

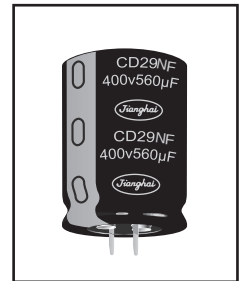
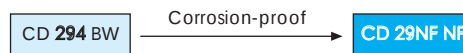
CD 29NF NF SERIES



SNAP-IN/LUG

2000h at 105°C

- Corrosion-proof
- Load Life of 2000h at 105°C
- Industrial electronics in special hazardous environments

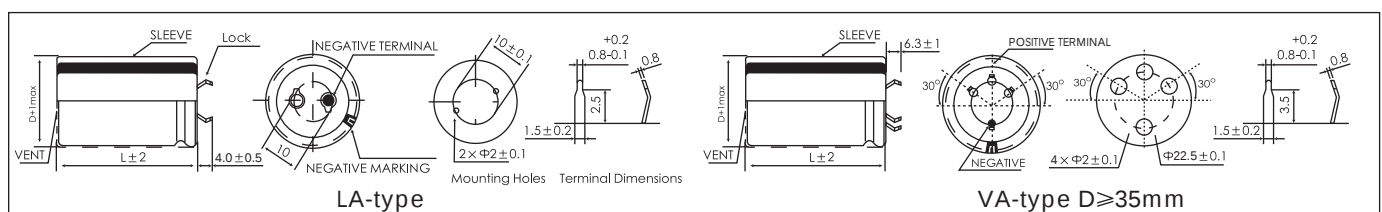


Items	Characteristics	
Operating Temperature Range(°C)	-25 ~ +105	
Voltage Range (V)	350 ~ 450	
Capacitance Range(μF)	120 ~ 680	
Capacitance Tolerance (20°C ,120Hz)	± 20%	
Leakage Current (μA)	After 5 minutes at 20°C application of rated voltage, leakage U_{Trent} is not more than 0.01CV or 1.5mA, whichever is smaller C:Nominal Capacitance(μF) V:Rated Voltage(V)	
Dissipation Factor (20°C , 120Hz)	Rated Voltage (v)	350~450
	Tan δ(max)	0.20
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (v)	350~450
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	8

	Useful Life		Load Life	Endurance Life	Shelf Life
Life Time	4000h	≥200000h	200h	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	$U_R = 0$ $I_R = 0$ 105 °C Voltage applied After test: U_R to be applied for 30min, 24 to 48h before measurement

Dimensions

mm



Frequency Coefficient

Frequency (Hz)	50/60	120	300	1K	10K	≥50K
Factor	0.75	1.00	1.16	1.30	1.41	1.45

Temperature Coefficient

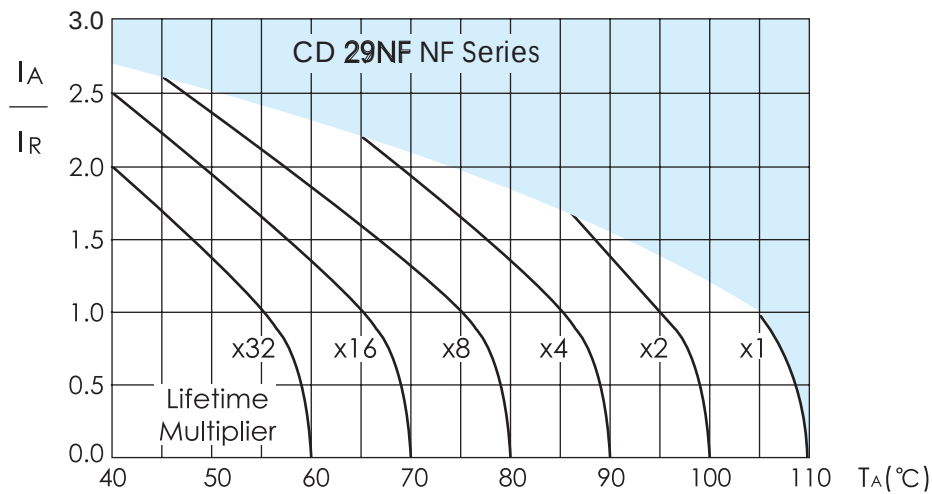
Temperature (°C)	+40	+55	+70	+85	+105
Coefficient	2.7	2.5	2.1	1.7	1.0

Ratings for CD 29NF NF 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	P/N
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	-
350 (400) 2V	180	1474	516	0.93	22x40	ECS2VNF181M □□ 220040
	180	1474	516	0.91	25x35	ECS2VNF181M □□ 250035
	180	1474	516	0.89	30x25	ECS2VNF181M □□ 300025
	220	1206	422	1.07	22x45	ECS2VNF221M □□ 220045
	220	1206	422	1.05	25x40	ECS2VNF221M □□ 250040
	270	983	344	1.13	22x50	ECS2VNF271M □□ 220050
	270	983	344	1.11	25x45	ECS2VNF271M □□ 250045
	270	983	344	1.10	30x35	ECS2VNF271M □□ 300035
	270	983	344	1.05	35x25	ECS2VNF271M □□ 350025
	330	804	281	1.25	25x50	ECS2VNF331M □□ 250050
	330	804	281	1.23	30x40	ECS2VNF331M □□ 300040
	330	804	281	1.20	35x30	ECS2VNF331M □□ 350030
	390	680	238	1.32	30x40	ECS2VNF391M □□ 300040
	390	680	238	1.29	35x35	ECS2VNF391M □□ 350035
	470	565	198	1.41	30x45	ECS2VNF471M □□ 300045
	470	565	198	1.38	35x40	ECS2VNF471M □□ 350040
400 (450) 2G	120	2212	719	0.72	25x30	ECS2GNF121M □□ 250030
	150	1769	575	0.83	22x40	ECS2GNF151M □□ 220040
	150	1769	575	0.81	25x30	ECS2GNF151M □□ 250030
	150	1769	575	0.79	30x25	ECS2GNF151M □□ 300025
	180	1474	479	0.93	22x50	ECS2GNF181M □□ 220050
	180	1474	479	0.90	25x35	ECS2GNF181M □□ 250035
	220	1206	392	1.03	25x40	ECS2GNF221M □□ 250040
	220	1206	392	1.01	30x30	ECS2GNF221M □□ 300030
	220	1206	392	0.97	35x25	ECS2GNF221M □□ 350025
	270	983	319	1.23	25x50	ECS2GNF271M □□ 250050
	270	983	319	1.22	30x40	ECS2GNF271M □□ 300040
	270	983	319	1.18	35x30	ECS2GNF271M □□ 350030
	330	804	261	1.44	30x45	ECS2GNF331M □□ 300045
	330	804	261	1.40	35x35	ECS2GNF331M □□ 350035
	390	680	221	1.54	30x45	ECS2GNF391M □□ 300045
	390	680	221	1.52	35x40	ECS2GNF391M □□ 350040
450 (500) 2W	120	2212	608	0.71	22x40	ECS2WNF121M □□ 220040
	120	2212	608	0.70	25x30	ECS2WNF121M □□ 250030
	120	2212	608	0.65	30x25	ECS2WNF121M □□ 300025
	150	1769	487	0.78	22x45	ECS2WNF151M □□ 220045
	150	1769	487	0.77	25x35	ECS2WNF151M □□ 250035
	180	1474	405	0.88	22x50	ECS2WNF181M □□ 220050
	180	1474	405	0.87	25x40	ECS2WNF181M □□ 250040
	180	1474	405	0.86	30x30	ECS2WNF181M □□ 300030
	220	1206	332	1.03	25x50	ECS2WNF221M □□ 250050
	220	1206	332	1.01	30x35	ECS2WNF221M □□ 300035
	270	983	270	1.23	30x40	ECS2WNF271M □□ 300040
	330	804	221	1.35	30x45	ECS2WNF331M □□ 300045
	330	804	221	1.32	35x35	ECS2WNF331M □□ 350035
	390	680	187	1.61	30x50	ECS2WNF391M □□ 300050
	390	680	187	1.60	35x45	ECS2WNF391M □□ 350045
	470	565	155	1.75	35x50	ECS2WNF471M □□ 350050

Customer products are available on request.

Lifetime Diagram



Typical Lifetime Curves

Lifetime can be guaranteed with 10~15ppm [Cl⁻] in electrolyte.

For general purpose designed CD294 series, product will fail in early life with 5ppm [Cl⁻] in electrolyte.

