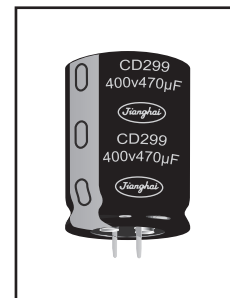
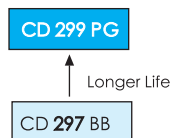


7000h at 105°C

- Extended Lifetime at 105°C
- High Ripple Current
- High Professional Industrial Power Supplies



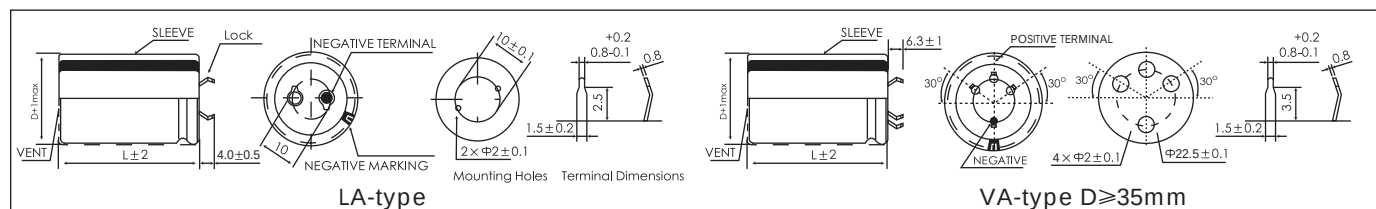
SNAP-IN/LUG

Items	Characteristics	
Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	160 ~ 250	315 ~ 500
Capacitance Range (μF)	120 ~ 2200	
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)	160 180 200 250 315 400 450~500
	Tan δ (max)	0.15 0.20
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	≤ 250 315 ~ 500
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	3 8
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	12 -

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	9000h	>200000h	7000h	7000h	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 $1.4 \times I_R$ 50°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C	$U_R = 0$ $I_R = 0$ 105°C After test: U_R to be applied for 30min >24h before measurement

Dimensions

mm



Frequency Coefficient

Frequency	50/60Hz	120Hz	300Hz	1kHz	10kHz	>40kHz
Rated Voltage (V)						
160 ~ 250	0.80	1.00	1.17	1.30	1.45	1.50
≥315	0.80	1.00	1.16	1.30	1.43	1.45

Temperature Coefficient

Temperature (°C)	+40	+55	+70	+85	+105
Coefficient	2.7	2.5	2.1	1.7	1.0

CD 299 PG SERIES



Ratings for CD 299 PG Series

SNAP-IN/LUG

U _R (Surge Voltage) Code	Rated Capa- citance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C, 120Hz	Size ΦD x L	P/N
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	-
160 (200) 2C	560	355	249	1.5	22 x 40	ECS2CPG561M□□220040
		355	249	1.5	30 x 25	ECS2CPG561M□□300025
	680	293	205	1.7	22 x 45	ECS2CPG681M□□220045
		293	205	1.7	25 x 35	ECS2CPG681M□□250035
		293	205	1.7	30 x 30	ECS2CPG681M□□300030
	820	243	170	2	25 x 40	ECS2CPG821M□□250040
	1000	199	139	2.2	25 x 45	ECS2CPG102M□□250045
		199	139	2.2	30 x 35	ECS2CPG102M□□300035
	1200	166	116	2.3	25 x 50	ECS2CPG122M□□250050
		166	116	2.3	30 x 40	ECS2CPG122M□□300040
		166	116	2.3	35 x 35	ECS2CPG122M□□350035
	1500	133	93	2.5	30 x 45	ECS2CPG152M□□300045
		133	93	2.5	35 x 40	ECS2CPG152M□□350040
	1800	111	77	2.7	30 x 50	ECS2CPG182M□□300050
		111	77	2.7	35 x 45	ECS2CPG182M□□350045
	2200	91	63	2.9	35 x 50	ECS2CPG222M□□350050
180 (225) 2K	560	355	249	1.5	22 x 40	ECS2KPG561M□□220040
		355	249	1.5	25 x 35	ECS2KPG561M□□250035
	680	293	205	1.7	22 x 50	ECS2KPG681M□□220050
		293	205	1.7	25 x 40	ECS2KPG681M□□250040
		293	205	1.7	30 x 30	ECS2KPG681M□□300030
	820	243	170	2	25 x 45	ECS2KPG821M□□250045
		243	170	2	30 x 35	ECS2KPG821M□□300035
	1000	199	139	2.2	30 x 40	ECS2KPG102M□□300040
		199	139	2.2	30 x 45	ECS2KPG122M□□300045
	1200	166	116	2.2	30 x 35	ECS2KPG122M□□350035
		166	116	2.2	30 x 50	ECS2KPG152M□□300050
	1500	133	93	2.5	30 x 50	ECS2KPG152M□□350040
		133	93	2.5	35 x 40	ECS2KPG152M□□350040
	1800	111	77	2.7	35 x 45	ECS2KPG182M□□350045
		91	63	2.9	35 x 50	ECS2KPG222M□□350050
200 (250) 2D	470	424	296	1.4	22 x 40	ECS2DPG471M□□220040
		424	296	1.4	25 x 35	ECS2DPG471M□□250035
	560	424	296	1.4	30 x 30	ECS2DPG471M□□300030
		355	249	1.5	22 x 45	ECS2DPG561M□□220045
	680	293	205	1.7	25 x 40	ECS2DPG681M□□250040
		293	205	1.7	30 x 35	ECS2DPG681M□□300035
		243	170	2	25 x 50	ECS2DPG821M□□250050
	820	243	170	2	30 x 40	ECS2DPG821M□□300040
		243	170	2	35 x 30	ECS2DPG821M□□350030
	1000	199	139	2.2	30 x 45	ECS2DPG102M□□300045
		199	139	2.2	35 x 35	ECS2DPG102M□□350035
	1200	166	116	2.3	30 x 50	ECS2DPG122M□□300050
		166	116	2.3	35 x 40	ECS2DPG122M□□350040
	1500	133	93	2.5	35 x 50	ECS2DPG152M□□350050
250 (300) 2E	330	603	422	1.2	22 x 40	ECS2EPG331M□□220040
		603	422	1.2	25 x 35	ECS2EPG331M□□250035
	390	510	357	1.3	22 x 45	ECS2EPG391M□□220045
		510	357	1.3	25 x 40	ECS2EPG391M□□250040
		510	357	1.3	30 x 30	ECS2EPG391M□□300030
	470	424	296	1.4	25 x 45	ECS2EPG471M□□250045
		424	296	1.4	30 x 35	ECS2EPG471M□□300035
	560	424	296	1.4	35 x 30	ECS2EPG471M□□350030
		355	249	1.5	25 x 50	ECS2EPG561M□□250050
	680	293	205	1.7	30 x 45	ECS2EPG681M□□300045
		293	205	1.7	35 x 35	ECS2EPG681M□□350035
	820	243	170	2	30 x 50	ECS2EPG821M□□300050
		243	170	2	35 x 40	ECS2EPG821M□□350040
	1000	199	139	2.2	35 x 45	ECS2EPG102M□□350045
		166	116	2.3	35 x 50	ECS2EPG122M□□350050
315 (365) 2F	220	905	498	1	22 x 45	ECS2FPG221M□□220045
		905	498	1	25 x 40	ECS2FPG221M□□250040
		905	498	1	30 x 30	ECS2FPG221M□□300030
	270	737	406	1.1	25 x 45	ECS2FPG271M□□250045
		737	406	1.1	30 x 35	ECS2FPG271M□□300035
		737	406	1.1	35 x 30	ECS2FPG271M□□350030
	330	603	332	1.2	25 x 50	ECS2FPG331M□□250050
		603	332	1.2	30 x 40	ECS2FPG331M□□300040
	390	510	281	1.3	30 x 45	ECS2FPG391M□□300045
		510	281	1.3	35 x 35	ECS2FPG391M□□350035
	470	424	233	1.4	30 x 50	ECS2FPG471M□□300050
		424	233	1.4	35 x 40	ECS2FPG471M□□350040
	560	355	196	1.5	35 x 45	ECS2FPG561M□□350045
		293	161	1.7	35 x 50	ECS2FPG681M□□350050
400 (450) 2G	120	1659	912	0.62	22 x 40	ECS2GPG121M□□220030
		1659	912	0.64	25 x 35	ECS2GPG121M□□250025
	150	1327	730	0.69	22 x 50	ECS2GPG151M□□220040
		1327	730	0.69	25 x 40	ECS2GPG151M□□250030
	180	1106	608	0.72	25 x 45	ECS2GPG181M□□250035
		1106	608	0.78	30 x 35	ECS2GPG181M□□300030
	220	905	498	0.83	25 x 50	ECS2GPG221M□□250040
		905	498	0.81	30 x 40	ECS2GPG221M□□300030
	270	737	406	0.89	30 x 35	ECS2GPG271M□□300035
		737	406	0.82	35 x 25	ECS2GPG271M□□350025
	330	603	332	1.07	30 x 40	ECS2GPG331M□□300040

U _R (Surge Voltage) Code	Rated Capa- citance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C, 120Hz	Size ΦD x L	P/N	
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	-	
400 (450) 2G	330	603	332	1.02	35 x 30	ECS2GPG331M□□350030	
	390	510	281	1.18	35 x 35	ECS2GPG391M□□350035	
		510	281	1.21	30 x 45	ECS2GPG391M□□300045	
	470	424	233	1.23	30 x 50	ECS2GPG471M□□300050	
		424	233	1.22	35 x 40	ECS2GPG471M□□350040	
	560	356	196	1.5	30 x 55	ECS2GPG561M□□300055	
		356	196	1.5	35 x 45	ECS2GPG561M□□350045	
	680	293	161	1.79	35 x 50	ECS2GPG681M□□350050	
450 (500) 2W	820	243	134	2.07	35 x 55	ECS2GPG821M□□350055	
	120	2212	995	0.69	25 x 30	ECS2WPG121M□□250030	
	150	1769	796	0.77	25 x 35	ECS2WPG151M□□250035	
		1769	796	0.73	30 x 25	ECS2WPG151M□□300025	
		1474	664	0.83	25 x 40	ECS2WPG181M□□250040	
	180	1474	664	0.81	30 x 30	ECS2WPG181M□□300030	
		220	1206	543	0.96	30 x 35	ECS2WPG221M□□300035
	1206		543	0.89	35 x 25	ECS2WPG221M□□350025	
	270		983	442	1.09	30 x 40	ECS2WPG271M□□300040
		983	442	1.04	35 x 30	ECS2WPG271M□□350030	
	330	804	362	1.21	30 x 45	ECS2WPG331M□□300045	
		804	362	1.18	35 x 35	ECS2WPG331M□□350035	
		390	680	306	1.24	30 x 50	ECS2WPG391M□□300050
	680		306	1.23	35 x 40	ECS2WPG391M□□350040	
	500 (550) 2H	470	565	254	1.41	30 x 55	ECS2WPG471M□□300055
			565	254	1.41	35 x 45	ECS2WPG471M□□350045
560		474	213	1.58	30 x 60	ECS2WPG561M□□300060	
		474	213	1.6	35 x 50	ECS2WPG561M□□350050	
680		390	176	1.83	35 x 55	ECS2WPG681M□□350055	
		820	324	146	2.07	35 x 60	ECS2WPG821M□□350060
120		2212	1106	0.72	22 x 50	ECS2HPG121M□□220050	
		2212	1106	0.68	25 x 40	ECS2HPG121M□□250040	
150		1769	885	0.85	25 x 45	ECS2HPG151M□□250045	
		1769	885	0.8	30 x 30	ECS2HPG151M□□300030	
		180	1474	737	0.92	25 x 50	ECS2HPG181M□□250050
1474			737	0.87	30 x 35	ECS2HPG181M□□300035	
1474	737		0.88	35 x 30	ECS2HPG181M□□350030		
220	1206	603	1.02	30 x 40	ECS2HPG221M□□300040		
	1206	603	1.05	35 x 35	ECS2HPG221M□□350035		
	270	983	492	1.09	30 x 45	ECS2HPG271M□□300045	
983		492	1.19	30 x 50	ECS2HPG271M□□300050		
983		492	1.18	35 x 40	ECS2HPG271M□□350040		
330	804	402	1.28	30 x 55	ECS2HPG331M□□300055		
	804	402	1.28	35 x 45	ECS2HPG331M□□350045		
	390	680	340	1.43	30 x 60	ECS2HPG391M□□300060	
680		340	1.45	35 x 50	ECS2HPG391M□□350050		
470		565	282	1.59	35 x 60	ECS2HPG471M□□350060	

Customer products are available on request.

Lifetime Diagram

