

CapXon HP Series

HP Series Snap-in Type 105°C

Features

- ◆ Highly reliable capacitors that with high ripple current.
- ◆ Terminal spacing fixed at 10 mm for printed circuit board plug in.
- ◆ Aluminum case designed explosion-proof vent.
- ◆ Best for switching power supplies.
- ◆ For detail specifications, please refer to Engineering Bulletin No. E107
- ◆ RoHs Compliance



Specifications

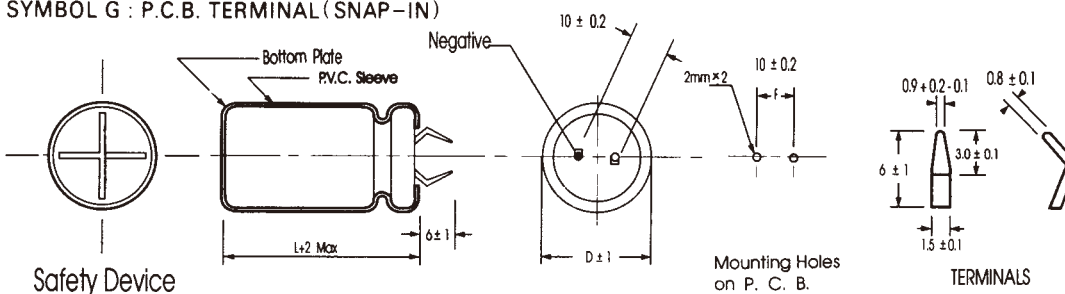
Item	Performance Characteristics																																																		
Operating Temperature Range	-40 to +105°C	-25 to +105°C																																																	
Rated Voltage Range	10 to 100 VDC	160 to 450 VDC																																																	
Capacitance Range	330 to 68000 µF	33 to 2200 µF																																																	
Capacitance Tolerance	±20% (120Hz, +20°C)																																																		
Leakage Current (+20°C,max.)	I ≤ 0.02CV After 5 minutes with rated working voltage applied.																																																		
Dissipation Factor (tan δ)	(+20°C, at 120Hz)	Less than the value under table (%)																																																	
		<table border="1"> <thead> <tr> <th>µF \ WVDC</th> <th>10~16</th> <th>25~35</th> <th>50~63</th> <th>80~100</th> <th>160~250</th> <th>315~450</th> </tr> </thead> <tbody> <tr> <td>47~390</td> <td>—</td> <td>—</td> <td>—</td> <td>15</td> <td>15</td> <td>20</td> </tr> <tr> <td>470~3900</td> <td>25</td> <td>20</td> <td>20</td> <td>20</td> <td>15</td> <td>20</td> </tr> <tr> <td>4700~8200</td> <td>35</td> <td>30</td> <td>30</td> <td>25</td> <td>—</td> <td>—</td> </tr> <tr> <td>10000~22000</td> <td>40</td> <td>35</td> <td>30</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>27000~47000</td> <td>45</td> <td>40</td> <td>35</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>56000~68000</td> <td>50</td> <td>45</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> </tbody> </table>	µF \ WVDC	10~16	25~35	50~63	80~100	160~250	315~450	47~390	—	—	—	15	15	20	470~3900	25	20	20	20	15	20	4700~8200	35	30	30	25	—	—	10000~22000	40	35	30	—	—	—	27000~47000	45	40	35	—	—	—	56000~68000	50	45	—	—	—	—
		µF \ WVDC	10~16	25~35	50~63	80~100	160~250	315~450																																											
		47~390	—	—	—	15	15	20																																											
		470~3900	25	20	20	20	15	20																																											
		4700~8200	35	30	30	25	—	—																																											
		10000~22000	40	35	30	—	—	—																																											
27000~47000	45	40	35	—	—	—																																													
56000~68000	50	45	—	—	—	—																																													
Low Temperature Characteristics (120Hz)	Impedance ratio max.	<table border="1"> <thead> <tr> <th>Rated voltage(V)</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>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Z - 25°C / +20°C</td> <td>5</td> <td>5</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>8</td> <td>8</td> </tr> <tr> <td>Z - 40°C / +20°C</td> <td>15</td> <td>15</td> <td>15</td> <td>12</td> <td>12</td> <td>12</td> <td>12</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> </tbody> </table>	Rated voltage(V)	10	16	25	35	50	63	100	160	200	250	400	450	Z - 25°C / +20°C	5	5	4	4	4	4	4	4	4	4	8	8	Z - 40°C / +20°C	15	15	15	12	12	12	12	—	—	—	—	—										
		Rated voltage(V)	10	16	25	35	50	63	100	160	200	250	400	450																																					
		Z - 25°C / +20°C	5	5	4	4	4	4	4	4	4	4	8	8																																					
Z - 40°C / +20°C	15	15	15	12	12	12	12	—	—	—	—	—																																							
<p>Test conditions</p> <p>Duration time :2000 Hrs</p> <p>Ambient temperature :+105°C</p> <p>Applied voltage :Rated DC working voltage</p> <p>After test requirements at +20°C</p> <p>Capacitance change : ≤ ±20% of the initial measured value</p> <p>Dissipation factor : ≤ 200% of the initial specified value</p> <p>Leakage current : ≤ The initial specified value</p>																																																			
Shelf Life	<p>Test conditions</p> <p>Duration time :1000 Hrs</p> <p>Ambient temperature :+105°C</p> <p>Applied voltage :None</p> <p>After test requirements at +20°C : Same limits as Load life.</p> <p>Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.</p>																																																		

Multiplier for Ripple Current vs. Frequency

CAP(µF) \ Frequency(Hz)	50(60)	120	400	1K	10K	50K-100K
10 < CAP ≤ 100	0.8	1	1.23	1.36	1.48	1.53
100 < CAP ≤ 1000	0.8	1	1.16	1.25	1.35	1.38
1000 < CAP	0.8	1	1.11	1.17	1.25	1.28

Diagram of Dimensions:(unit:mm)

SYMBOL G : P.C.B. TERMINAL (SNAP-IN)



Snap-in

CapXon HP Series

Case Size

φ D x L (mm)

WV(SV) ψ D μ F	10 (13)								16 (20)								
	22		25		30		35		22		25		30		35		
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	
3300										22x26	1.17						
4700	22x26	1.24								22x26	1.53	25x26	1.55				
6800	22x26	1.56	25x26	1.56						22x31	1.65						
8200	22x26	2.04	25x26	2.04						22x31	2.02	25x26	2.02	30x26	2.02		
10000	22x31	2.20	25x26	2.20	30x26	2.20				22x31	2.79	25x26	2.79	30x26	2.81		
12000	22x31	2.34								22x36	2.97	25x31	2.97				
	22x36	2.49	25x26	2.40						22x36	3.06	25x31	3.06	30x26	3.06		
15000	22x36	2.76	25x26	2.60	30x26	2.80				22x41	3.24	25x36	3.24	30x26	3.24	35x32	3.24
			25x31	2.76								25x41	3.42				
18000	22x36	2.94	25x31	2.94						22x51	3.51	25x46	3.51	30x36	3.51	35x32	3.54
												25x46	3.69	30x36	3.69		
22000	22x41	3.12	25x36	3.12	30x26	3.08	35x27	3.20				25x46	4.08	30x36	4.08	35x32	4.08
					30x31	3.30						25x51	4.25				
27000	22x46	3.48	25x36	3.48	30x31	3.48	35x27	3.48				25x51	4.30	30x41	4.30	35x32	4.30
33000			25x46	3.72	30x36	3.72	35x27	3.65						30x46	4.83	35x37	4.83
							35x32	3.85									
39000			25x51	4.10	30x41	4.10	35x32	4.10						30x51	5.78	35x42	5.78
47000					30x46	4.38	35x37	4.38								35x47	6.32
56000					30x51	4.64	35x42	4.64								35x52	7.05
68000							35x52	4.80									

WV(SV) ψ D μ F	25 (32)								35 (44)								
	22		25		30		35		22		25		30		35		
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	
1500										22x26	1.26						
2200	22x26	1.03								22x26	1.35	25x26	1.45				
										22x31	1.45						
3300	22x26	1.48	25x26	1.48						22x26	1.80	25x26	1.90	30x26	1.92		
										22x31	1.90						
3900										22x31	2.23						
4700	22x26	1.88	25x26	1.90	30x26	1.92				22x36	2.42	25x26	2.30	30x26	2.54		
	22x31	1.92										25x31	2.44				
5600	22x31	2.25								22x36	2.89	25x31	2.89	30x26	2.89		
6800	22x31	2.60	25x26	2.60	30x26	2.60				22x41	3.24	25x36	3.24	30x26	3.21	35x27	3.24
														30x31	3.43		
8200	22x36	3.14	25x31	3.14	30x26	3.14				22x51	3.57	25x41	3.57	30x31	3.57	35x27	3.57
												25x46	3.96	30x36	3.96	35x27	3.75
10000	22x41	3.50	25x36	3.50	30x31	3.50	35x27	3.50							35x32	4.00	
12000	22x46	4.02	25x41	4.02	30x31	4.02	35x27	4.02				25x51	4.21	30x41	4.21	35x32	4.21
			25x46	4.58	30x36	4.58	35x32	4.58						30x46	4.69	35x37	4.69
18000			25x51	4.82	30x41	4.82	35x32	4.79								35x42	5.07
							35x37	4.82									
22000					30x46	5.12	35x37	5.12								35x52	5.50
							35x42	5.30									
27000							35x47	5.47									
33000							35x52	6.09									

WV(SV) ψ D μ F	50 (63)								63 (79)								
	22		25		30		35		22		25		30		35		
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	
680										22x26	0.70						
1000	22x26	0.84								22x26	0.85	25x26	0.85				
1200										22x26	0.98						
1500	22x26	1.10	25x26	1.12						22x26	1.10	25x26	1.12	30x26	1.14		
	22x31	1.12								22x31	1.15						
1800	22x26	1.50								22x31	1.40	25x26	1.40				
	22x31	1.62															
2200	22x31	1.65	25x26	1.65	30x26	1.65				22x36	1.65	25x31	1.65	30x26	1.65		
	22x31	1.85	25x26	1.85						22x41	2.07	25x36	2.07	30x26	2.07		
2700	22x36	1.97	25x31	1.98													
	22x36	2.24	25x31	2.24	30x26	2.24				22x46	2.46	25x36	2.40	30x31	2.48	35x27	2.48
3300										22x51	2.55	25x41	2.54				
	22x41	2.54	25x36	2.54	30x26	2.49						25x41	2.92	30x36	3.05	35x27	3.05
4700	22x46	2.95	25x36	2.80	30x31	2.95	35x27	2.95				25x46	3.07				
			25x41	3.01								25x51	3.43	30x41	3.43	35x32	3.43
5600	22x51	3.10	25x41	3.02	30x36	3.14	35x27	3.10						30x46	3.86	35x37	3.86
			25x46	3.15	30x41	3.20	35x32	3.20									
6800			25x46	3.23	30x41	3.26	35x32	3.26						30x51	4.64	35x42	4.64
			25x51	3.35													
8200					30x46	3.58	35x37	3.58								35x47	5.05
10000					30x51	4.11	35x42	4.11								35x52	5.75
12000							35x47	4.62									
15000							35x52	5.05									

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φ DxL(mm)

WV(SV) ψ D μ F	80 (100)								100 (125)							
	22		25		30		35		22		25		30		35	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
330									22x26	0.54						
470	22x26	0.63							22x26	0.79	25x26	0.81				
									22x31	0.85						
560	22x26	0.70							22x26	0.90	25x26	0.95				
	22x31	0.75							22x31	0.97						
680	22x26	0.81	25x26	0.86					22x31	1.02	25x26	1.02	30x26	1.14		
	22x31	0.87														
820	22x31	1.02	25x26	1.02					22x31	1.26	25x26	1.26	30x26	1.32		
			25x31	1.09												
1000	22x31	1.11	25x31	1.16	30x26	1.16			22x36	1.38	25x31	1.98	30x26	1.38		
	22x36	1.18														
1200	22x36	1.46	25x31	1.46	30x26	1.46			22x41	1.65	25x36	1.65	30x31	1.65		
					30x31	1.56										
1500	22x41	1.74	25x36	1.74	30x26	1.70			22x46	1.83	25x41	1.83	30x31	1.83	35x27	1.83
					30x31	1.82										
1800	22x46	1.95	25x36	1.89	30x31	1.95	35x27	1.95			25x41	2.52	30x36	2.52	35x32	2.52
			25x41	1.99												
2200	22x51	2.25	25x41	2.20	30x31	2.20	35x27	2.25			25x51	3.03	30x41	3.03	35x32	3.03
			25x46	2.31	30x36	2.31	35x32	2.40								
2700			25x46	2.58	30x36	2.58	35x32	2.68					30x46	4.10	35x37	4.10
			25x51	2.70	30x41	2.72	35x37	2.85								
3300			25x51	3.30	30x41	3.30	35x37	3.30					30x56	4.59	35x47	4.59
			25x56	3.45	30x46	3.50	35x42	3.50								
3900					30x46	3.73	35x37	3.73							35x47	4.98
					30x51	3.90	35x42	3.93								
4700					30x51	4.29	35x42	4.29							35x52	5.43
5600							35x47	5.10								
6800							35x52	5.66								

WV(SV) ψ D μ F	160 (200)								200 (250)							
	22		25		30		35		22		25		30		35	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
100									22x26	0.38						
150	22x26	0.37							22x26	0.54	25x26	0.54				
220	22x26	0.42							22x31	0.92	25x26	0.92	30x26	0.92		
270	22x26	0.74							22x31	1.03	25x26	1.03	30x26	1.05		
330	22x31	0.98	25x26	0.98	30x26	1.00			22x36	1.21	25x31	1.21	30x26	1.21		
390	22x31	1.09	25x31	1.10	30x26	1.10			22x36	1.33	25x31	1.34	30x31	1.45		
	22x36	1.15							22x41	1.41	25x36	1.43				
470	22x36	1.21	25x31	1.21	30x26	1.21			22x41	1.57	25x36	1.59	30x31	1.65	35x27	1.65
									22x46	1.65	25x41	1.68				
560	22x41	1.40	25x36	1.40	30x31	1.40	35x27	1.40	22x46	1.81	25x41	1.85	30x31	1.85	35x27	1.85
									22x51	1.90	25x46	1.94	30x36	1.94		
680	22x46	1.64	25x36	1.58	30x331	1.65	35x27	1.71	22x51	2.04	25x46	2.07	30x31	2.04	35x32	2.17
			25x41	1.67	30x36	1.75	35x32	1.80	22x56	2.12	25x51	2.17	30x36	2.17		
820			25x41	1.76	30x36	1.85	35x32	1.85			25x51	2.30	30x36	2.30	35x37	2.31
			25x46	1.85							25x56	2.40	30x41	2.40		
1000			25x51	2.15	30x41	2.15	35x32	2.15					30x41	2.62	35x37	2.62
													30x46	2.75	35x42	2.75
1200			25x56	2.46	30x46	2.46	35x37	2.46					30x51	3.00	35x42	3.00
1500					30x51	2.80	35x42	2.80							35x47	3.28
															35x52	3.46
1800					30x51	3.13	35x42	3.13							35x52	4.01
2200							35x52	3.26								
							35x57	3.39								

WV(SV) ψ D μ F	220 (270)								250 (300)							
	22		25		30		35		22		25		30		35	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
68									22x26	0.27						
100									22x31	0.44	25x26	0.44				
150	22x26	0.50	25x26	0.50					22x31	0.60	25x26	0.60	30x26	0.60		
180	22x26	0.60	25x26	0.60					22x31	0.69	25x26	0.69	30x26	0.69		
220	22x31	0.85	25x26	0.85	30x26	0.85			22x36	1.00	25x31	1.00	30x26	1.00		
270	22x31	1.05	25x26	1.05	30x26	1.05			22x41	1.16	25x36	1.16	30x31	1.16		
330	22x36	1.15	25x31	1.15	30x26	1.15			22x46	1.28	25x36	1.28	30x31	1.28	35x27	1.28
390	22x41	1.25	25x31	1.20	30x26	1.25			22x46	1.48	25x36	1.48	30x31	1.48	35x27	1.48
			25x36	1.28	30x31	1.33										
470	22x46	1.35	25x36	1.31	30x31	1.35	35x27	1.35			25x41	1.76	30x36	1.76	35x32	1.76
			25x41	1.38							25x46	1.85				
560	22x51	1.60	25x46	1.60	30x36	1.60	32x27	1.60			25x51	1.93	30x41	1.93	35x32	1.93
680	22x56	1.60	25x51	1.75	30x41	1.75	35x27	1.75					30x46	2.22	35x37	2.22
820			25x56	2.00	30x46	2.00	35x37	2.00					30x51	2.48	35x42	2.48
1000					30x51	2.40	35x42	2.30							35x47	2.80
1200							35x47	2.30							35x52	3.17
1500							35x52	2.40								
1800							35x56	2.50								

CapXon HP Series

φ DxL(mm)

WV(SV) ψ D μ F	400 (450)								420 (470)							
	22		25		30		35		22		25		30		35	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
33	22x26	0.39								22x26	0.32					
47	22x26	0.56	25x26	0.56						22x26	0.45	25x26	0.45			
56	22x26	0.63	25x26	0.68						22x26	0.52	25x26	0.52			
	22x31	0.68														
68	22x31	0.72	25x26	0.72	30x26	0.72				22x31	0.64	25x26	0.64	30x26	0.64	
82	22x31	0.77	25x31	0.82	30x26	0.85				22x31	0.75	25x31	0.75	30x26	0.75	
	22x36	0.82														
100	22x36	0.82	25x31	0.82	30x26	0.82				22x36	0.78	25x31	0.78	30x26	0.78	
120	22x36	0.90	25x31	0.90	30x26	0.90				22x36	0.84	25x36	1.84	30x26	0.84	
150	22x41	0.98	25x36	0.98	30x31	0.95	35x27	0.95	22x41	0.97	25x36	0.97	30x31	0.97		
180	22x46	1.14	25x41	1.14	30x36	1.14	35x32	1.14	22x46	1.02	25x41	1.02	30x36	1.02	35x27	1.02
220			25x46	1.21	30x41	1.21	35x32	1.21			25x46	1.22	30x41	1.22	35x32	1.22
270					30x46	1.40	35x37	1.40					30x46	1.5	35x37	1.5
330					30x51	1.57	35x42	1.57					30x51	1.68	35x42	1.68
390							35x42	1.71							35x47	1.76
							35x47	1.79								
470							35x47	1.94							35x52	1.87
							35x52	2.03								
560							35x52	2.23								

WV(SV) ψ D μ F	450 (500)							
	22		25		30		35	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
33	22x26	0.24						
47	22x31	0.35	25x26	0.35				
	22x31	0.41	25x26	0.41				
56								
68	22x36	0.55	25x31	0.55	30x26	0.55		
82	22x36	0.64	25x31	0.64	30x26	0.64		
100	22x41	0.74	25x31	0.74	30x31	0.74		
120	22x46	0.82	25x36	0.82	30x31	0.82		
150	22x51	0.96	25x41	0.96	30x36	0.96	35x27	0.96
180			25x46	1.14	30x36	1.10	35x32	1.14
					30x41	1.16		
220					30x41	1.24	35x37	1.24
270					30x51	1.48	35x42	1.48
330							35x47	1.64
390							35x52	1.86
470								
560								

Ripple Current (A, rms) at 105°C 120Hz