



鋁電解電容器

Aluminum Electrolytic Capacitor

RT1 Series 铝电解电容器标准品
Aluminum electrolytic capacitor standard



- 寿命: +105 °C 2000 小时 Life time:+105 °C 2000Hrs
- 小体积、大容量 Small size, Large capacity
- 符合 RoHS 指令 RoHS compliance
- 符合 AEC-Q200



主要技术性能 Specifications

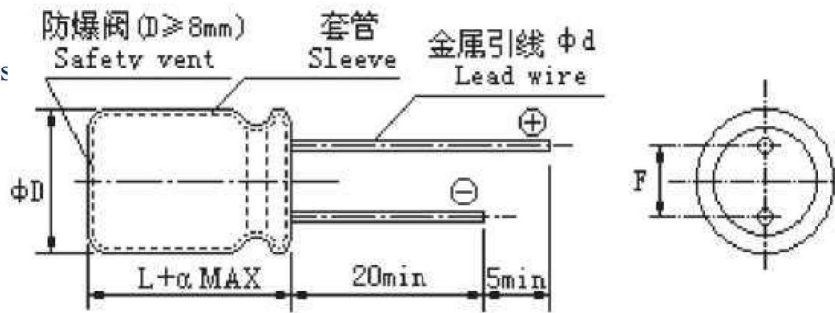
项目 Items	特 性 Characteristics																																																											
使用温度范围 Operating Temperature Range	-55~+105°C					-40~+105°C					-25~+105°C																																																	
额定电压范围 Rated Voltage Range	6.3~100V. DC					160~400V. DC					450V. DC																																																	
标称电容量允许偏差 Capacitance Tolerance	±20% (120Hz, 20°C)																																																											
漏电流(20°C) Leakage Current	6.3~100V.DC					160~450V.DC																																																						
	I≤0.01CV(μA)或 3μA 取较大者 (2分钟) I≤0.01CV or 3μA Which ever is greater (after 2 minutes)					CV≤1000					CV>1000																																																	
损耗角正切值 Dissipation Factor (120Hz 20°C)	<table border="1"> <thead> <tr> <th>WV</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> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tg δ</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</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> </tr> </tbody> </table>															WV	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	tg δ	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.20	0.20	0.25	0.25	0.25															
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容量大于 1000 μ F 者, 每增加 1000 μ F, 其损耗角正切值增加 0.02 For capacitance exceeding 1000 μ F, add 0.02 per increment of 1000 μ F																																																												
温度特性 (120Hz) Temperature Characteristics Impedance Ratio (120Hz)	<table border="1"> <thead> <tr> <th>WV</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> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>$\frac{Z_{-25°C}}{Z_{+20°C}}$</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td> <td>4</td> <td>6</td> <td>6</td> <td>7</td> </tr> <tr> <td>$\frac{Z_{-40°C}}{Z_{+20°C}}$</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>4</td> <td>4</td> <td>8</td> <td>8</td> <td>10</td> <td>-</td> </tr> </tbody> </table>															WV	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	$\frac{Z_{-25°C}}{Z_{+20°C}}$	5	4	3	2	2	2	2	2	3	3	4	6	6	7	$\frac{Z_{-40°C}}{Z_{+20°C}}$	10	8	6	4	3	3	3	3	4	4	8	8	10	-
	WV	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																																													
$\frac{Z_{-25°C}}{Z_{+20°C}}$	5	4	3	2	2	2	2	2	3	3	4	6	6	7																																														
$\frac{Z_{-40°C}}{Z_{+20°C}}$	10	8	6	4	3	3	3	3	4	4	8	8	10	-																																														
耐久性 Load Life	+105°C施加额定电压 2000 小时, 恢复 16 小时后, 电容器应满足要求 After applying rated voltage for 2000 hours at +105°C and then resumed 16 hours. The capacitor shall meet the following limits.																																																											
	电容量变化率 Capacitance Change		≤±25%初始测量值 ≤±25% 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																																																									
高温贮存 Shelf Life	+105°C, 1000 小时, 然后按 JISC5101-4 第 4.1 项预处理后测量。 After storage for 1000 hours at +105 °C, the capacitor shall be preconditioned by applying voltage according to Item4.1 of JISC5101-4.																																																											
	电容量变化率 Capacitance Change		≤±20%初始测量值 ≤±20% of Initial measured value																																																									
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RT1 Series

■ 额定纹波电流的频率系数 Frequency coefficient of rated ripple current

频率 (Hz)	60 (50)	120	500	1K	10K≤
0.47~1μF	0.50	1.0	1.20	1.30	1.50
2.2~4.7μF	0.65	1.0	1.20	1.30	1.50
10~47μF	0.80	1.0	1.20	1.30	1.50
100~1000μF	0.80	1.0	1.10	1.15	1.20
2200~3300μF	0.80	1.0	1.05	1.10	1.15

■ 外形图及尺寸 Cas



mm

$\phi D \pm 0.5$	5	6.3	8	10	12.5 or 13	16	18
L	11	11	12	12,16,20	20,25	25,21,36	31,36,40
$F \pm 0.5$	2.0	2.5	3.5	5.0		7.5	
$\phi d \pm 0.05$	0.5			0.6		0.8	
a	1.5(WV ≤ 100); 2.0(WV > 100)					2.0	

RT1 Series

■ 规格壳号、最大允许纹波电流

Standard sizes & Maximum permissible ripple current

wv CAP (μ F)	6.3V		10V		16V		25V		35V		50V		63V	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47											5×11	7		
1.0											5×11	13		
2.2											5×11	20		
3.3											5×11	25		
4.7											5×11	32		
10											5×11	47	5×11	48
22									5×11	64	5×11	70	5×11	80
33							5×11	69	5×11	77	5×11	94	6.3×11	100
47					5×11	80	5×11	84	5×11	100	6.3×11	115	6.3×11	140
100	5×11	96	5×11	105	5×11	130	5×11	135	6.3×11	170	8×12	200	8×12	230
220	5×11	160	5×11	165	6.3×11	220	6.3×11	240	8×12	300	10×12	360	10×16	390
330	6.3×11	210	6.3×11	235	6.3×11	270	8×12	335	10×12	400	10×16	470	10×20	540
470	6.3×11	275	6.3×11	295	8×12	375	8×12	440	10×12	525	10×20	600	13×20	700
680	6.3×11	285	8×12	430	8×12	480	10×12	630	10×16	760	13×20	980	13×25	800
1000	8×12	460	8×12	500	10×12	640	10×16	740	10×20	865	13×25	1060	16×25	1200
2200	10×16	775	10×16	860	10×20	1050	13×20	1090	16×25	1370	16×31	1600	18×31	1400
3300	10×20	985	10×20	1100	13×20	1300	16×25	1500	16×25	1680	18×36	1780		
4700	13×20	1150	13×20	1350	13×25	1650	16×25	1800	16×36	1870				
6800	13×25	1480	16×25	1700	16×25	1900	16×36	1910	18×36	1920				
10000	16×25	1700	16×25	1950	16×31	1950	18×36	2050						
15000	16×31	2090	16×36	2090	18×36	2070								
22000	18×31	2280	18×36	2180										
33000	18×40	2350												
wv CAP(μ F)	100V		160V		200V		250V		350V		400V		450V	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47	5×11	8					6.3×11	8	6.3×11	8				
1.0	5×11	15					6.3×11	16	6.3×11	16	6.3×11	16	6.3×11	15
2.2	5×11	21					6.3×11	30	6.3×11	25	8×12	31	8×12	20
3.3	5×11	30			6.3×11	36	6.3×11	30	8×12	30	8×12	34	10×12	33
4.7	5×11	35	6.3×11	43	6.3×11	40	8×12	45	8×12	45	10×12	42	10×12	35
10	5×11	60	8×12	77	8×12	57	10×12	90	10×16	95	10×16	64	10×20	37
22	6.3×11	98	10×12	92	10×16	105	10×16	105	13×20	175	13×20	140	13×25	100
33	8×12	140	10×16	125	10×20	140	10×20	140	13×25	220	16×25	170	16×25	125
47	8×12	185	10×20	150	10×20	195	13×20	190	16×25	260	16×25	200	16×31	155
100	10×16	290	13×25	320	16×25	340	16×25	310	18×31	370	18×36	310	18×40	200
220	13×20	560	16×31	410	16×36	580	18×36	485						
330	12.5×	690	18×31	570	18×40	675								
470	16×25	880	18×40	855										
680	16×31	900												
1000	18×36	985												

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

编带产品规格 Taping Specifications (Radial Type)

■ Taping Specifications

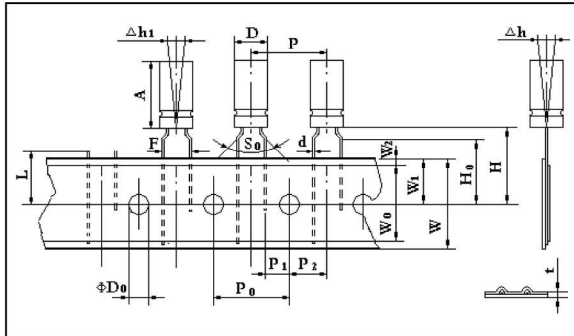


Figure 1

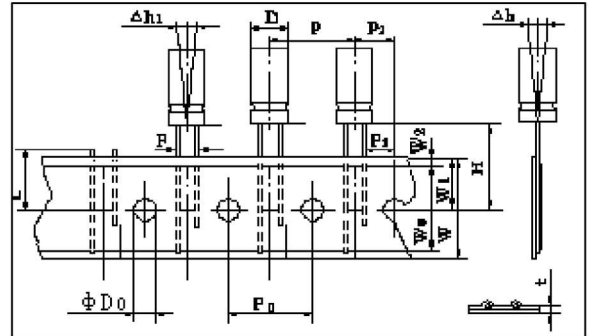


Figure 2

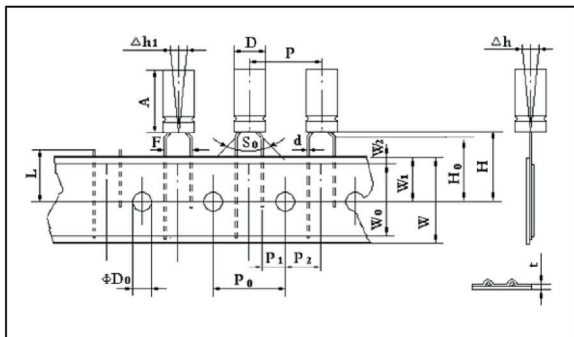


Figure 3

■ Packaging Specification

Diameter	Ammunition	Ammunition packing dimensions(mm)
	Quantity/Box(pcs)	
φ 4	3000	330 × 296 × 49
φ 5	2000	330 × 250 × 49
φ 6.3	2000	330 × 296 × 49
φ 8	1000	330 × 250 × 49

Code F1	Case Size				Tol
	4*5 4*7	5*5 5*7 5*11	6.3*5 6.3*7 6/6.3*11	8*5 8*7 8*11.5	
Reference figure	Figure 1				--
φ d	0.45	0.45 0.5 (5*11)	0.45 0.5 (6*11)	0.45 0.5(8*7) 0.5(8*11.5)	± 0.05
p	12.7				± 1.0
P ₀	12.7				± 0.3
P ₁	3.85				± 0.5
F	5.0				+0.6/-0.2
Δh	0				± 1.0
W	18.0				± 0.5
W ₀	12min				--
W ₁	9.0				± 0.5
W ₂	2.0 max				--
H	18.5 (17.5) *				± 0.5
H ₀	16.0				± 0.5
D ₀	4.0				± 0.3
t	0.6				± 0.2
Δh1	0				± 0.2

Code F2	Case Size					Tol
	4*5 4*7	5*5 5*7 5*11	6.3*5 6.3*7 6/6.3*11	8*5 8*7 8*11.5	ϕ 10	
Reference figure	Figure 2					--
ϕ d	0.45	0.45 0.5 (5*11)	0.45 0.5 (6*11)	0.45 0.5(8*7) 0.5(8*11.5)	0.60	± 0.05
p	12.7					± 1.0
P ₀	12.7					± 0.3
P ₁	5.6	5.35	5.1	4.6	3.85	± 0.5
F	1.5	2.0	2.5	3.5	5.0	+0.6/-0.2
Δ h	0					± 1.0
W	18.0					± 0.5
W ₀	12min					--
W ₁	9.0					± 0.5
W ₂	2.0 max					--
H	18.5 (17.5) *					± 0.5
H ₀	--					--
D ₀	4.0					± 0.3
t	0.6					± 0.2
Δ h1	0					± 0.2

Code F3	Case Size			Tol
	4*5 4*7	5*5 5*7 5*11	8*5 8*7	
Reference figure	Figure 3		Figure 2	--
ϕ d	0.45	0.45 0.5 (5*11)	0.45 0.5(8*7)	± 0.05
p	12.7			± 1.0
P ₀	12.7			± 0.3
P ₁	5.1			± 0.5
F	2.5			+0.6/-0.2
Δ t	0			± 1.0
W	18.0			± 0.5
W _c	12min			--
W ₁	9.0			± 0.5
W ₂	2.0 max			--
H	18.5 (17.5) *			± 0.5
H ₀	16.0		--	± 0.5
D ₀	4.0			± 0.3
t	0.6			± 0.2
Δ h1	0			± 0.2

成型产品规格

Lead Forming Specifications (Radial Type)

■ Lead Forming Specifications

Code		Case Size				Shape Figure
		D	d ± 0.05	s ± 0.5	h	
C	1	φ 4	φ 0.45	1.5	h ± 0.3	
		φ 5	φ 0.45/0.5	2.0		
		φ 6.3	φ 0.45/0.5	2.5		
		φ 8	φ 0.45/0.5	3.5		
C	B	φ 4	φ 0.45	5	h ± 0.3	
		φ 5	φ 0.45/0.5	5	h ± 0.3	
		φ 6.3	φ 0.45/0.5	5	h ± 0.3	
		φ 8	φ 0.45/0.5	5	h ± 0.3	
C	K	φ 4	φ 0.45	1.5	h ± 0.5	
		φ 5	φ 0.45	2.0	h ± 0.5	
		φ 6.3	φ 0.45	2.5	h ± 0.5	
		φ 8	φ 0.45	3.5	h ± 0.5	
φ 0.50						
C	N	φ 4	φ 0.45	1.5	h ± 0.5	
		φ 5	φ 0.45	2.0	h ± 0.5	
		φ 6.3	φ 0.45	2.5	h ± 0.5	
C	M	φ 4	φ 0.45	1.5	h ± 0.5	
		φ 5	φ 0.45	2.0	h ± 0.5	
		φ 6.3	φ 0.45	2.5	h ± 0.5	

Note: "h" depends on customer's requirement.