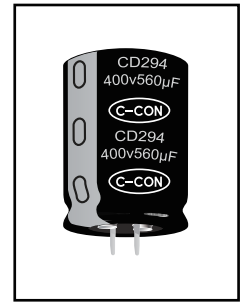


2000h at 105°C

- Standard 105°C
- General Industry



SNAP-IN/LUG

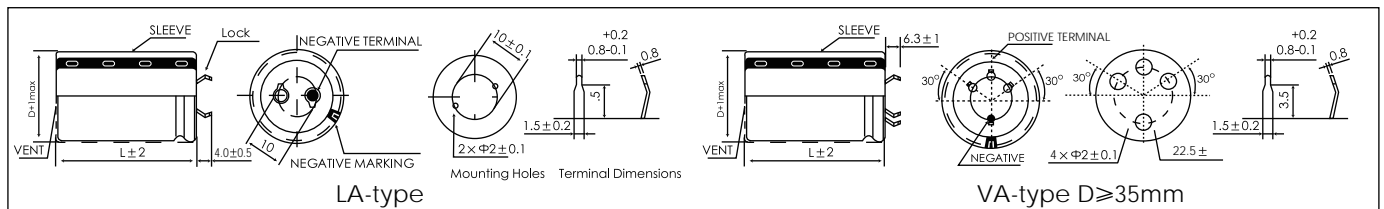


Items	Characteristics		
Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105	
Voltage Range (V)	16 ~ 100	160 ~ 550	
Capacitance Range (µF)	100 ~ 47000		
Capacitance Tolerance (20°C, 120Hz)	± 20%		
Leakage Current (µA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 1.5mA, whichever is smaller. C: Nominal Capacitance (µF) V: Rated Voltage (V)		
Dissipation Factor (20°C, 120Hz)	Rated Voltage (V)	16 25 35 50 63~100 160~400 420~550	
	Tan δ (max)	0.50 0.40 0.35 0.30 0.20 0.15 0.20	
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	16~100 160~200 250~550	
	$Z_{-25°C} / Z_{+20°C}$	4	
	$Z_{-40°C} / Z_{+20°C}$	15	-

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	4000h	>180000h	2000h	3000h	1000h
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1.4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C	After test: U_R to be applied for 30min >24h before measurement

Dimensions

mm



Frequency Coefficient

Voltage (V)	Frequency					
	50/60Hz	120Hz	300Hz	1kHz	10kHz	>50kHz
≤ 100	0.95	1.00	1.07	1.13	1.19	1.20
160 ~ 250	0.87	1.00	1.17	1.32	1.45	1.50
> 315	0.80	1.00	1.16	1.30	1.41	1.43

Temperature Coefficient

Temperature(°C)	+40	+55	+70	+85	+105
Coefficient	2.7	2.5	2.1	1.7	1.00

U _r (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Ripple Current 120Hz	Size ΦD x L
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)
16 (20) 1C	12000	55	39	2.3	25×30
	15000	44	31	2.68	25×35
	18000	37	26	3.04	25×40
		37	26	3	30×30
	22000	30	21	3.4	25×45
		30	21	3.39	30×35
	27000	25	17	3.83	30×40
		25	17	3.74	35×30
	33000	20	14	4.3	30×45
		20	14	4.24	35×35
39000	17	12	4.74	30×50	
	17	12	4.72	35×40	
47000	14	10	5.27	35×45	
25 (32) 1E	8200	65	45	2.16	25×30
	10000	53	37	2.44	25×35
	12000	44	31	2.74	25×40
		44	31	2.7	30×30
	15000	35	25	3.15	25×45
		35	25	3.13	30×35
	18000	30	21	3.54	25×50
		30	21	3.54	30×40
	22000	24	17	4.24	30×45
		24	17	3.96	35×35
27000	20	14	4.75	35×45	
33000	16	11	5.39	35×50	
35 (44) 1V	5600	83	58	2.04	25×30
	6800	68	48	2.31	25×35
	8200	57	40	2.6	25×40
		57	40	2.56	30×30
	10000	46	33	2.92	25×45
		46	33	2.92	30×35
	12000	39	27	3.28	30×40
		39	27	3.2	35×30
	15000	31	22	3.74	30×45
		31	22	3.69	35×35
18000	26	18	4.16	35×40	
22000	21	15	4.92	35×50	
50 (63) 1H	3300	121	84	2	25×25
	3900	102	72	2.28	25×30
	4700	85	59	2.58	25×30
	5600	71	50	2.81	25×35
	6800	59	41	3.37	25×40
		59	41	3.39	30×35
	8200	49	34	3.71	30×40
		49	34	3.66	35×35
	10000	40	28	4.09	30×45
		40	28	4.07	35×40
12000	33	23	4.5	35×45	
2200	121	84	1.75	25×30	
63 (79) 1J	2700	98	69	1.99	25×35
	3300	80	56	2.27	25×40
		80	56	2.24	30×30
	3900	68	48	2.54	25×45
		68	48	2.55	30×35
	4700	57	40	2.88	25×50
		57	40	2.9	30×40
	5600	47	33	3.28	30×45
		47	33	3.24	35×35
	6800	39	27	3.73	30×50
39		27	3.71	35×40	
8200	32	23	4.16	35×45	
10000	27	19	4.69	35×50	
80 (100) 1K	1500	177	124	1.62	25×30
	1800	147	103	1.81	25×30
	2200	121	84	2.09	22×45
		121	84	2.01	25×35
	2700	98	69	2.43	30×35
	3300	80	56	2.78	30×40
	3900	68	48	3.12	30×45
	4700	57	40	3.5	35×40
	5600	47	33	3.87	35×45
	6800	39	27	4.19	35×50
100 (125) 2A	1000	265	186	1.56	25×30
	1200	221	155	1.76	25×35
	1500	177	124	2.03	25×40
		177	124	2	30×30
	1800	147	103	2.28	25×45
		147	103	2.27	30×35
	2200	121	84	2.57	25×50
		121	84	2.59	30×40
	2700	98	69	2.94	30×45
	3300	80	56	3.32	30×50
80		56	3.31	35×40	
3900	68	48	3.69	35×45	
4700	57	40	4.14	35×50	

U _r (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current	Size ΦD x L
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)
160 (200) 2C	560	355	249	1.62	22×40
		355	249	1.73	25×30
	680	293	205	1.7	22×45
		293	205	1.81	25×35
	820	243	170	1.98	25×40
		243	170	1.98	30×30
	1000	199	139	2.04	25×45
		199	139	2.14	30×35
	1200	166	116	2.12	25×50
		166	116	2.22	30×40
1500	133	93	2.46	30×45	
	133	93	2.53	35×35	
1800	111	77	2.98	35×45	
2200	91	63	3.1	35×50	
2700	74	51	3.77	35×55	
3300	60	42	4.33	35×60	
180 (225) 2K	470	424	296	1.5	22×35
		424	296	1.62	25×30
	560	355	249	1.62	22×40
		355	249	1.69	25×35
	680	293	205	1.72	25×40
		293	205	1.74	30×30
	820	243	170	1.78	25×45
		243	170	1.85	30×35
	1000	199	139	1.91	25×50
		199	139	2.01	30×40
1200	166	116	2.19	30×45	
1500	133	93	2.36	30×50	
1800	111	77	2.67	35×45	
2200	91	63	3.27	35×50	
2700	74	52	3.92	35×60	
200 (250) 2D	470	424	296	1.47	25×30
		424	296	1.56	30×25
	560	355	249	1.58	25×35
		355	249	1.65	30×30
	680	293	205	1.8	25×40
		293	205	1.82	30×30
	820	243	170	1.99	30×35
		243	170	2.17	22×50
	1000	199	139	2.21	30×40
		199	139	2.22	25×45
1200	166	116	2.22	30×40	
	166	116	2.28	30×40	
1500	133	93	2.59	30×50	
	133	93	2.64	35×40	
1800	111	77	2.7	35×45	
2200	91	63	3.23	35×50	
250 (300) 2E	330	603	422	1.2	22×40
		603	422	1.3	25×30
	390	510	357	1.41	25×35
		424	296	1.52	25×40
	470	424	296	1.56	30×30
		355	249	1.59	25×45
	560	355	249	1.61	30×30
		293	205	1.66	25×50
	680	293	205	1.76	30×35
		243	170	1.83	30×40
820	243	170	1.82	35×35	
	199	139	1.87	30×50	
1000	199	139	1.99	35×40	
	166	116	2.1	35×45	
1200	166	116	2.1	35×45	
1500	133	93	2.7	35×50	
1800	111	77	2.9	35×55	
315 (365) 2F	180	1106	608	0.78	22×40
		1106	608	0.85	25×25
	220	905	498	0.91	22×45
		905	498	0.94	25×30
	270	737	406	1	25×35
		737	406	0.98	30×25
	330	603	332	1.13	30×30
		510	281	1.20	30×35
	390	424	233	1.28	30×35
		355	196	1.46	30×40
470	293	161	1.85	30×45	
	293	161	1.88	35×35	
680	242	133	2.1	30×50	
	242	133	2.15	35×40	
1000	199	109	2.42	30×55	
	199	109	2.47	35×45	
1200	166	91	2.6	35×50	
350 (400) 2V	150	1327	730	0.82	25×30
	180	1106	608	0.89	25×35
	220	905	498	0.97	25×40
	270	737	406	1.01	25×45

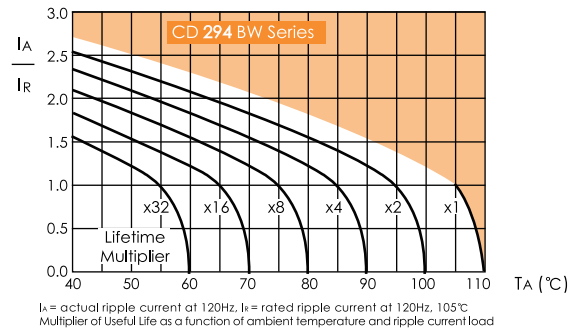
Ratings for CD 294 Series

U _R (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C, 120Hz	Size ΦD x L	
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	
350 (400) 2V	270	737	406	1.05	30 × 30	
	330	603	332	1.16	25 × 45	
		603	332	1.19	30 × 40	
	390	510	281	1.26	25 × 45	
		510	281	1.29	30 × 40	
	470	424	233	1.35	30 × 50	
		424	233	1.41	35 × 40	
	560	355	196	1.47	30 × 50	
		355	196	1.51	35 × 50	
	680	293	161	1.92	30 × 55	
293		161	1.97	35 × 50		
820	242	133	2.25	35 × 60		
1000	199	109	2.5	35 × 60		
400 (450) 2G	120	1659	863	0.64	22 × 30	
		1659	863	0.7	25 × 25	
	150	1327	690	0.73	25 × 30	
		1327	690	0.75	30 × 25	
	180	1106	575	0.82	25 × 35	
		1106	575	0.85	30 × 25	
	220	905	471	0.87	25 × 40	
		905	471	0.96	30 × 30	
	270	737	383	0.94	22 × 40	
		737	383	0.99	30 × 35	
	330	603	314	1.08	25 × 50	
		603	314	1.11	30 × 40	
	390	510	265	1.13	25 × 60	
		510	265	1.15	30 × 45	
	470	424	220	1.28	30 × 50	
		424	220	1.31	35 × 35	
	560	355	185	1.5	30 × 50	
		355	185	1.65	35 × 40	
	680	293	153	1.9	35 × 50	
		242	126	2.1	35 × 50	
820	242	126	2.2	35 × 60		
	199	109	2.5	30 × 70		
420 (470) 2X	120	2212	1106	0.72	25 × 30	
		1769	885	0.8	25 × 30	
	180	1475	737	0.85	30 × 30	
		1206	603	0.96	30 × 30	
	220	983	492	1.06	30 × 35	
		804	402	1.14	30 × 40	
	330	804	402	1.2	35 × 30	
		681	340	1.25	30 × 45	
	390	565	282	1.28	30 × 50	
		565	282	1.31	35 × 40	
	560	473	237	1.45	30 × 50	
		473	237	1.5	35 × 45	
	680	391	196	1.9	35 × 50	
		324	162	2.2	35 × 60	
	1000	265	139	2.6	35 × 65	
	450 (500) 2W	120	2212	1106	0.73	22 × 35
			2212	1106	0.75	25 × 25
		150	1769	885	0.82	25 × 30
			1474	737	0.86	30 × 30
		220	1206	603	0.94	22 × 50
1206			603	0.95	30 × 30	
270		983	492	1.11	30 × 30	
		983	492	1.15	30 × 35	
330		804	402	1.25	30 × 40	
		804	402	1.26	35 × 30	
390		681	340	1.31	30 × 40	
		681	340	1.36	35 × 35	
470		565	282	1.5	30 × 45	
		565	282	1.55	35 × 45	
560		565	282	1.5	35 × 50	
		473	237	1.65	30 × 50	
680		473	237	1.7	35 × 50	
		391	196	1.95	35 × 50	
820		391	196	2	35 × 60	
		324	162	2.15	35 × 60	
1000	324	162	2.2	35 × 65		
1000	265	139	2.6	35 × 70		
500 (550) 2H	100	2654	1327	0.67	22 × 35	
	120	2212	1106	0.77	22 × 50	
		2212	1106	0.81	25 × 35	
	150	1769	885	0.85	25 × 40	
		1769	885	0.88	30 × 30	
	180	1474	737	1.01	25 × 50	
		1474	737	1.06	30 × 35	
	220	1206	603	1.12	30 × 35	
		1206	603	1.17	35 × 30	
	270	983	492	1.29	30 × 40	
983		492	1.34	35 × 35		
330	804	402	1.4	35 × 45		

U _R (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C, 120Hz	Size ΦD x L
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)
500 (550) 2H	390	681	340	1.6	35 × 50
	470	565	282	1.8	35 × 50
		565	282	1.8	35 × 60
	560	473	237	1.9	35 × 60
550 (600) 2Y	680	391	196	2.2	35 × 70
	150	1769	885	0.86	30 × 35
		180	1474	737	1.06
	180	1474	737	1.11	35 × 30
		220	1206	603	1.18
	220	1206	603	1.23	35 × 35
		270	983	492	1.31
	330	804	402	1.5	35 × 50
		390	681	340	1.67
	470	565	282	1.9	35 × 60
565		282	1.95	35 × 70	
560	473	237	2.1	35 × 80	

SNAP-IN/LUG

Lifetime Diagram



I_A = actual ripple current at 120Hz, I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature and ripple current load