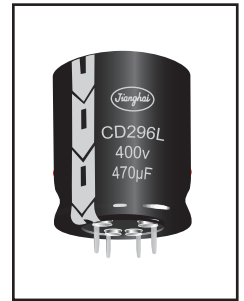
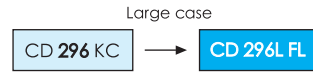


3000h at 105°C

- Long Life at High Temperature
- High Ripple Current
- Suit for high frequency regenerative voltage for AC servomotor, general inverter.



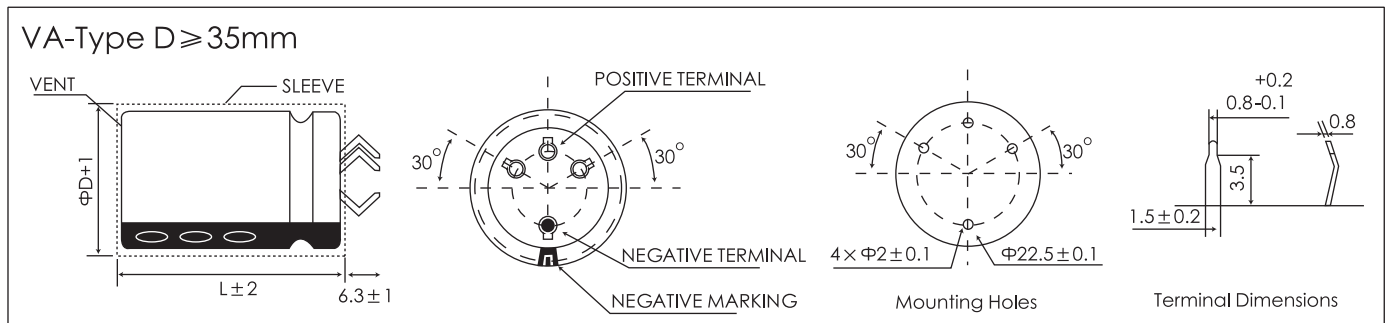
SNAP-IN/LUG

Items	Characteristics		
Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105	
Voltage Range (V)	350 ~ 420	450 ~ 500	
Capacitance Range (µF)	390 ~ 3300		
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)	WV (V)	350~500	
	Tan δ	0.15	
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	350~420	450~500
	$Z_{-25°C} / Z_{+20°C}$	4	7
	$Z_{-40°C} / Z_{+20°C}$	7	-

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	6000h	>200000h	3000h	4000h	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 $1.2 \times I_R$ 40°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	$\geq 50\text{kHz}$
Factor	0.8	1.0	1.16	1.3	1.41	1.43

Temperature Coefficient

Temperature(°C)	+40	+55	+70	+85	+105
Factor	3.0	2.8	2.5	2.0	1.0

CD 296L FL SERIES



Ratings for CD 296L FL Series

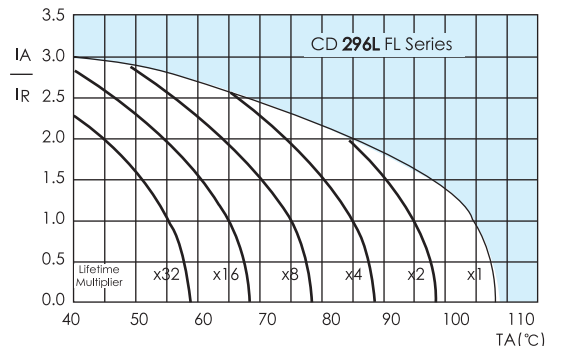
SNAP-IN/LUG

U _R (Surge Voltage) Code	Rated Capa- cance	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)	-	
350 (400) 2V	560	355	178	2.30	30 x 55	ECS2VFL561M□□300055	
		355	178	2.33	35 x 40	ECS2VFL561M□□350040	
	680	293	146	2.73	35 x 50	ECS2VFL681M□□350050	
		293	146	2.68	40 x 40	ECS2VFL681M□□400040	
	820	243	121	2.99	35 x 60	ECS2VFL821M□□350060	
		243	121	3.05	40 x 45	ECS2VFL821M□□400045	
		243	121	2.85	45 x 40	ECS2VFL821M□□450040	
	1000	199	100	3.50	35 x 65	ECS2VFL102M□□350065	
		199	100	3.37	40 x 55	ECS2VFL102M□□400055	
		199	100	3.06	45 x 45	ECS2VFL102M□□450045	
	1200	166	83	3.81	35 x 75	ECS2VFL122M□□350075	
		166	83	3.81	40 x 65	ECS2VFL122M□□400065	
		166	83	3.47	45 x 50	ECS2VFL122M□□450050	
	1500	133	66	4.62	40 x 80	ECS2VFL152M□□400080	
		133	66	4.27	45 x 65	ECS2VFL152M□□450065	
	1800	111	55	5.43	40 x 95	ECS2VFL182M□□400095	
		111	55	5.10	45 x 75	ECS2VFL182M□□450075	
	2200	90	45	5.86	45 x 90	ECS2VFL222M□□450090	
		90	45	5.86	50 x 75	ECS2VFL222M□□500075	
	2700	74	37	6.77	45 x 100	ECS2VFL272M□□450100	
		74	37	6.77	50 x 90	ECS2VFL272M□□500090	
	3300	60	30	6.77	50 x 105	ECS2VFL332M□□500105	
	400 (450) 2G	470	423	169	2.11	35 x 45	ECS2GFL471M□□350045
			423	169	2.14	40 x 40	ECS2GFL471M□□400040
560		355	142	2.48	35 x 50	ECS2GFL561M□□350050	
		355	142	2.43	40 x 45	ECS2GFL561M□□400045	
		355	142	2.35	45 x 40	ECS2GFL561M□□450040	
680		293	117	2.73	35 x 60	ECS2GFL681M□□350060	
		293	117	2.78	40 x 50	ECS2GFL681M□□400050	
		293	117	2.59	45 x 40	ECS2GFL681M□□450040	
820		243	97	3.17	35 x 65	ECS2GFL821M□□350065	
		243	97	3.05	40 x 55	ECS2GFL821M□□400055	
		243	97	2.90	45 x 45	ECS2GFL821M□□450045	
1000		199	80	3.48	35 x 80	ECS2GFL102M□□350080	
		199	80	3.48	40 x 65	ECS2GFL102M□□400065	
		199	80	3.17	45 x 55	ECS2GFL102M□□450055	
1200		166	66	4.13	35 x 90	ECS2GFL122M□□350090	
		166	66	4.13	40 x 80	ECS2GFL122M□□400080	
		166	66	4.00	45 x 60	ECS2GFL122M□□450060	
1500		133	53	4.39	40 x 90	ECS2GFL152M□□400090	
		133	53	4.39	45 x 75	ECS2GFL152M□□450075	
		133	53	4.39	50 x 70	ECS2GFL152M□□500070	
1800		111	44	5.30	45 x 90	ECS2GFL182M□□450090	
		111	44	5.30	50 x 80	ECS2GFL182M□□500080	
2200		90	36	5.90	50 x 90	ECS2GFL222M□□500090	
2700		74	29	6.50	50 x 105	ECS2GFL272M□□500105	
420 (470) 2X	390	510	203	1.92	35 x 40	ECS2 x FL391M□□350040	
		510	203	1.95	40 x 35	ECS2 x FL391M□□400035	
	470	423	169	2.27	35 x 45	ECS2 x FL471M□□350045	
		423	169	2.23	40 x 40	ECS2 x FL471M□□400040	
	560	355	142	2.56	35 x 50	ECS2 x FL561M□□350050	
		355	142	2.52	40 x 45	ECS2 x FL561M□□400045	
		355	142	2.35	45 x 40	ECS2 x FL561M□□450040	
	680	293	117	2.81	35 x 60	ECS2 x FL681M□□350060	
		293	117	2.78	40 x 50	ECS2 x FL681M□□400050	
		293	117	2.52	45 x 45	ECS2 x FL681M□□450045	
	820	243	97	3.26	35 x 70	ECS2 x FL821M□□350070	
		243	97	3.05	40 x 60	ECS2 x FL821M□□400060	
		243	97	2.87	45 x 50	ECS2 x FL821M□□450050	
	1000	199	80	3.67	35 x 80	ECS2 x FL102M□□350080	
		199	80	3.67	40 x 70	ECS2 x FL102M□□400070	
		199	80	3.38	45 x 60	ECS2 x FL102M□□450060	
	1200	166	66	4.33	40 x 80	ECS2 x FL122M□□400080	
		166	66	3.92	45 x 65	ECS2 x FL122M□□450065	
	1500	133	53	4.62	45 x 80	ECS2 x FL152M□□450080	
		133	53	4.62	50 x 75	ECS2 x FL152M□□500075	
	1800	111	44	5.42	45 x 95	ECS2 x FL182M□□450095	
		111	44	5.42	50 x 85	ECS2 x FL182M□□500085	
	2200	90	36	6.00	50 x 100	ECS2 x FL222M□□500100	

U _R (Surge Voltage) Code	Rated Capa- cance	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)	-
450 (500) 2W	390	510	225	2.00	35 x 40	ECS2WFL391M□□350040
		423	186	2.27	35 x 45	ECS2WFL471M□□350045
	470	423	186	2.23	40 x 40	ECS2WFL471M□□400040
		423	186	2.15	45 x 35	ECS2WFL471M□□450035
	560	355	156	2.47	35 x 55	ECS2WFL561M□□350055
		355	186	2.52	40 x 50	ECS2WFL561M□□400050
		355	186	2.35	45 x 40	ECS2WFL561M□□450040
	680	293	129	2.89	35 x 65	ECS2WFL681M□□350065
		293	129	2.78	40 x 60	ECS2WFL681M□□400060
		293	129	2.61	45 x 50	ECS2WFL681M□□450050
	820	243	107	3.24	35 x 75	ECS2WFL821M□□350075
		243	107	3.24	40 x 65	ECS2WFL821M□□400065
		243	107	3.10	45 x 50	ECS2WFL821M□□450050
	1000	199	88	3.77	35 x 90	ECS2WFL102M□□350090
		199	88	3.77	40 x 80	ECS2WFL102M□□400080
		199	88	3.68	45 x 65	ECS2WFL102M□□450065
	1200	166	73	4.43	40 x 95	ECS2WFL122M□□400095
		166	73	4.23	45 x 75	ECS2WFL122M□□450075
		166	73	4.23	50 x 65	ECS2WFL122M□□500065
	1500	133	58	4.84	40 x 100	ECS2WFL152M□□400100
		133	58	4.84	45 x 90	ECS2WFL152M□□450090
		133	58	4.84	50 x 80	ECS2WFL152M□□500080
	1800	111	49	5.30	45 x 105	ECS2WFL182M□□450105
		111	49	5.30	50 x 95	ECS2WFL182M□□500095
111		49	5.30	50 x 95	ECS2WFL182M□□500095	
500 (550) 2H	390	510	225	1.80	35 x 50	ECS2HFL391M□□350050
		510	225	1.80	40 x 45	ECS2HFL391M□□400045
	470	423	186	2.00	35 x 55	ECS2HFL471M□□350055
		423	186	2.00	40 x 50	ECS2HFL471M□□400050
	560	355	156	2.25	35 x 65	ECS2HFL561M□□350065
		355	156	2.25	40 x 55	ECS2HFL561M□□400055
		355	156	2.25	45 x 50	ECS2HFL561M□□450050
	680	293	129	2.60	35 x 75	ECS2HFL681M□□350075
		293	129	2.60	40 x 70	ECS2HFL681M□□400070
		293	129	2.60	45 x 55	ECS2HFL681M□□450055
	820	243	107	2.85	40 x 75	ECS2HFL821M□□400075
		243	107	2.85	45 x 60	ECS2HFL821M□□450060
		199	88	3.30	40 x 90	ECS2HFL102M□□400090
	1000	199	88	3.30	45 x 75	ECS2HFL102M□□450075
		166	73	4.00	40 x 100	ECS2HFL122M□□400100
		166	73	4.00	45 x 85	ECS2HFL122M□□450085
	1200	166	73	4.00	50 x 80	ECS2HFL122M□□500080
		133	58	4.45	45 x 100	ECS2HFL152M□□450100
		133	58	4.45	50 x 95	ECS2HFL152M□□500095
	1800	111	49	4.85	50 x 105	ECS2HFL152M□□500105

Customer products are available on request.

Lifetime Diagram



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