

# Axial Type Aluminum Electrolytic Capacitors



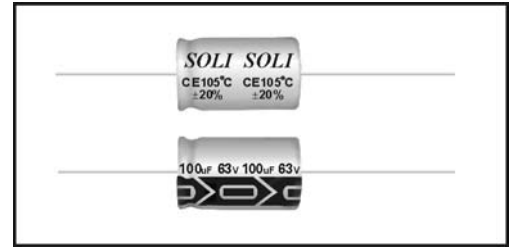
TG

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°C ~ +105°C																																																		
Capacitance Tolerance 容量公差	±10%, ±20% (at 20°C, 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°C) (在 20°C 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°C, 120 Hz) 損耗角	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <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> </tbody> </table> <p>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.</p>	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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Low Temperature Characteristics 低溫特性	<p>Impedance ratio at 120Hz. 阻抗測試頻率為 120Hz</p> <table border="1"> <thead> <tr> <th colspan="2">Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Z (-25°C)</td> <td>φD &lt; 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°C)</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°C)</td> <td>φD &lt; 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°C)</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> </tbody> </table>	Rated voltage (V)		6.3	10	16	25	35	50	63	100	Z (-25°C)	φD < 16	6	4	3	3	2	2	2	2	/ Z (+20°C)	φD ≥ 16	8	6	4	4	3	3	3	3	Z (-40°C)	φD < 16	10	8	6	6	4	3	3	3	/ Z (+20°C)	φD ≥ 16	18	16	12	10	8	8	6	6
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Load Life Test 負荷壽命	<p>After 1,000 hours application of rated voltage at 105°C, capacitors meet the characteristics requirements listed as below 在額定電壓 105°C 條件下, 經過 1,000 小時後, 電容特性要求如下表:</p> <table border="1"> <tbody> <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> </tbody> </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	<p>After leaving capacitors under no load at 105°C 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°C、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。</p>																																																		
Frequency Coefficient of Allowable Ripple Current 允許紋波電流的頻率系數	<table border="1"> <thead> <tr> <th rowspan="2">Cap.(µF)</th> <th colspan="5">Freq.(Hz)</th> </tr> <tr> <th>60</th> <th>120</th> <th>500</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <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> </tbody> </table>	Cap.(µF)	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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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																																																		



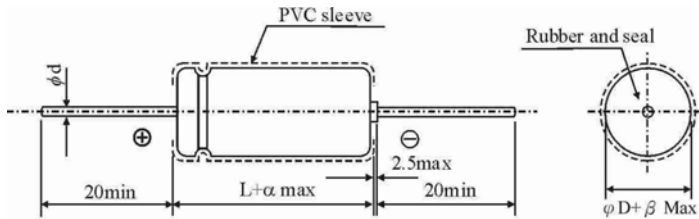
# Axial Type Aluminum Electrolytic Capacitors

軸式鋁質電解電容器

TG

High Temperature Type

## DIAGRAM OF DIMENSIONS



## LEAD DIAMETER

Unit: mm

$\phi D$	5	6.3	8	10	13	16	18	22	25
$\phi d$	0.6					0.8			
$\alpha$	1.5			2.0					
$\beta$	0.5			1.0					

## DIMENSIONS & PERMISSIBLE RIPPLE CURRENT

Dimension: Diameter ( $\phi D$ ) × Length (L) mm

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

尺寸：直徑( $\phi D$ ) × 長度(mm)

紋波電流(mA)：溫度 105°C，測試頻率 120Hz

$\mu F$	V.DC Contents	6.3V(0J)		10V(1A)		16V(1C)		25V(1E)		35V(1V)		50V(1H)		63V(1J)		100V(2A)	
		$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	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		