 (63)
100	101	6.3 × 5.8	69	6.3 × 7.7 (8 × 6.2)	81 (81)	6.3 × 7.7 6.3 × 7.7 (8 × 6.2)	81 81 (81)	8 × 10.5	116
150	151	6.3 × 7.7 (8 × 6.2)	85 (85)	8 × 10.5	125	8 × 10.5	125	10 × 10.5	320
220	221	6.3 × 7.7 (8 × 6.2)	120 (120)	6.3 × 7.7 8 × 10.5	120 141	8 × 10.5 10 × 10.5	155 216	10 × 10.5 (8x10.5)	320 (180)
330	331	8 × 10.5	290	10 × 10.5	290	10 × 10.5	290	10 × 10.5	320
470	471	10 × 10.5	320	10 × 10.5	320	10 × 10.5	320	12.5 × 13.5 (10 × 12.5)	400 (350)
680	681	10 × 10.5	320	10 × 10.5	320	10 × 12.5	420	12.5 × 13.5	415
1000	102	10 × 10.5	410	10×12.5	390	12.5 × 13.5	550	12.5 × 13.5	460
1500	152	10 × 12.5	450	12.5 × 13.5	480	12.5 × 13.5	650	12.5 × 16	700
2200	222	12.5 × 13.5	680	12.5 × 16 (12.5 × 13.5)	750 (510)	16 × 16.5	800		
3300	332	12.5 × 16 (12.5 × 13.5)	850 (800)	16 × 16.5	800			Case size 尺寸	Ripple current 纹波电流

WV / Code 代码 / μF		35		50		63		100	
		1V		1H		1J		2A	
0.1	0R1			4 × 5.8	1.0				
0.22	R22			4 × 5.8	2.6				
0.33	R33			4 × 5.8	3.2				
0.47	R47			4 × 5.8	5				
1	010			4 × 5.8	8				
2.2	2R2			4 × 5.8	12				
3.3	3R3			4 × 5.8	17			6.3 × 7.7 (8 × 6.2)	30 (30)
4.7	4R7	4 × 5.8	16	5 × 5.8	22			8 × 10.5	50
10	100	5 × 5.8	27	6.3 × 5.8	32	6.3 × 7.7 (8 × 6.2)	45 (45)	8 × 10.5	55
22	220	6.3 × 5.8	44	6.3 × 7.7 (8 × 6.2)	58 (58)	8 × 10.5	65	10 × 10.5	70
33	330	6.3 × 7.7 (8 × 6.2)	57 (57)	8 × 10.5	140	10 × 10.5	80	10 × 10.5	80
47	470	8 × 10.5	92	10 × 10.5	310	10 × 10.5	90	12.5 × 13.5 (10 × 12.5)	250 (150)
100	101	10 × 10.5	151	10 × 10.5	310	10 × 12.5	150	12.5 × 13.5	300
150	151	10 × 10.5	290	10 × 10.5	310			16 × 16.5 (12.5 × 16) (12.5 × 13.5)	600 (420) (380)
220	221	10 × 10.5	375	12.5 × 13.5 （10 × 12.5）	340 (320)	12.5 × 13.5	470		
330	331	12.5 × 13.5 (10 × 12.5)	380 (375)	12.5 × 16 (12.5 × 13.5)	600 (500)	16 × 16.5 (12.5 × 16)	650 (550)		
470	471	12.5 × 13.5	520	16 × 16.5	700				
680	681	12.5 × 13.5	550						
1000	102	16 × 16.5 (12.5 × 16)	750 (600)					Case size 尺寸	Ripple current 纹波电流

•Case size ∅D×L(mm), ripple current (mA rms) at 105°C 120Hz •尺寸∅D×L(mm)，纹波电流(mA rms)于 105°C 120Hz

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☐ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT 纹波电流频率补偿系数

Frequency 频率			50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient 系数	Ø4 ~ Ø10		0.70	1.00	1.17	1.36	1.50
	Ø12.5 ~ Ø16	~ 68μF	0.75	1.00	1.35	1.57	2.00
		100 ~ 470μF	0.80	1.00	1.23	1.34	1.50
		680 ~ 3300μF	0.85	1.00	1.10	1.13	1.15

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