CP series

■ 85℃ 2000 hours

Standard , load life of 2000 hrs at 85℃ .

Specifications

Item	Performance Characteristics	
Operating Temperature Range	-40~+85℃	-25~+85℃
Rated Voltage Range	10~400V	450~500V
Nominal Capacitance Range	68~82000μF	
Capacitance Tolerance	±20%(120Hz,+25℃)	
Leakage Current	I ≤ 0.01CV OR 1.5mA (after 5 minutes , Whichever is smaller)	
Dissipation Factor (+25℃ ,120Hz)		

U_R(V) / Cap(μF)	10~16	25	30~50	63	80~100
≤ 2700	-	-	0.20	0.15	0.15
3300-4700	-	0.35	0.25	0.20	0.15
5600-6800	0.40	0.35	0.30	0.20	0.20
≥ 8200	0.40	0.35	0.35	0.25	-

U_R(V) / ΦD(mm)	160~200	250~500
22~30	0.10	0.15
35	0.12	0.15

Temperature Characteristics (Impedance ratio at 120Hz)

U_R(V)	10	16~35	50~100	160~200	250~400	450~500
Z-25℃ /+20℃	5	4	3	3	4	4
Z-40℃ /+20℃	18	15	10	6	8	-

Load Life

After applying rated voltage with specified ripple current for 2000 hours at +85℃ and then resumed 24 hours:

Capacitance change :;±20% of the initial measured value

Leakage current : ≤ the initial specified value

Dissipation factor : ≤ 2 200% of the initial specified value

Shelf Life

After storage for 1000 hours at +85℃ , U_R to be applied for 30 minutes and then resumed 24 hours:

Capacitance change :±15% of the initial measured value

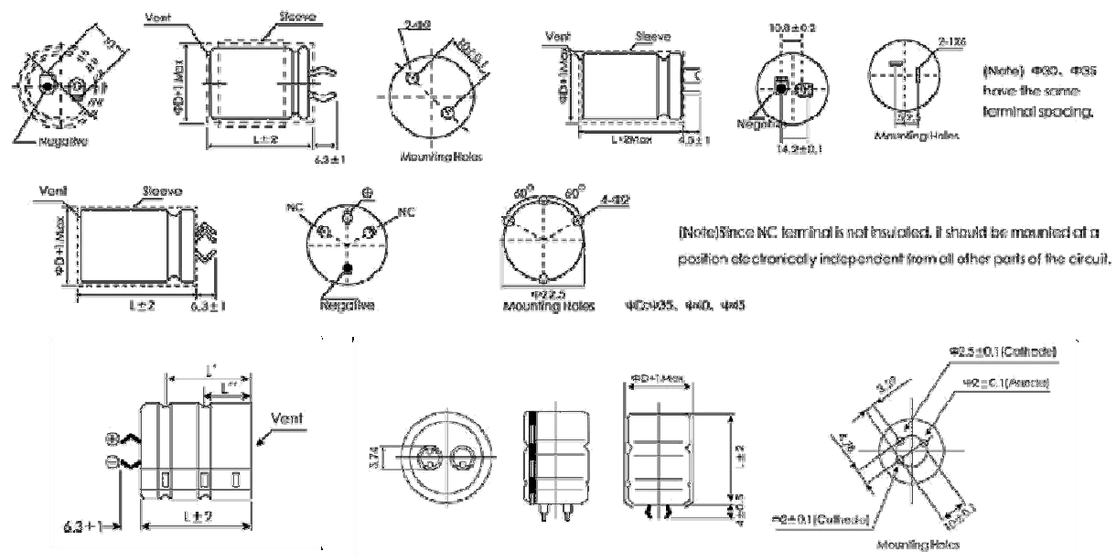
Leakage current : ≤ the initial specified value

Dissipation factor : ≤ 1.5 150% of the initial specified value

CP series

Diagram of Dimensions

Unit: mm



Multiplier for Ripple Current

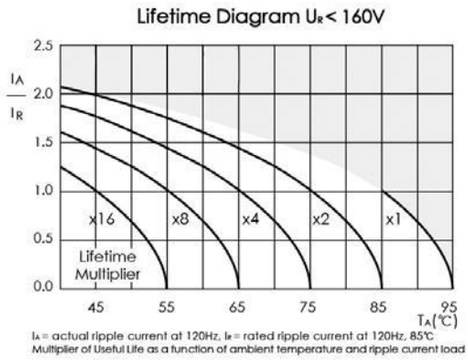
Frequency coefficient

U(V) \ Frequency (Hz)	50	120	1K	10K	100K
≤ 50	0.95	1.00	1.10	1.15	1.15
63~100	0.95	1.00	1.16	1.30	1.33
≥ 160	0.95	1.00	1.20	1.50	1.55

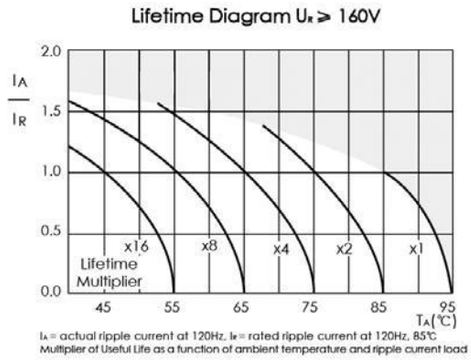
Temperature coefficient

U(V) \ Temperature (℃)	+40	+55	+70	+85
<160	2.1	1.8	1.5	1.0
≥ 160	1.7	1.5	1.3	1.0

Lifetime Diagram



IA = actual ripple current at 120Hz, IR = rated ripple current at 120Hz, 85℃
Multiplier of Useful Life as a function of ambient temperature and ripple current load



IA = actual ripple current at 120Hz, IR = rated ripple current at 120Hz, 85℃
Multiplier of Useful Life as a function of ambient temperature and ripple current load

CP series

Standard Size

Rated Voltage (V_{dc})	Surge Voltage (V_{dc})	Rated Capacitance (μF)	Max ESR 25℃ 120Hz (mΩ)	Type ESR 85℃ 120HZ (mΩ)	Rated ripple current 85℃ 120Hz (Arms)	Size ΦD×L (mm)
10 1A	13	10000	54	43	2.5	22×25
		12000	45	36	2.9	22×25
		15000	36	29	3.2	22×30
			36	29	3.1	25×25
		18000	30	24	3.6	22×35
			30	24	3.6	25×30
		22000	25	20	4	22×40
			25	20	4.1	25×35
			25	20	4.1	30×25
		33000	17	13	4.6	25×40
			17	13	4.8	30×30
			17	13	4.8	35×25
		39000	14	10.9	5.2	25×45
			14	10.9	5.3	30×35
		47000	12	9.1	5.8	25×50
			12	9.1	6	30×40
			12	9.1	6	35×30
		56000	9.5	7.6	6.7	30×45
			9.5	7.6	6.8	35×35
		68000	7.9	6.3	7.5	30×50
			7.9	6.3	7.7	35×40
		82000	6.5	5.2	8.7	35×45
16 1C	20	8200	65	52	2.2	22×25
		10000	54	43	2.6	22×30
			54	43	2.6	25×25
		12000	45	36	2.9	22×35
		15000	36	29	3.3	22×40
			36	29	3.3	25×30
			36	29	3.4	30×25
		18000	30	24	3.8	22×45
			30	24	3.7	25×35
		22000	25	20	4.2	22×50
			25	20	4.2	25×40
			25	20	4.2	30×30
			25	20	4.4	35×25
		27000	20	16	5	25×45
			20	16	5	30×35
		33000	17	13	5.6	30×40
			17	13	5.6	35×30
		39000	14	11	6.2	30×45
			14	11	6.3	35×35
		47000	12	9.1	7	30×50
			12	9.1	7.2	35×40
		56000	9.5	7.6	8	35×45
		5600	83	67	2	22×25
		6800	69	55	2.3	22×30

CP series

Standard Size

Rated Voltage (V_{dc})	Surge Voltage (V_{dc})	Rated Capacitance (μF)	Max ESR 25℃ 120Hz (mΩ)	Type ESR 85℃ 120HZ (mΩ)	Rated ripple current 85℃ 120Hz (Arms)	Size ΦD×L (mm)
25 1E	32	12000	39	31	3.3	22×45
			39	31	3.2	25×35
			39	31	3.4	30×30
		15000	31	25	3.7	25×40
			31	25	3.9	35×25
		18000	26	21	4.3	25×50
			26	21	4.2	30×35
			26	21	4.4	35×30
		22000	22	17	4.8	30×40
			22	17	5	35×35
		33000	15	12	6.5	35×40
		39000	12	10	7.5	35×45
35 1V	44	3300	100	81	1.8	22×25
		3900	86	69	2.1	22×30
		4700	71	57	2.2	25×25
		5600	72	57	2.3	22×35
			72	57	2.3	25×30
		6800	59	47	2.9	22×40
			59	47	2.6	25×35
			59	47	2.7	30×25
		8200	57	46	2.8	22×50
			57	46	2.8	25×40
			57	46	2.8	30×30
			57	46	2.9	35×25
		10000	47	38	3.1	25×45
			47	38	3.2	30×35
		12000	39	31	3.5	25×50
			39	31	3.5	30×40
			39	31	3.6	35×30
		15000	31	25	4.1	30×45
			31	25	4.1	35×35
		18000	26	21	4.6	30×50
			26	21	4.7	35×40
		22000	22	17	5.3	35×45
		27000	18	14	7	35×50
50 1H	63	2200	120	97	1.7	22×25
		2700	100	79	1.9	22×30
			100	79	1.9	25×25
		3300	100	81	2	22×35
		3900	86	69	2.1	22×35
			86	69	2.1	25×30
			86	69	2.4	30×25
		4700	71	57	2.4	22×40
			71	57	2.4	25×35
		5600	72	57	2.5	22×50
			72	57	2.5	25×40

CP series

Standard Size

Rated Voltage (V_{dc})	Surge Voltage (V_{dc})	Rated Capacitance (μF)	Max ESR 25℃ 120Hz (mΩ)	Type ESR 85℃ 120HZ (mΩ)	Rated ripple current 85℃ 120Hz (Arms)	Size ΦD×L (mm)
50 1H	63	8200	57	46	3.2	25×50
			57	46	3	30×40
			57	46	3	35×30
		10000	47	38	3.4	30×45
			47	38	3.4	35×35
		12000	39	31	3.8	30×50
			39	31	3.8	35×40
		15000	31	25	4.5	35×50
63 1J	79	1500	135	107	1.6	22×25
		1800	110	89	1.8	22×30
		2200	91	73	2	22×30
			91	73	2	25×25
		2700	74	59	2.2	22×35
			74	59	2.3	25×30
		3300	81	65	2.3	22×40
			81	65	2.3	25×35
			81	65	2.3	30×25
		3900	69	55	2.5	22×45
			69	55	2.6	25×40
			69	55	2.6	30×30
			69	55	2.7	35×25
		5600	48	38	3.1	25×45
			48	38	3.2	30×35
			48	38	3.3	35×30
		6800	40	32	3.6	30×40
			40	32	3.7	35×35
		8200	41	33	3.7	30×50
			41	33	3.8	35×40
		10000	34	27	4.3	35×45
		12000	28	23	4.8	35×50
80 1K	100	1000	200	160	1.3	22×25
		1200	165	133	1.5	22×30
		1500	133	107	1.7	25×25
		1800	111	89	1.9	22×35
			111	89	1.9	25×30
		2200	91	73	2.1	22×40
			91	73	2.2	25×35
			91	73	2.2	30×25
		2700	74	59	2.5	22×50
			74	59	2.5	25×40
			74	59	2.5	30×30
			74	59	2.5	35×25
		3300	61	49	2.8	25×45
			61	49	2.8	30×35
		3900	52	41	3.1	25×50
			52	41	3.2	30×40
			52	41	3.2	35×30
		4700	43	34	3.6	30×45
			43	34	3.6	35×35
		5600	48	38	3.5	30×50
			48	38	3.5	35×40

CP series

Standard Size

Rated Voltage (V_{dc})	Surge Voltage (V_{dc})	Rated Capacitance (μF)	Max ESR 25℃ 120Hz (mΩ)	Type ESR 85℃ 120HZ (mΩ)	Rated ripple current 85℃ 120Hz (Arms)	Size ΦD×L (mm)
100 2A	125	680	293	235	1.1	22×25
		820	243	195	1.2	22×30
		1000	200	160	1.4	25×25
		1200	166	133	1.6	22×35
			166	133	1.6	25×30
		1500	133	107	1.8	22×40
			133	107	1.7	25×35
			133	107	1.8	30×25
		1800	111	89	2.1	22×50
			111	89	2	25×40
			111	89	2.1	30×30
			111	89	2.2	35×25
		2200	91	73	2.2	25×45
			91	73	2.3	30×35
			91	73	2.5	35×30
		2700	74	59	2.6	25×50
			74	59	2.7	30×40
		3300	61	49	3	30×45
			61	49	3.1	35×35
		3900	52	41	3.4	30×50
			52	41	3.4	35×40
		4700	43	34	4	35×50
160 2C	200	220	600	483	1.1	22×25
		270	490	393	1.2	22×25
		330	400	322	1.3	22×25
		390	341	273	1.5	22×30
			341	273	1.5	25×25
		470	283	226	1.6	25×30
		560	237	190	1.9	22×35
			237	190	1.9	25×30
			237	190	2	30×25
		680	196	157	2.1	22×40
			196	157	2.2	25×35
		820	162	130	2.5	22×50
			162	130	2.4	25×40
			162	130	2.5	30×30
			195	156	2.4	35×25
		1000	133	107	2.7	25×45
			133	107	2.8	30×35
			160	128	2.7	35×30
		1200	111	89	3.1	25×50
			111	89	3.2	30×40
			133	107	3.0	35×35
		1500	89	71	3.7	30×45
			107	85	3.5	35×40

CP series

Standard Size

Rated Voltage (V_{dc})	Surge Voltage (V_{dc})	Rated Capacitance (μF)	Max ESR 25℃ 120Hz (mΩ)	Type ESR 85℃ 120HZ (mΩ)	Rated ripple current 85℃ 120Hz (Arms)	Size ΦD×L (mm)
180 2K	225	270	495	393	1.2	22×25
		330	400	322	1.4	22×30
		390	340	273	1.5	25×25
		470	283	226	1.7	22×35
			283	226	1.7	25×30
			283	226	1.8	30×25
		560	237	190	1.9	22×40
			237	190	2.0	25×35
		680	196	157	2.3	22×50
			196	157	2.2	25×40
			196	157	2.3	30×30
			235	188	2.2	35×25
		820	162	130	2.5	25×45
			162	130	2.6	30×35
			195	156	2.5	35×30
		1000	133	107	2.9	25×50
			133	107	2.9	30×40
		1200	111	89	3.3	30×45
			133	107	3.1	35×35
		1500	107	85	3.6	35×45
		1800	89	71	4.1	35×50
200 2D	250	220	600	483	1.1	22×25
		270	492	393	1.2	22×30
		330	402	322	1.4	22×30
			402	322	1.4	25×25
		390	341	273	1.6	22×35
			341	273	1.6	25×30
		470	283	226	1.8	22×40
			283	226	1.9	30×25
		560	237	190	2.0	22×45
			237	190	2.0	25×35
			237	190	2.1	30×30
			285	228	2.0	35×25
		680	196	157	2.3	25×40
			196	157	2.4	30×35
		820	162	130	2.6	25×50
			162	130	2.7	30×40
			195	156	2.5	35×30
		1000	133	107	3.1	30×45
			160	128	2.8	35×35
		1200	111	89	3.4	30×50

CP series

Standard Size

Rated Voltage (V_{dc})	Surge Voltage (V_{dc})	Rated Capacitance (μF)	Max ESR 25℃ 120Hz (mΩ)	Type ESR 85℃ 120HZ (mΩ)	Rated ripple current 85℃ 120Hz (Arms)	Size ΦD×L (mm)
250 2E	300	100	1990	1592	0.68	22×25
		180	1106	885	0.94	22×25
		220	905	724	1.1	22×30
			905	724	1.1	25×25
		270	737	590	1.2	22×35
		330	603	483	1.4	22×40
			603	483	1.4	25×30
			603	483	1.5	30×25
		390	511	409	1.6	22×45
			511	409	1.6	25×35
250 2E	300	470	424	339	1.8	22×50
			424	339	1.8	25×40
			424	339	1.8	30×30
			424	339	2.4	35×25
		560	356	285	2.0	25×45
			356	285	2.0	30×35
		680	293	235	2.3	30×40
			293	235	2.6	35×30
		820	243	195	2.6	30×45
			243	195	2.6	35×35
		1000	199	160	3.0	35×40
		1200	166	133	3.4	35×45
315 2F	365	100	1990	1592	0.67	22×25
		150	1327	1062	0.85	22×30
			1327	1062	0.85	25×25
		180	1106	885	0.96	22×35
			1106	885	0.96	25×30
		220	905	724	1.1	22×40
			905	724	1.1	25×35
			905	724	1.1	30×25
		270	737	590	1.2	22×45
			737	590	1.3	25×40
			737	590	1.3	30×30
			737	590	1.3	35×25
		330	603	483	1.4	25×45
			603	483	1.4	30×35
		390	511	409	1.6	25×50
			511	409	1.6	30×40
			511	409	1.6	35×30
		470	424	339	1.8	30×45
			424	339	1.8	35×35

CP series

Standard Size

Rated Voltage (V_{dc})	Surge Voltage (V_{dc})	Rated Capacitance (μF)	Max ESR 25℃ 120Hz (mΩ)	Type ESR 85℃ 120HZ (mΩ)	Rated ripple current 85℃ 120Hz (Arms)	Size ΦD×L (mm)
350 2V	400	82	2427	1941	0.64	22×25
		100	1990	1592	0.80	22×25
		120	1658	1327	0.82	22×30
			1658	1327	0.81	25×25
		150	1327	1062	0.94	22×35
			1327	1062	0.94	25×30
		180	1106	885	1.1	22×40
			1106	885	1.1	30×25
		220	905	724	1.2	22×45
			905	724	1.2	25×35
			905	724	1.2	30×30
			905	724	1.3	35×25
		270	737	590	1.4	25×45
			737	590	1.4	30×35
		330	603	483	1.6	25×50
			603	483	1.6	35×30
		390	511	409	1.7	30×40
			511	409	1.8	35×35
		470	424	339	2.0	30×45
			424	339	2.0	35×40
		560	356	285	2.3	35×45
		680	293	235	2.6	35×50
		820	243	195	2.8	35×60
400 2G	450	68	2926	2341	0.55	22×25
		82	2427	1941	0.65	22×25
		100	1990	1592	0.70	22×30
			1990	1592	0.70	25×25
		120	1658	1327	0.79	22×35
		150	1327	1062	0.90	22×40
			1327	1062	0.89	25×30
			1327	1062	0.95	30×25
		180	1106	885	1.0	22×45
			1106	885	1.0	25×35
			1106	885	1.1	30×30
			1106	885	1.2	35×25
		220	905	724	1.1	22×50
			905	724	1.2	25×40
			905	724	1.2	30×35
		270	737	590	1.3	25×45
			737	590	1.4	25×50
			737	590	1.5	30×40
		330	603	483	1.6	35×30
			603	483	1.7	30×45
		390	511	409	1.8	35×35
			511	409	1.8	30×50
		470	424	339	2.1	35×45

CP series

Snap-in

Standard Size

Rated Voltage (V_{dc})	Surge Voltage (V_{dc})	Rated Capacitance (μF)	Max ESR 25℃ 120Hz (mΩ)	Type ESR 85℃ 120HZ (mΩ)	Rated ripple current 85℃ 120Hz (Arms)	Size ΦD×L (mm)
450 2W	500	68	2926	2341	0.57	22×30
		82	2427	1941	0.68	25×35
		100	1990	1592	0.72	22×35
			1990	1592	0.73	25×30
		120	1658	1327	0.80	22×40
			1658	1327	0.83	25×35
		150	1327	1062	0.95	25×40
			1327	1062	0.95	30×30
			1327	1062	0.98	35×25
		180	1106	885	1.1	25×45
			1106	885	1.1	30×35
			1106	885	1.2	35×25
		220	905	724	1.2	25×50
			905	724	1.3	30×40
			905	724	1.3	35×30
		270	737	590	1.4	30×45
			737	590	1.5	35×35
		330	603	483	1.7	30×50
		390	511	409	1.9	35×45
		470	424	339	2.2	35×50
		560	356	285	2.4	35×55
		680	293	235	2.8	35×60
			293	235	2.8	40×50
		820	242	194	3.2	35×65
			242	194	3.3	40×60
500 2H	550	100	1990	1592	0.90	30×25
		120	1658	1327	1.0	30×30
			1658	1327	1.0	35×25
		150	1327	1062	1.2	30×35
		180	1106	885	1.4	30×40
			1106	885	1.3	35×30
		220	905	724	1.6	30×45
			905	724	1.5	35×35
		270	737	590	1.8	30×50
			737	590	1.7	35×40
		330	603	483	2.0	35×45
		390	511	409	2.3	35×50

Custom designed capacitors are available