

ALUMINUM ELECTROLYTIC CAPACITORS

TP series

105°C 2000hours , GENERAL PURPOSE

105°C 2000 小時 一般用途

● Load life of 2000 hours at 105°C

105°C 壽命 2000 小時

● Cost down series

降成本系列

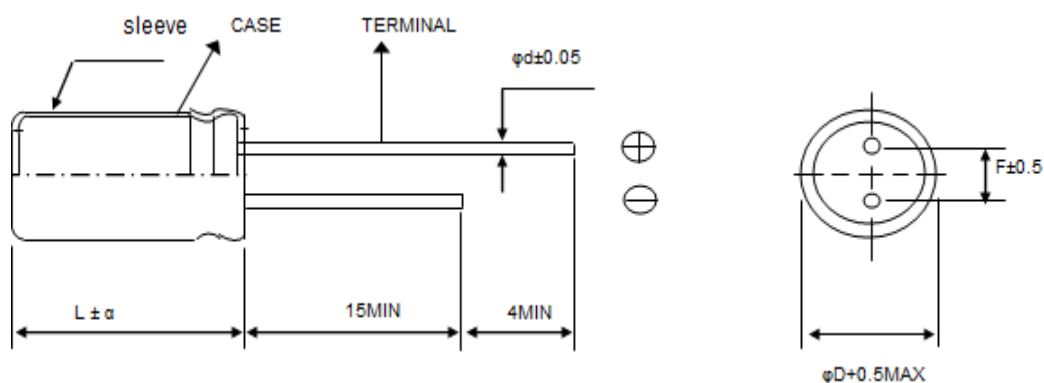
SPECIFICATIONS

Item 項目	Performance Characteristics 特性																	
Operating Temperature Range 工作溫度範圍	-40°C~+105°C																	
Rated Voltage Range 額定電壓範圍	160~450W.V																	
Capacitance Range 靜電容量範圍	0.22~330uF																	
Capacitance Tolerance 靜電容量誤差	±20%(M) at 120Hz , 25°C																	
Leakage Current 洩漏電流	Nominal Capacitance $\leq 10 \mu F$ $I=0.02CV +25uA$ (After 2 minutes) 額定容量 $\leq 10 \mu F$ $I=0.02CV +25uA$ (2 分鐘後) Nominal Capacitance $> 10 \mu F$ $I=0.02CV$ (After 2 minutes) 額定容量 $> 10 \mu F$ $I=0.02CV$ (2 分鐘後)) I =Leakage Current(μA) , C =Nominal Capacitance(μF) , V =Rated Voltage(V) I =洩漏電流 (μA) , C =額定容量(μF) , V =額定電壓(V)																	
Dissipation Factor ($\tan \delta$) 散逸因素 (損失角正切值)	Measurement frequency:120Hz , Temperature :25°C 測試頻率：120Hz 溫度：25°C <table border="1"> <tr> <td>Rated voltage (V) 額定電壓</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>Tan δ 損失角正切值</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> </tr> </table>	Rated voltage (V) 額定電壓	160	200	250	350	400	420	450	Tan δ 損失角正切值	0.20	0.20	0.20	0.25	0.25	0.25	0.25	
Rated voltage (V) 額定電壓	160	200	250	350	400	420	450											
Tan δ 損失角正切值	0.20	0.20	0.20	0.25	0.25	0.25	0.25											
Low Temperature Stability Impedance Ratio(MAX) 低溫特性阻抗比率	Measurement frequency: 120Hz 測試頻率：120Hz <table border="1"> <tr> <td>Rated Voltage(V) 額定電壓(V)</td> <td>160-200</td> <td>250-315</td> <td>350-400</td> <td>450</td> </tr> <tr> <td>Impedance ratio 阻抗比</td> <td>Z(-25°C)/Z(+20°C)</td> <td>3</td> <td>4</td> <td>6</td> <td>8</td> </tr> <tr> <td>ZT/Z20(MAX)</td> <td>Z(-40°C)/Z(+20°C)</td> <td>4</td> <td>8</td> <td>8</td> <td>8</td> </tr> </table>	Rated Voltage(V) 額定電壓(V)	160-200	250-315	350-400	450	Impedance ratio 阻抗比	Z(-25°C)/Z(+20°C)	3	4	6	8	ZT/Z20(MAX)	Z(-40°C)/Z(+20°C)	4	8	8	8
Rated Voltage(V) 額定電壓(V)	160-200	250-315	350-400	450														
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Load Life 負荷壽命	After 2000 hours' application of rated voltage at 105°C, capacitors meet the characteristics requirement listed as following. 在 105°C 下印加額定電壓 2000 小時後, 電容特性需滿足以下要求.	
	Capacitance Change 容量變化率	within ±20% of the initial value 初始值±20%以內
	Dissipation Factor 散逸因素	Not more than 200% of the specified value 不超出規格值的 2 倍
Shelf Life 放置壽命	After leaving capacitors under no load at 105°C for 1000 hours, the capacitors shall meet the following requirements. 電容放置在 105°C 無印加電壓的情況下儲存 1000 小時後, 電容需符合以下要求。	
	Capacitance Change 容量變化率	within ±20% of the initial value 初始值±20%以內
	Dissipation Factor 散逸因素	Not more than 200% of the specified value 不超出規格值的 2 倍
Standard 參照標準	According to JIS C 5101 依據 JIS C 5101 標準	
	Leakage Current 洩漏電流	Not more than the specified value. 不超出規格值.
	Leakage Current 洩漏電流	Not more than the specified value. 不超出規格值.

DIMENSIONS 尺寸(mm)



ϕD	5	6.3	8	10	12/12.5/13	16	18
ϕd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
α	$L \leq 19: \alpha = 1.5, \quad L \geq 20: \alpha = 2.0$						

Frequency coefficient

頻率系數

W.V.	Frequency(Hz) Cap(uF)	120	300	1k	10k~
160~450	0.22~220	1.00	1.25	1.40	1.60
	330~470	1.00	1.10	1.13	1.15

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STANDARD SIZES AND RIPPLE CURRENT

尺寸及紋波標準

Ripple current (mA 105°C, 120Hz) r.m.s

Cap(uF)	W.V. Code	160		200		250		350		400		420		450	
		2C		2D		2E		2V		2G		2H		2W	
0.22	R22									5x11	10				
0.47	R47														
1	010	6.3x11	10	6.3x11	20	8x11.5	20	8x11.5	14	6.3x11 8x11.5	16 20			10x12.5	30
2.2	2R2	6.3x11	20	6.3x11	20	8x11.5	30	8x11.5 10x12.5	17 20	6.3x11 8x11.5 10x16	20 29 30	6.3x11	24	8x15 10x20	29 30
3.3	3R3	8x11.5	30	8x11.5	30	10x12.5	40	10x16	30	6.3x11 8x11.5 10x20	25 30 40	8x11.5	35	8x16 10x12.5 12.5x20	49 49 60
4.7	4R7	8x11.5	40	10x12.5	40	10x12.5	50	10x20	40	8x11.5 10x11.5 10x20	40 50 60	8x11.5	45	12.5x20	100
6.8	6R8									10x12.5 8x16 10x16	70 55 90	8x16	62	12.5x25	120
10	100	10x12.5	60	10x16	70	10x20	80	12.5x20	60	8x16 10x10 12.5x20	75 75 120	8x16 10x12.5	85 95	16x25	140
12	120									8x14	80				
15	150									8x18 10x14	90 100	10x16	110		
18	180									8x20	100				
22	220	10x20	110	10x20	110	12.5x20	140	16x25	100	8x20 10x16 12.5x20 16x25	100 100 120 130	10x20 12.5x16	130 150	12.5x16 16x31.5	130 180
33	330	12.5x20	150	12.5x20	160	12.5x25	170	16x31.5	140	10x20 12.5x25 16x20 16x31.5	140 160 161 200	12.5x18	150	16x16 18x20 18x35.5	195 210 240
39	390									12.5x25	170				
47	470	12.5x25	170	12.5x25	200	16x25	210	18x35.5	180	10x30 12.5x20 12.5x30 16x30 18x25	160 180 190 230 212	12.5x25 16x20	180 230	18x20 16x30	250 230
56	560									12.5x35 13x30 18x20	239 229 240				
68	680			16x25	380					13x25 16x20 16x30 18x20	190 250 270 280	16x20	265	16x25 16x35.5 18x31.5	288 320 320

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W.V. Code		160		200		250		350		400		420		450	
Cap(uF)		2C		2D		2E		2V		2G		2H		2W	
82	820									16x23 16X31.5 18x25	275 300 314	16x25 18x20 18X25	298 310 324	18x20 16x25 18x31.5 18x35.5 18x45	320 320 330 380 408
100	101	16x25	260	16x25	323	16x31.5 18x35.5	310 370			16x30 18x25	340 365	16x25 18x31.5	300 380	18x25 16x30 18x31.5	350 370 380
120	121									16x28 16X35.5 18x30	330 395 390	16x35.5 18x31.5	384 420	18X35 18x45	420 497
150	151									16X40 18X31.5 18x40	410 380 497	18X35 18X40	420 440	18x45	517
180	181									18X40	497	20x41.5	510		
220	221	18x35.5	490	18x40	560										
330	331	18x40	620	18x31.5 18x40	600 660										