

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 Compliant



Specifications

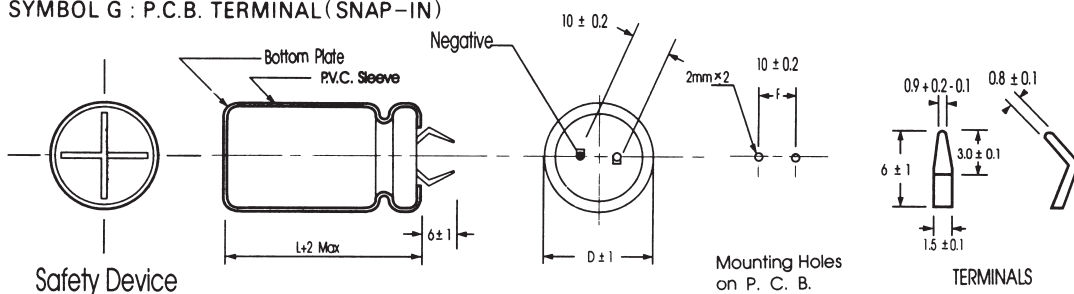
Item	Performance Characteristics												
Operating Temperature Range	-40 to +105℃								-25 to +105℃				
Rated Voltage Range	10 to 100 VDC								160 to 450 VDC				
Capacitance Range	330 to 68000 μ F								33 to 2200 μ F				
Capacitance Tolerance	± 20% (120Hz, +20℃)												
Leakage Current (+20℃,max.)	I ≤ 0.02CV After 5 minutes with rated working voltage applied.												
Dissipation Factor (tan δ , at 20℃ , 120Hz)	Less than the value under table (%)												
	μ F \ 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 (at 120Hz)	Impedance ratio max.												
	Rated voltage(V)	10	16	25	35	50	63	100	160	200	250	400	450
	Z - 25℃ / +20℃	5	5	4	4	4	4	4	4	4	4	8	8
	Z - 40℃ / +20℃	15	15	15	12	12	12	12	—	—	—	—	—
Load Life	Test conditions												
	Duration time	:2000 Hrs											
	Ambient temperature	:+105℃											
	Applied voltage	:Rated DC working voltage											
	After test requirements at +20℃												
	Capacitance change	:≤ ±20% of the initial measured value											
Shelf Life	Dissipation factor	:≤ 200% of the initial specified value											
	Leakage current	:≤ The initial specified value											
	Test conditions												
	Duration time	:1000 Hrs											
	Ambient temperature	:+105℃											
	Applied voltage	:None											
After test requirements at +20℃ : Same limits as Load life.													
Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.													

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)



CapXon HP Series

Case Size

φ D x L (mm)

Cap (μF) WV(SV) ψ D	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		
	22x36	2.76	25x26	2.60	30x26	2.80										
15000			25x31	2.76					22x41	3.24	25x36	3.24	30x26	3.24	35x32	3.24
18000	22x36	2.94	25x31	2.94							25x41	3.42				
22000	22x41	3.12	25x36	3.12	30x26	3.08	35x27	3.20			25x46	3.51	30x36	3.51	35x32	3.54
					30x31	3.30					25x46	4.08	30x36	4.08	35x32	4.08
27000	22x46	3.48	25x36	3.48	30x31	3.48	35x27	3.48			25x51	4.25				
33000			25x46	3.72	30x36	3.72	35x27	3.65			25x51	4.30	30x41	4.30	35x32	4.30
							35x32	3.85					30x46	4.83	35x37	4.83
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								

Cap (μF) WV(SV) ψ D	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		
3900									22x31	1.90						
4700	22x26	1.88	25x26	1.90	30x26	1.92			22x31	2.23						
	22x31	1.92							22x36	2.42	25x26	2.30	30x26	2.54		
5600	22x31	2.25									25x31	2.44				
6800	22x31	2.60	25x26	2.60	30x26	2.60			22x36	2.89	25x31	2.89	30x26	2.89		
									22x41	3.24	25x36	3.24	30x26	3.21	35x27	3.24
8200	22x36	3.14	25x31	3.14	30x26	3.14							30x31	3.43		
	22x41	3.50	25x36	3.50	30x31	3.50	35x27	3.50	22x51	3.57	25x41	3.57	30x31	3.57	35x27	3.57
10000											25x46	3.96	30x36	3.96	35x27	3.75
12000	22x46	4.02	25x41	4.02	30x31	4.02	35x27	4.02							35x32	4.00
			25x46	4.58	30x36	4.58	35x32	4.58			25x51	4.21	30x41	4.21	35x32	4.21
15000			25x51	4.82	30x41	4.82	35x32	4.79					30x46	4.69	35x37	4.69
18000							35x37	4.82							35x42	5.07
22000					30x46	5.12	35x37	5.12								
							35x42	5.30							35x52	5.50
27000							35x47	5.47								
33000							35x52	6.09								

Cap (μF) WV(SV) ψ D	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		
2700	22x31	1.85	25x26	1.85					22x41	2.07	25x36	2.07	30x26	2.07		
	22x36	1.97	25x31	1.98												
3300	22x36	2.24	25x31	2.24	30x26	2.24			22x46	2.46	25x36	2.40	30x31	2.48	35x27	2.48
									22x51	2.55	25x41	2.54				
3900	22x41	2.54	25x36	2.54	30x26	2.49					25x41	2.92	30x36	3.05	35x27	3.05
					30x31	2.66					25x46	3.07				
4700	22x46	2.95	25x36	2.80	30x31	2.95	35x27	2.95			25x51	3.43	30x41	3.43	35x32	3.43
			25x41	3.01												
5600			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 DxD(mm)

WV(SV) Cap ψ D (μF)	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	0.63							22x26	0.54						
470									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	1.38	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) Cap ψ D (μF)	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		
	22x31	1.09	25x31	1.10	30x26	1.10			22x36	1.33	25x31	1.34	30x31	1.45		
390	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	30x31	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
1800															35x52	3.46
					30x51	3.13	35x42	3.13							35x52	4.01
2200							35x52	3.26								
							35x57	3.39								

WV(SV) Cap ψ D (μF)	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
	22x41	1.25	25x31	1.20	30x26	1.25			22x46	1.48	25x36	1.48	30x31	1.48	35x27	1.48
390			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	35x27	1.60			25x51	1.93	30x41	1.93	35x32	1.93
680	22x56	1.70	25x51	1.75	30x41	1.75	35x32	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	2.30	35x42	2.30							35x47	2.80
1200							35x47	2.35							35x52	3.17
1500							35x52	2.40								
1800							35x56	2.50								

CapXon HP Series

φ DxL(mm)

WV(SV) Cap (μF) ψ D	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) Cap (μF) ψ D	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				
56	22x31	0.41	25x26	0.41				
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

CapXon HS Series

HS Series Snap-in Type 105°C Miniaturized

Features

- ◆ Highly reliable capacitors that withstand 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. E139
- ◆ RoHS Compliant



Specifications

Item	Performance Characteristics													
Operating Temperature Range	-25 to +105℃													
Rated Voltage Range	160 to 450 V · DC													
Capacitance Range	33 to 2700 μ F													
Capacitance Tolerance	± 20% (120Hz, +20℃)													
Leakage Current (+20℃,max.)	I ≤ 0.02CV After 5 minutes with rated working voltage applied.													
Dissipation Factor (tan δ , at 20℃ , 120Hz)	Less than the value under table (%)													
	μ F \ WVDC		160~250		315~450									
	47~390		15		20									
	470~2700		15		20									
Low Temperature Characteristics (at 120Hz)	Impedance ratio Max													
	Working voltage (VDC)		10	16	25	35	50	63	100	160	200	250	400	450
	Z -25℃ / Z +20℃		5	5	4	4	4	4	4	4	4	4	8	8
Load Life	Test conditions Duration time :2000 Hrs Ambient temperature :+105℃ Applied voltage :Rated DC working voltage After test requirements at +20℃ Capacitance change :≤ ±20% of the initial measured value Dissipation factor :≤ 200% of the initial specified value Leakage current :≤ The initial specified value													
Shelf Life	Test conditions Duration time :1000 Hrs Ambient temperature :+105℃ Applied voltage :None After test requirements at +20℃ : Same limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.													

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)

