

2000h at 105°C

- Load life 2000 hours at 105°C
- High ripple current
- Downsized from CD29C

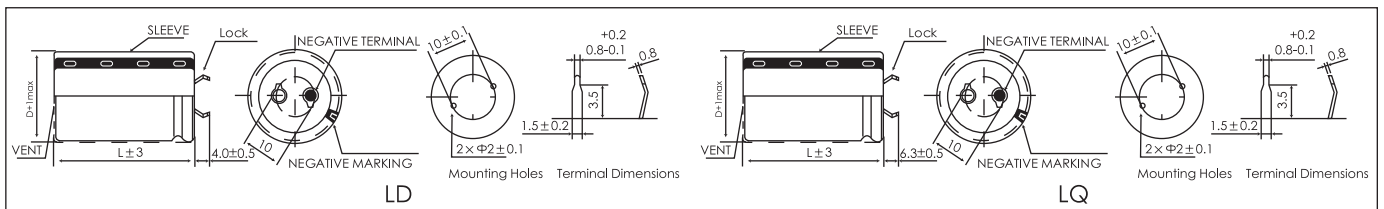


Items	Characteristics			
Operating Temperature Range (°C)	-25 ~ +105			
Rated Voltage Range (V)	400 ~ 450			
Capacitance Range(µF)	180 ~ 820			
Capacitance Tolerance (20°C,120Hz)	±20%			
Leakage Current (µA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 1.5mA, whichever is Smaller. C:Nominal Capacitance(µF) V:Rated Voltage(V)			
Dissipation Factor (20°C, 120Hz)	Rated Voltage (v)	400	420	450
	tan δ (max)	0.15	0.20	
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (v)	400	420	450
	Z <sub>-25°C</sub> / Z <sub>+20°C</sub>	8		

Life Time	Useful Life		Load Life	Endurance Test	Shelf Life
		4000h	≥180000h	2000h	3000h
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 130% of specified value	Not more than 200% of specified value
Condition: Applied Voltage Applied Current Applied Temperature	U <sub>R</sub> I <sub>R</sub> 105°C	U <sub>R</sub> 1.4xI <sub>R</sub> 40°C	U <sub>R</sub> I <sub>R</sub> 105°C	U <sub>R</sub> I <sub>R</sub> = 0 105°C	U <sub>R</sub> = 0 I <sub>R</sub> = 0 105°C  After test: U <sub>R</sub> to be applied for 30min >24h before measurement

## Dimensions

mm



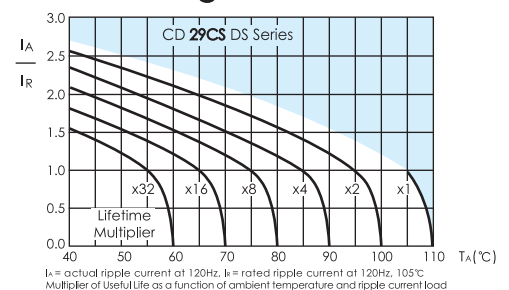
## Frequency Coefficient

Voltage(V)	Frequency(Hz)					
	50/60	120	300	1K	10K	≥50K
400~450	0.8	1	1.16	1.30	1.41	1.43

## Temperature Coefficient

Temperature (°C)	+40	+55	+70	+80	+105
Coefficient	2.7	2.5	2.1	1.7	1.0

## Lifetime Diagram



I<sub>A</sub> = actual ripple current at 120Hz, I<sub>R</sub> = rated ripple current at 120Hz, 105°C  
Multiplier of Useful Life as a function of ambient temperature and ripple current load

## Ratings for CD 29CS DC Series

SNAP-IN/LUG

U <sub>s</sub> (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)	-
400 (450) 2G	180	1106	575	1.19	22x30	ECS2GDS181M □□ 220030
	220	905	471	1.27	25x25	ECS2GDS221M □□ 250025
	270	737	383	1.43	25x30	ECS2GDS271M □□ 250030
	330	603	314	1.77	22x45	ECS2GDS331M □□ 220045
	330	603	314	1.65	25x35	ECS2GDS331M □□ 250035
	390	510	265	1.97	22x50	ECS2GDS391M □□ 220050
	390	510	265	1.85	25x40	ECS2GDS391M □□ 250040
	390	510	265	1.65	30x30	ECS2GDS391M □□ 300030
	470	424	220	2.07	25x45	ECS2GDS471M □□ 250045
	470	424	220	1.89	30x35	ECS2GDS471M □□ 300035
	560	355	185	2.12	30x40	ECS2GDS561M □□ 300040
680	293	153	2.00	30x45	ECS2GDS681M □□ 300045	
820	242	126	2.48	30x50	ECS2GDS821M □□ 300050	
420 (470) 2X	180	1474	737	1.00	22x30	ECS2XDS181M □□ 220030
	180	1474	737	1.02	25x25	ECS2XDS181M □□ 250025
	220	1206	603	1.13	22x35	ECS2XDS221M □□ 220035
	270	983	472	1.27	22x40	ECS2XDS271M □□ 220040
	270	983	472	1.28	25x30	ECS2XDS271M □□ 250030
	270	983	472	1.28	30x25	ECS2XDS271M □□ 300025
	330	804	402	1.44	22x45	ECS2XDS331M □□ 220045
	330	804	402	1.48	25x35	ECS2XDS331M □□ 250035
	390	681	340	1.63	22x55	ECS2XDS391M □□ 220055
	390	681	340	1.64	25x40	ECS2XDS391M □□ 250040
	390	681	340	1.55	30x30	ECS2XDS391M □□ 300030
	470	565	282	1.86	25x50	ECS2XDS471M □□ 250050
	470	565	282	1.74	30x35	ECS2XDS471M □□ 300035
	560	472	237	2.09	25x55	ECS2XDS561M □□ 250055
	560	472	237	1.96	30x40	ECS2XDS561M □□ 300040
680	391	196	2.25	30x50	ECS2XDS681M □□ 300050	
820	324	162	2.52	30x55	ECS2XDS821M □□ 300055	
450 (500) 2W	180	1474	737	1.00	22x30	ECS2WDS181M □□ 220030
	180	1474	737	1.02	25x25	ECS2WDS181M □□ 250025
	220	1206	603	1.13	22x35	ECS2WDS221M □□ 220035
	220	1206	603	1.16	25x30	ECS2WDS221M □□ 250030
	270	983	492	1.30	22x45	ECS2WDS271M □□ 220045
	270	983	492	1.34	25x35	ECS2WDS271M □□ 250035
	270	983	492	1.28	30x25	ECS2WDS271M □□ 300025
	330	804	402	1.47	22x50	ECS2WDS331M □□ 220050
	330	804	402	1.51	25x40	ECS2WDS331M □□ 250040
	330	804	402	1.43	30x30	ECS2WDS331M □□ 300030
	390	681	340	1.63	22x55	ECS2WDS391M □□ 220055
	390	681	340	1.67	25x45	ECS2WDS391M □□ 250045
	390	681	340	1.59	30x35	ECS2WDS391M □□ 300030
	470	565	283	1.91	25x55	ECS2WDS471M □□ 250055
	470	565	283	1.79	30x40	ECS2WDS471M □□ 300040
	560	473	237	2.13	25x60	ECS2WDS561M □□ 250060
	560	473	237	2.01	30x45	ECS2WDS561M □□ 300045
	680	391	196	2.25	30x50	ECS2WDS681M □□ 300050
	820	324	162	2.56	30x60	ECS2WDS821M □□ 300060

Customer products are available on request.