

Axial Type Aluminum Electrolytic Capacitors



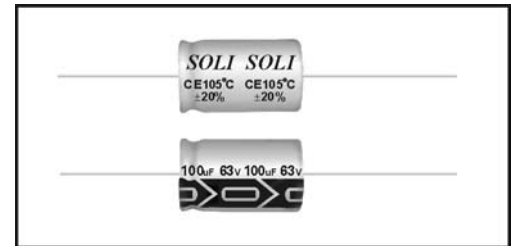
TG

軸式鋁質電解電容器

High Temperature Type

Features

- 105°C, 1,000 hours assured
105°C、1,000 小時壽命保證
- Wide operating temperature range, from -40°C to +105°C
工作溫度範圍為 -40°C 到 +105°C
- Excellent temperature performance
卓越的溫度性能
- Suitable to use for industrial equipment.
適用於工業設備



SPECIFICATIONS

Items	Performance																																																		
Operating Temperature Range 工作溫度範圍	−40℃ ~ +105℃																																																		
Capacitance Tolerance 容量公差	±10%, ±20% (at 20℃, 120Hz)																																																		
Leakage Current 漏電流	I = 0.02CV or 3 (μA) Whichever is greater 選其最大值 (after 2 minutes applying the rated DC working voltage at 20℃) (在 20℃ 施加直流額定電壓 2 分鐘以後) where: C = rated capacitance in μF. (容量值。單位：微法拉) V = rated DC working voltage in V. (額定工作電壓。單位：伏特)																																																		
Dissipation Factor (Tan δ) (At 20℃, 120 Hz) 損耗角	<table><tr><td>Rated voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Tanδ</td><td>0.23</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td></tr></table> For capacitors whose capacitance exceeds 1,000μF, the specification of Tanδ should be increased by 0.02 for every addition of 1,000μF. 當電容量超過 1,000μF，容量每增加 1,000μF，損耗角正切值就增加 0.02.	Rated voltage (V)	6.3	10	16	25	35	50	63	100	Tanδ	0.23	0.20	0.17	0.15	0.12	0.10	0.09	0.08																																
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Surge Voltage 突破電壓	<table><tr><td>Rated voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Surge voltage (V)</td><td>7.3</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td><td>79</td><td>125</td></tr></table>	Rated voltage (V)	6.3	10	16	25	35	50	63	100	Surge voltage (V)	7.3	13	20	32	44	63	79	125																																
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Low Temperature Characteristics 低溫特性	Impedance ratio at 120Hz. 阻抗測試頻率為 120Hz <table><tr><td colspan="2">Rated voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Z (-25℃)</td><td>φD<16</td><td>6</td><td>4</td><td>3</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>/ Z (+20℃)</td><td>φD≥16</td><td>8</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td></tr><tr><td>Z (-40℃)</td><td>φD<16</td><td>10</td><td>8</td><td>6</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td></tr><tr><td>/ Z (+20℃)</td><td>φD≥16</td><td>18</td><td>16</td><td>12</td><td>10</td><td>8</td><td>8</td><td>6</td><td>6</td></tr></table>	Rated voltage (V)		6.3	10	16	25	35	50	63	100	Z (-25℃)	φD<16	6	4	3	3	2	2	2	2	/ Z (+20℃)	φD≥16	8	6	4	4	3	3	3	3	Z (-40℃)	φD<16	10	8	6	6	4	3	3	3	/ Z (+20℃)	φD≥16	18	16	12	10	8	8	6	6
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Load Life Test 負荷壽命	After 1,000 hours application of rated voltage at 105℃, capacitors meet the characteristics requirements listed as below 在額定電壓 105℃ 條件下，經過 1,000 小時後，電容特性要求如下表： <table><tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table>	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 200% of specified value	Leakage Current	Within specified value																																												
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Shelf Life Test 無負荷壽命	After leaving capacitors under no load at 105℃ for 1,000 hours they meet the specified value for load life characteristics listed above. 將電容器放置在溫度為 105℃、無電壓負荷狀況下，經過 1,000 小時後，其所測值標準應與有負荷時測試值相同。																																																		
Frequency Coefficient of Allowable Ripple Current 允許紋波電流的頻率系數	<table><tr><td rowspan="4">Cap.(μ F) Freq.(Hz)</td><td>60</td><td>120</td><td>500</td><td>1K</td><td>10K up</td></tr><tr><td>Under 100</td><td>0.70</td><td>1.00</td><td>1.30</td><td>1.40</td><td>1.50</td></tr><tr><td>100 to 1000</td><td>0.75</td><td>1.00</td><td>1.20</td><td>1.30</td><td>1.35</td></tr><tr><td>1000 up above</td><td>0.80</td><td>1.00</td><td>1.10</td><td>1.12</td><td>1.15</td></tr></table>	Cap.(μ F) Freq.(Hz)	60	120	500	1K	10K up	Under 100	0.70	1.00	1.30	1.40	1.50	100 to 1000	0.75	1.00	1.20	1.30	1.35	1000 up above	0.80	1.00	1.10	1.12	1.15																										
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Allowable Ripple Current Vs. Ambient Temperature 環境溫度對比允許紋波電流的比值	<table><tr><td>Temperature(℃)</td><td>Under 50</td><td>70</td><td>85</td><td>105</td></tr><tr><td>Multiplier</td><td>1.95</td><td>1.78</td><td>1.40</td><td>1.00</td></tr></table>	Temperature(℃)	Under 50	70	85	105	Multiplier	1.95	1.78	1.40	1.00																																								
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Marking 標示	Printed with white color letter on black sleeve 黑色套管印刷白色字體																																																		
Other Standards 其它標準	Satisfies Characteristic W of JIS C 5101-4 符合日本工業標準 C 5101-4																																																		



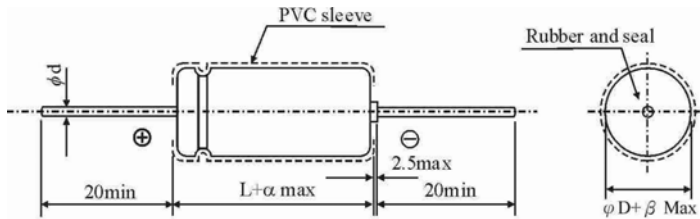
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High Temperature Type

DIAGRAM OF DIMENSIONS



LEAD DIAMETER

Unit: mm

φ D	5	6.3	8	10	13	16	18	22	25
φ d	0.6					0.8			
α	1.5			2.0					
β	0.5			1.0					

DIMENSIONS & PERMISSIBLE RIPPLE CURRENT

Dimension: Diameter (φ D) × Length (L) mm

Ripple Current: mA/rms at 105°C, 120Hz

尺寸：直徑(φ D) × 長度(mm)

紋波電流(mA)：溫度 105°C，測試頻率 120Hz

V.DC		6.3V(0J)		10V(1A)		16V(1C)		25V(1E)		35V(1V)		50V(1H)		63V(1J)		100V(2A)	
μF	Contents	φ D × L	mA	φ D × L	mA	φ D × L	mA	φ D × L	mA	φ D × L	mA	φ D × L	mA	φ D × L	mA	φ D × L	mA
0.10	0R1											5 × 12	2	5 × 12	3	5 × 12	3
0.22	R22											5 × 12	3.5	5 × 12	4.5	5 × 12	5
0.33	R33											5 × 12	5	5 × 12	7.5	5 × 12	8
0.47	R47											5 × 12	6	5 × 12	9	5 × 12	9
1.0	010											5 × 12	10	5 × 12	15	5 × 12	15
2.2	2R2											5 × 12	20	5 × 12	30	5 × 12	30
3.3	3R3											5 × 12	30	5 × 12	32	5 × 12	32
4.7	4R7											5 × 12	34	5 × 12	36	6.3 × 13	37
10	100					5 × 12	35	5 × 12	39	5 × 12	44	5 × 12	50	6.3 × 13	55	6.3 × 13	64
22	220					5 × 12	55	5 × 12	63	6.3 × 13	65	6.3 × 13	75	6.3 × 13	90	8 × 16	106
33	330			5 × 12	60	5 × 12	73	5 × 12	75	6.3 × 13	96	6.3 × 13	105	8 × 13	123	10 × 17	150
47	470			5 × 12	77	6.3 × 13	85	6.3 × 13	90	6.3 × 13	114	8 × 13	140	8 × 16	162	10 × 21	180
100	101	6.3 × 13	102	6.3 × 13	110	6.3 × 13	145	8 × 13	166	8 × 16	180	10 × 17	225	10 × 17	248	13 × 22	287
220	221	6.3 × 13	167	8 × 13	180	8 × 13	231	8 × 16	246	10 × 17	305	10 × 21	349	13 × 22	420	16 × 28	458
330	331	8 × 16	236	8 × 16	253	8 × 16	323	10 × 17	345	10 × 21	391	13 × 22	450	13 × 22	495	16 × 33	582
470	471	8 × 16	281	8 × 16	302	10 × 17	359	10 × 21	432	13 × 22	490	13 × 22	561	13 × 27	632	16 × 36	713
1,000	102	10 × 17	453	10 × 17	486	10 × 21	569	13 × 22	662	13 × 27	721	16 × 33	875	16 × 36	984	18 × 42	1,096
2,200	222	13 × 22	740	13 × 22	793	13 × 24	926	16 × 28	1,024	16 × 33	1,177	18 × 36	1,408	22 × 43	1,540	25 × 52	2,310
3,300	332	13 × 27	906	13 × 27	1,015	16 × 28	1,173	16 × 33	1,300	18 × 36	1,449	22 × 43	1,724	25 × 52	1,950		
4,700	472	13 × 27	1,168	16 × 28	1,252	16 × 33	1,443	18 × 36	1,638	22 × 43	1,878	25 × 43	1,950	25 × 52	2,290		