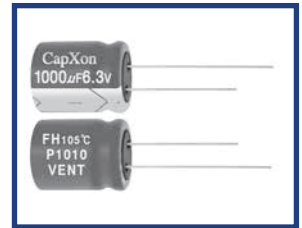


FH 105°C high ripple current at frequency range

Features

- ◆ New innovative electrolyte is employed to minimize ESR
- ◆ Long life 4,000 to 10,000 hours at 105°C
- ◆ Non solvent proof type
- ◆ 6.3 to 100VDC newly type
- ◆ RoHS compliant



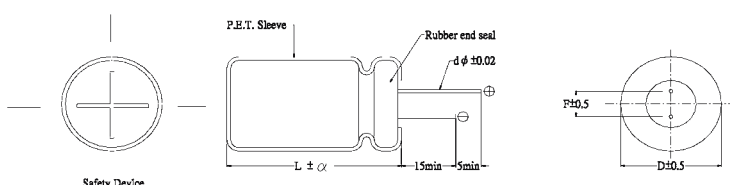
Specifications

Item	Performance Characteristics																											
Operating Temperature Range	-40 to +105°C																											
Rated Voltage Range	6.3 to 100VDC																											
Capacitance Tolerance	±20%(120Hz,+20°C)																											
Capacitance Range	22~5600 µF																											
Leakage Current (+20°C,max.)	I=0.01 CV or 3 (µA) (After 2 minute) with rated working voltage applied.)																											
Dissipation Factor (tan δ , at 20°C , 120Hz)	<table border="1"> <tr> <th>Working Voltage(VDC)</th> <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> <th>D. F.(%) max.</th> <td>22</td> <td>19</td> <td>16</td> <td>14</td> <td>12</td> <td>10</td> <td>9</td> <td>9</td> </tr> </table>	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	D. F.(%) max.	22	19	16	14	12	10	9	9									
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100																			
D. F.(%) max.	22	19	16	14	12	10	9	9																				
For capacitance > 1000µF,add 2% per another 1000µF.																												
Low Temperature Characteristics (at 120Hz)	Impedance ratio max																											
	<table border="1"> <tr> <th>Working Voltage(VDC)</th> <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> <th>Z-25°C/Z+20°C</th> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <th>Z-40°C/Z+20°C</th> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	Z-25°C/Z+20°C	4	3	2	2	2	2	2	2	Z-40°C/Z+20°C	8	6	4	3	3	3	3	3
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100																			
Z-25°C/Z+20°C	4	3	2	2	2	2	2	2																				
Z-40°C/Z+20°C	8	6	4	3	3	3	3	3																				
Endurance	Test conditions Duration time :																											
	<table border="1"> <thead> <tr> <th colspan="2">SIZE</th> <th>φ D≤6.3</th> <th>φ D = 8,10</th> <th>φ D≥13</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Voltage</td> <td>6.3~10WV</td> <td>4000 hours</td> <td>6000 hours</td> <td>8000 hours</td> </tr> <tr> <td>16~100WV</td> <td>5000 hours</td> <td>7000 hours</td> <td>10000hours</td> </tr> </tbody> </table>	SIZE		φ D≤6.3	φ D = 8,10	φ D≥13	Voltage	6.3~10WV	4000 hours	6000 hours	8000 hours	16~100WV	5000 hours	7000 hours	10000hours													
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Voltage	6.3~10WV	4000 hours	6000 hours	8000 hours																								
	16~100WV	5000 hours	7000 hours	10000hours																								
Ambient temperature :+105°C Applied voltage :Rated DC working voltage After test requirement at +20°C Capacitance change : within ±25% of the initial measured value Dissipation factor : ≤200% of the initial specified value Leakage current : ≤The initial specified value																												
Shelf Life	Test condition Duration time :1000Hrs Ambient temperature :+105°C Applied voltage :None After test requirement at +20°C:Same limits as Endurance. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.																											

Multiplier for Ripple Current vs. Frequency

CAP(µF)/Hz	50(60)	120	400	1K	10K	100K
CAP ≤ 10	0.47	0.59	0.76	0.85	0.97	1.00
10 < CAP ≤ 100	0.52	0.62	0.80	0.89	0.97	1.00
100 < CAP ≤ 1000	0.58	0.72	0.84	0.90	0.98	1.00
1000 < CAP	0.63	0.78	0.87	0.91	0.98	1.00

Diagram of Dimensions:(unit:mm)



φ D	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φ d	0.5		L < 20	0.6		0.8	
			L ≥ 20				

α	D < 18	D = 18		D > 18
		L < 35.5	L ≥ 35.5	
	1.5	1.5	2.0	2.0

Case Size

φ D×L(mm)

μ F	WV	6.3				10			
		Size	Ripple	Impedance		Size	Ripple	Impedance	
				20°C	-10°C			20°C	-10°C
100									
150		5×11	190	0.550	2.300	5×11	215	0.580	2.300
220		6.3×11	290	0.260	0.900	6.3×11	340	0.230	0.870
330		6.3×11	330	0.210	0.870	6.3×11	380	0.220	0.870
470		8×11.5	425	0.140	0.580	8×11.5	600	0.130	0.520
680		8×11.5	520	0.130	0.520	8×16	770	0.096	0.350
						10×12.5	800	0.085	0.310
820		10×12.5	800	0.090	0.320	10×16	920	0.075	0.280
1000		8×16	850	0.080	0.350	8×20	1050	0.072	0.270
						10×16	1110	0.064	0.240
1200		8×20	1000	0.075	0.260	10×20	1380	0.045	0.180
		10×16	1020	0.064	0.240				
1500		10×20	1340	0.050	0.180	10×25	1550	0.043	0.170
2200		10×25	1550	0.046	0.170	10×30	1880	0.030	0.120
						13×20	1800	0.035	0.120
3300		13×20	1720	0.038	0.120	13×25	2120	0.029	0.089
3900		13×25	1840	0.029	0.088	13×30	2400	0.025	0.078
4700		13×30	2400	0.027	0.078				
5600		13×35	2650	0.024	0.065				

Ripple Current (mA, rms) at 105°C 100KHz

Max Impedance (Ω) at 20°C 100KHz

φ D×L(mm)

μ F	WV	16V				25V			
		Size	Ripple	Impedance		Size	Ripple	Impedance	
				20°C	-10°C			20°C	-10°C
47									
56		5×11	200	0.560	2.300	5×11	240	0.560	2.300
100		6.3×11	280	0.220	0.820	6.3×11	350	0.250	0.870
120		6.3×11	310	0.215	0.870				
220		8×11.5	480	0.180	0.850	8×11.5	590	0.150	0.520
330		8×11.5	600	0.140	0.520	8×16	810	0.092	0.350
						10×12.5	826	0.082	0.320
470		8×16	780	0.095	0.350	8×20	1020	0.074	0.270
		10×12.5	800	0.085	0.320	10×16	1210	0.068	0.240
680		8×20	1000	0.080	0.270	10×20	1400	0.050	0.180
820		10×20	1280	0.052	0.220	10×25	1580	0.041	0.170
1000		10×20	1380	0.046	0.180	10×30	1820	0.032	0.120
		13×16	1420	0.050	0.160	13×20	1800	0.036	0.120
1200		10×25	1560	0.044	0.170				
1500		13×20	1720	0.037	0.120	13×25	2240	0.028	0.089
1800		13×25	2030	0.030	0.095	13×30	2640	0.024	0.078
2200		13×25	2200	0.026	0.089	13×35	2880	0.023	0.065
2700		13×30	2600	0.023	0.077	16×25	2820	0.022	0.060
3300		13×35	2860	0.022	0.066				
4700		18×25	3000	0.020	0.049				

Ripple Current (mA, rms) at 105°C 100KHz

Max Impedance (Ω) at 20°C 100KHz

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φ D×L(mm)

μ F	WV	35V				50V			
		Size	Ripple	Impedance		Size	Ripple	Impedance	
				20°C	-10°C			20°C	-10°C
22						5×11	220	0.650	2.800
33		5×11	230	0.550	2.300				
47		5×11	280	0.45	1.8	6.3×11	260	0.370	1.500
56		6.3×11	360	0.210	0.860	6.3×11	300	0.290	1.200
100		6.3×11	450	0.18	0.72	8×11.5	680	0.160	0.670
120						8×16	760	0.120	0.480
150		8×11.5	680	0.140	0.520	10×12.5	800	0.120	0.480
180						8×20	1000	0.090	0.360
220		8×16	1000	0.090	0.350	10×16	1300	0.082	0.340
		10×12.5	1060	0.080	0.320				
270		8×20	1180	0.070	0.260	10×20	1350	0.060	0.240
330		10×16	1380	0.062	0.240	10×25	1600	0.057	0.220
470		10×20	1800	0.048	0.180	10×30	1800	0.048	0.170
560		10×25	1900	0.042	0.160	13×25	1950	0.042	0.110
680		10×30	2000	0.035	0.120				
		13×20	2100	0.034	0.120				
1000		13×25	2400	0.028	0.088				
1200		13×30	2800	0.024	0.078	16×31.5	2870	0.030	0.066
		16×21	2800	0.028	0.078				
1500		13×35	3000	0.022	0.065				
1800		16×25	2850	0.020	0.060				
2700		16×35.5	3500	0.018	0.044				
		18×31.5	3850	0.016	0.040				

Ripple Current (mA, rms) at 105°C 100KHz
 Max Impedance (Ω) at 20°C 100KHz

φ D×L(mm)

μ F	WV	63V				100V			
		Size	Ripple	Impedance		Size	Ripple	Impedance	
				20°C	-10°C			20°C	-10°C
27						8×11.5	300	0.610	2.80
33		6.3×11	260	1.200	5.00				
47		8×11.5	360	0.660	3.10	10×12.5	400	0.420	1.80
56		8×11.5	380	0.600	2.80				
68						10×16	460	0.300	1.50
82		8×16	460	0.440	2.10	10×20	600	0.210	0.94
		10×12.5	500	0.430	1.80				
100		10×12.5	640	0.340	1.80	10×25	800	0.200	0.84
120		8×20	700	0.320	1.60				
		10×16	760	0.300	1.50	13×20	900	0.160	0.64
180		10×20	880	0.190	0.94				
220		10×25	1100	0.185	0.84				
270		13×20	1200	0.160	0.64	16×25	1480	0.073	0.27
330		13×25	1600	0.120	0.45	13×40	1600	0.071	0.30
390						16×31.5	1700	0.055	0.20
						18×25	1740	0.054	0.21
470		13×30	1800	0.100	0.42	16×35.5	1880	0.047	0.17
	18×31.5					1600	0.047	0.17	
560		16×25	2000	0.073	0.27				
680		13×40	2200	0.070	0.30	18×35.5	1720	0.042	0.15
820		16×31.5	2400	0.054	0.20	18×41	2340	0.040	0.13
1000		16×35.5	2500	0.048	0.17				
		18×31.5	2800	0.047	0.17				
1200		16×41	2920	0.040	0.15				
		18×35.5	3000	0.039	0.15				
1500		18×41	3200	0.036	0.13				

Ripple Current (mA, rms) at 105°C 100KHz

Max Impedance (Ω) at 20°C 100KHz