



# 鋁電解電容器

Aluminum Electrolytic Capacitor

FTT Series 螺栓型铝电解器标准品

Standard aluminum electrolytic capacitor of Screw Terminal Type



保证 105°C 2000H  
Standard at 105°C 2000H  
RoHS

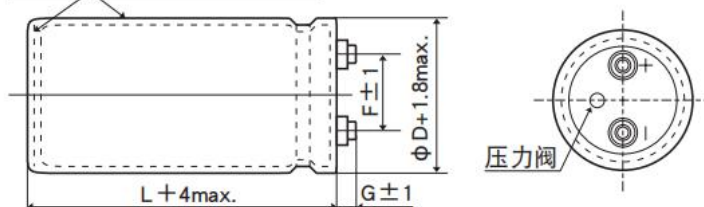
## ■主要技术性能 Specifications

使用温度范围 Operating Temperature Range	-40 ~+105°C	-25 ~+105°C																																																										
额定电压范围 Rated Voltage Range	10~100V DC	160~450V DC																																																										
标称电容量允许偏差 Capacitance Tolerance	±20% (120Hz, 20°C)																																																											
漏电流 (20°C) Leakage Current	$I \leq 0.02CV (\mu A)$ 或 $5mA$ 取较小值, (5 分钟) $I \leq 0.02CV (\mu A)$ or $5mA$ Whichever is smaller (after 5 minutes) $I = \text{Leakage Current} (\mu A), C = \text{Capacitance} (\mu F), V = \text{Rated DC Working Voltage} (V)$																																																											
损耗角正切值 Dissipation Factor (120Hz 20°C)	标准品额定表的值以下 Less than the value specified in the standard products table																																																											
温度特性 (120Hz) Temperature Characteristics	<table border="1"> <tr> <td>Capacitance</td> <td>16~100</td> <td>160~450</td> </tr> <tr> <td><math>C_{-25^\circ C} / C_{+20^\circ C}</math></td> <td>-</td> <td>0.7</td> </tr> <tr> <td><math>C_{-40^\circ C} / C_{+20^\circ C}</math></td> <td>0.6</td> <td>-</td> </tr> </table>		Capacitance	16~100	160~450	$C_{-25^\circ C} / C_{+20^\circ C}$	-	0.7	$C_{-40^\circ C} / C_{+20^\circ C}$	0.6	-																																																	
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耐久性 Load Life	在 105°C 环境施加额定工作电压 2000 小时后, 电容器的特性符合下表要求。 105°C environment d rated operating voltage after 2,000 hours , capacitor characteristics meet the requirements in the following table. <table border="1"> <tr> <td>电容量变化率 Capacitance Change</td> <td>≤±20%初始测量值 ≤±20% of Initial measured value</td> </tr> <tr> <td>漏电流值 Leakage</td> <td>≤规定值 ≤The specified value</td> </tr> <tr> <td>损耗角正切值 Dissipation Factor</td> <td>≤2 倍规定值 ≤200% of the specified value</td> </tr> </table>		电容量变化率 Capacitance Change	≤±20%初始测量值 ≤±20% of Initial measured value	漏电流值 Leakage	≤规定值 ≤The specified value	损耗角正切值 Dissipation Factor	≤2 倍规定值 ≤200% of the specified value																																																				
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高温贮存 Shelf Life (105°C)	试验时间: 1000 小时, 其他项目与耐久性相同。电压应用处理: 根据 JIS C5101-4.1 Test time : 1000hours ; other items are same as the endurance. Voltage application treatment : According to JIS C5101-4 4.1																																																											
额定纹波电流频率系数 Coefficient of Frequency for Rated Ripple Current	<table border="1"> <thead> <tr> <th rowspan="2">Voltage (V)</th> <th rowspan="2">ΦD (mm)</th> <th colspan="6">Frequency (Hz)</th> </tr> <tr> <th>50</th> <th>120</th> <th>300</th> <th>1K</th> <th>10K</th> <th>50K</th> </tr> </thead> <tbody> <tr> <td>10~50</td> <td>Φ35~Φ89</td> <td rowspan="3">0.95</td> <td rowspan="3">1.00</td> <td rowspan="3">1.03</td> <td rowspan="3">1.05</td> <td rowspan="3">1.09</td> <td rowspan="3">1.12</td> </tr> <tr> <td>63~80</td> <td>Φ50~Φ89</td> </tr> <tr> <td>100</td> <td>Φ63.5~Φ89</td> </tr> <tr> <td>63~80</td> <td>Φ35</td> <td rowspan="3">0.90</td> <td rowspan="3">1.00</td> <td rowspan="3">1.06</td> <td rowspan="3">1.10</td> <td rowspan="3">1.18</td> <td rowspan="3">1.22</td> </tr> <tr> <td>100</td> <td>Φ50</td> </tr> <tr> <td>100</td> <td>Φ35</td> </tr> <tr> <td>160~250</td> <td>Φ76.2、Φ89</td> <td rowspan="3">0.82</td> <td rowspan="3">1.00</td> <td rowspan="3">1.12</td> <td rowspan="3">1.22</td> <td rowspan="3">1.30</td> <td rowspan="3">1.33</td> </tr> <tr> <td>160~250</td> <td>Φ50、Φ63.5</td> </tr> <tr> <td>160~250</td> <td>Φ35</td> </tr> <tr> <td>315~450</td> <td>Φ35~Φ89</td> <td>0.80</td> <td>1.00</td> <td>1.19</td> <td>1.34</td> <td>1.46</td> <td>1.52</td> </tr> </tbody> </table>		Voltage (V)	ΦD (mm)	Frequency (Hz)						50	120	300	1K	10K	50K	10~50	Φ35~Φ89	0.95	1.00	1.03	1.05	1.09	1.12	63~80	Φ50~Φ89	100	Φ63.5~Φ89	63~80	Φ35	0.90	1.00	1.06	1.10	1.18	1.22	100	Φ50	100	Φ35	160~250	Φ76.2、Φ89	0.82	1.00	1.12	1.22	1.30	1.33	160~250	Φ50、Φ63.5	160~250	Φ35	315~450	Φ35~Φ89	0.80	1.00	1.19	1.34	1.46	1.52
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## ■外形图 Outline Drawing

●端子代码: SW

树脂板 套管 (PVC: 黑色)



■ 标称电容量、额定电压、额定纹波电流与外形尺寸对应表  
Nominal capacitance, rated voltage, rated ripple current and case size table

wv Cap(μF)	10V			16V			25V			35V			50V		
	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)
3900													35×50	0.20	2.80
4700													35×50	0.20	3.10
5600													35×50	0.20	3.30
6800													35×50	0.25	3.30
8200										35×50	0.30	3.30	35×60	0.25	3.80
10000										35×50	0.30	3.60	35×80	0.25	4.60
12000							35×50	0.35	3.70	35×60	0.30	4.20	35×80	0.25	5.10
15000							35×50	0.35	4.10	35×60	0.30	4.70	35×80	0.25	5.70
18000				35×50	0.40	4.20	35×60	0.35	4.80	35×80	0.30	5.70	35×100	0.25	6.70
22000				35×50	0.40	4.70	35×60	0.35	5.30	35×80	0.30	6.30	35×120	0.25	8.10
27000	35×50	0.45	4.90	35×60	0.40	5.50	35×80	0.35	6.40	35×100	0.30	7.50	50×80	0.25	9.10
33000	35×50	0.50	5.10	35×60	0.45	5.70	35×80	0.40	6.70	35×120	0.30	9.00	50×100	0.25	11.1
39000	35×60	0.50	5.90	35×80	0.45	6.80	35×100	0.40	7.80	50×80	0.35	9.20	50×120	0.25	13.1
47000	35×80	0.50	7.10	35×80	0.50	7.10	35×120	0.40	9.30	50×100	0.35	11.2	50×120	0.30	13.9
56000	35×80	0.60	7.10	35×100	0.50	8.40	50×80	0.45	9.70	50×100	0.40	11.4	63.5×100	0.35	13.9
68000	35×100	0.60	8.50	35×100	0.55	8.80	50×100	0.45	11.2	50×120	0.40	13.6	63.5×120	0.35	16.6
82000	35×100	0.65	8.90	50×80	0.55	10.7	50×100	0.50	11.2	63.5×100	0.45	14.8	76.2×120	0.40	18.9
100000	35×120	0.65	10.7	50×80	0.65	10.8	50×120	0.50	14.8	63.5×120	0.45	17.6	76.2×120	0.45	19.5
120000	50×80	0.75	11.0	50×100	0.65	13.1	63.5×100	0.65	14.9	63.5×120	0.55	17.6	76.2×120	0.55	19.5
150000	50×100	0.80	13.2	50×120	0.70	15.3	63.5×120	0.65	17.9	76.2×120	0.65	19.8	89×140	0.60	23.9
180000	50×120	0.80	15.7	50×120	0.80	15.7	63.5×120	0.80	17.9	76.2×120	0.80	19.8	89×140	0.75	23.9
220000	50×120	0.85	16.8	63.5×120	0.85	19.2	76.2×120	0.85	21.3	76.2×140	0.80	23.4			
270000	63.5×120	1.00	19.6	63.5×120	1.00	19.6	76.2×120	1.00	21.7	89×140	1.00	25.5			
330000	63.5×120	1.20	19.7	76.2×120	1.30	21.1	76.2×140	1.20	23.4						
390000	76.2×120	1.50	21.3	76.2×120	1.50	21.3	89×140	1.50	24.9						
470000	76.2×120	1.80	21.4	76.2×140	1.60	24.2									
560000	76.2×140	2.00	23.6	89×140	2.00	28.1									
680000	89×140	2.40	26.0	89×140	2.40	28.5									

I~额定纹波电流 Rated ripple current: (A, 105°C, 120Hz)

■ 标称电容量、额定电压、额定纹波电流与外形尺寸对应表  
Nominal capacitance, rated voltage, rated ripple current and case size table

WV Cap(μF)	63V			80V			100V			160V			200V		
	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)
330													35×50	0.15	0.90
390													35×50	0.15	1.00
470													35×50	0.15	1.10
560										35×50	0.15	1.20	35×50	0.15	1.20
680										35×50	0.15	1.30	35×50	0.15	1.30
820										35×50	0.15	1.40	35×50	0.15	1.40
1000										35×50	0.15	1.60	35×60	0.15	1.70
1200										35×60	0.15	1.90	35×60	0.15	1.90
1500										35×60	0.15	2.10	35×80	0.15	2.30
1800							35×50	0.10	2.70	35×80	0.15	2.50	35×80	0.15	2.50
2200				35×50	0.15	2.40	35×50	0.10	3.00	35×80	0.15	2.80	35×100	0.15	3.00
2700	35×50	0.20	2.30	35×50	0.15	2.70	35×60	0.10	3.50	35×100	0.15	3.30	35×120	0.15	3.60
3300	35×50	0.20	2.50	35×50	0.15	3.00	35×80	0.10	4.20	35×120	0.15	3.80	50×80	0.15	4.10
3900	35×50	0.20	2.80	35×60	0.15	3.40	35×80	0.12	4.20	50×80	0.20	3.80	50×100	0.15	4.90
4700	35×50	0.20	3.10	35×60	0.15	3.70	35×100	0.12	5.00	50×100	0.20	4.60	63.5×100	0.20	5.30
5600	35×60	0.20	3.50	35×80	0.15	4.50	35×100	0.12	5.40	50×100	0.20	5.10	63.5×100	0.20	5.80
6800	35×60	0.20	3.90	35×80	0.15	4.90	35×120	0.15	5.80	50×120	0.20	6.10	63.5×120	0.20	6.90
8200	35×80	0.20	4.70	35×100	0.15	5.10	50×80	0.15	6.40	63.5×100	0.20	7.00	63.5×120	0.20	7.60
10000	35×80	0.25	4.70	35×120	0.15	6.10	50×100	0.15	7.80	63.5×120	0.20	8.40	76.2×120	0.20	9.30
12000	35×100	0.25	5.50	50×80	0.20	6.70	50×120	0.15	9.30	76.2×100	0.20	9.40	76.2×120	0.20	10.2
15000	35×120	0.25	6.60	50×100	0.20	8.30	50×120	0.15	10.4	76.2×120	0.20	11.4	76.2×140	0.20	12.2
18000	50×80	0.25	7.40	50×120	0.20	9.90	63.5×100	0.20	10.4	76.2×140	0.20	13.4	89×140	0.25	13.1
22000	50×100	0.25	9.00	50×120	0.20	11.0	63.5×120	0.20	12.5	89×140	0.25	14.5			
27000	50×120	0.25	10.9	63.5×100	0.25	11.4	76.2×120	0.25	13.7	89×140	0.25	16.0			
33000	50×120	0.25	12.0	76.2×100	0.25	13.9	76.2×120	0.25	15.2						
39000	63.5×100	0.30	12.5	76.2×100	0.30	13.9	76.2×140	0.30	16.1						
47000	63.5×120	0.30	14.9	76.2×120	0.30	16.5	89×140	0.30	19.3						
56000	63.5×120	0.30	16.3	76.2×120	0.30	18.1	89×140	0.30	21.1						
68000	76.2×120	0.35	18.4	76.2×140	0.35	19.7									
82000	76.2×140	0.40	20.0	89×140	0.40	22.1									
100000	76.2×140	0.50	20.0												
120000	89×140	0.60	21.8												

I~额定纹波电流 Rated ripple current: (A, 105°C, 120Hz)

■ 标称电容量、额定电压、额定纹波电流与外形尺寸对应表  
Nominal capacitance, rated voltage, rated ripple current and case size table

wv Cap(μF)	250V			315V			350V			400V			450V		
	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)	ΦD×L (mm)	tanδ	I (Arms)
180				35×50	0.10	0.80	35×50	0.10	0.80	35×50	0.10	0.80	35×50	0.10	0.80
220				35×50	0.10	0.90	35×50	0.10	0.90	35×50	0.10	0.90	35×50	0.10	0.90
270	35×50	0.15	0.80	35×50	0.10	1.00	35×50	0.10	1.00	35×50	0.10	1.00	35×60	0.10	1.10
330	35×50	0.15	0.90	35×50	0.10	1.10	35×50	0.10	1.10	35×60	0.10	1.20	35×60	0.10	1.20
390	35×50	0.15	1.00	35×50	0.10	1.20	35×60	0.10	1.30	35×60	0.10	1.30	35×80	0.15	1.30
470	35×50	0.15	1.10	35×60	0.10	1.40	35×60	0.10	1.40	35×80	0.10	1.40	35×80	0.15	1.40
560	35×50	0.15	1.20	35×60	0.10	1.50	35×80	0.10	1.60	35×80	0.15	1.40	35×100	0.15	1.60
680	35×60	0.15	1.40	35×80	0.10	1.70	35×80	0.15	1.60	35×100	0.15	1.70	35×120	0.15	1.80
820	35×80	0.15	1.60	35×80	0.15	1.70	35×100	0.15	1.80	35×120	0.15	2.00	50×80	0.15	2.10
1000	35×80	0.20	1.60	35×100	0.15	2.00	35×120	0.15	2.20	50×80	0.15	2.20	50×100	0.15	2.50
1200	35×80	0.20	1.80	35×120	0.15	2.0	50×80	0.15	2.40	50×100	0.15	2.70	50×120	0.15	3.00
1500	35×100	0.20	2.10	50×80	0.15	2.70	50×100	0.15	3.00	50×120	0.15	3.30	63.5×100	0.15	3.50
1800	35×120	0.20	2.50	50×100	0.15	3.30	50×120	0.15	3.60				63.5×120	0.15	4.20
2200	50×80	0.20	2.90	50×120	0.15	4.00	50×120	0.15	4.00	63.5×100	0.15	4.20	76.2×100	0.15	5.50
2700	50×100	0.20	3.50	50×120	0.15	4.40	63.5×100	0.15	4.60				76.2×120	0.15	6.70
3300	50×120	0.20	4.20	63.5×100	0.15	5.10				63.5×120	0.15	5.50	76.2×140	0.15	7.50
3900	50×120	0.20	4.60	63.5×120	0.15	6.00	76.2×120	0.15	6.70				89×140	0.15	9.50
4700	63.5×120	0.20	5.70	76.2×100	0.15	6.80				76.2×130	0.15	7.60			
5600	63.5×120	0.20	6.30	76.2×120	0.15	8.00	76.2×130	0.15	8.30	89×140	0.15	9.40			
6800	76.2×120	0.20	7.70	76.2×130	0.15	9.20	76.2×140	0.15	9.50	89×140	0.15	10.4			
8200	76.2×120	0.20	8.40	89×140	0.15	11.4	89×140	0.15	11.4						
10000	76.2×140	0.20	10.1	89×140	0.15	12.6									
12000	89×140	0.20	11.9												

I~额定纹波电流 Rated ripple current: (A , 105°C,120Hz)