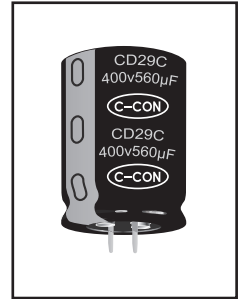


2000h at 105°C

- Load life 2000 hours at 105°C
- High ripple current
- Downsized from CD294
- PCB Mounting
- General industrial electronics



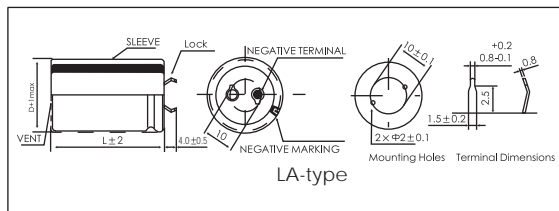
Rated Voltage	Series	Rated Capacitance	Capacitance Tolerance	Terminal Code	Sleeve Color

Items	Characteristics				
Operating Temperature Range (°C)	-40 ~ +105		-25 ~ +105		
Voltage Range (V)	200 ~ 250		400 ~ 450		
Capacitance Range (µF)	180 ~ 2700				
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)	200	250	400	450
	Tan δ (max)	0.15			0.20
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	200	250	400	450
	Impedance Ratio	Z <sub>-25°C</sub> / Z <sub>+20°C</sub>	4		8
		Z <sub>-40°C</sub> / Z <sub>+20°C</sub>	12		-

	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 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> 1.4 × I <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	After test: U <sub>R</sub> to be applied for 30min I <sub>R</sub> = 0 >24h before measurement

## Dimensions

mm



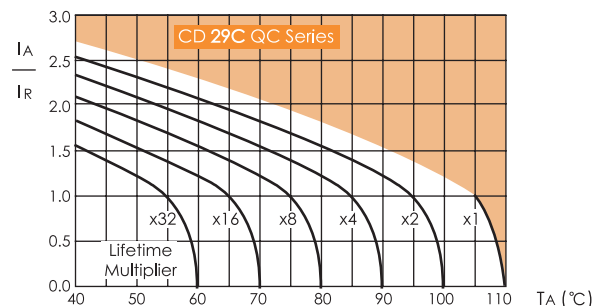
## Temperature Coefficient

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

## Frequency Coefficient

Voltage (V)	Frequency					
	50/60Hz	120Hz	300Hz	1kHz	10kHz	≥ 50kHz
200 ~ 250	0.80	1.00	1.17	1.32	1.45	1.50
400 ~ 450	0.80	1.00	1.16	1.30	1.41	1.43

## 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 29C Series

U <sub>r</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	
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	
<b>200 (250) 2D</b>	560	355	248	1.48	25 × 30	
	680		292	204	1.62	22 × 40
			292	204	1.60	25 × 30
			292	204	1.60	30 × 25
	820		242	169	1.75	22 × 45
			242	169	1.75	25 × 35
			242	169	1.75	30 × 30
	1000		199	139	2.04	22 × 50
			199	139	2.04	25 × 40
			199	139	2.04	30 × 35
			199	139	2.04	35 × 25
	1200		165	116	2.30	25 × 45
			165	116	2.30	30 × 35
	1500		132	92	2.57	30 × 40
			132	92	2.57	35 × 30
	1800		110	77	2.68	30 × 50
			110	77	2.68	35 × 35
	2200	90	63	2.92	35 × 45	
2700	73	51	3.30	35 × 50		
<b>250 (300) 2E</b>	470		423	296	1.56	22 × 40
			423	296	1.56	25 × 30
	560		355	248	1.74	22 × 45
			355	248	1.74	25 × 35
	680		292	204	1.92	22 × 50
			292	204	1.92	25 × 40
			292	204	1.92	30 × 30
	820		242	169	2.13	25 × 45
			242	169	2.13	30 × 35
	1000		199	139	2.40	25 × 50
			199	139	2.40	30 × 40
			199	139	2.40	35 × 30
	1200	165	116	2.55	30 × 40	
	1500		132	92	2.73	30 × 50
			132	92	2.73	35 × 40
	1800	110	77	2.82	35 × 45	
2200	90	63	2.95	35 × 50		

U <sub>r</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	
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	
<b>400 (450) 2G</b>	220	904	633	0.87	25 × 30	
	270		737	516	0.93	22 × 40
			737	516	1.05	25 × 35
			737	516	1.02	30 × 25
	330		603	422	1.16	22 × 50
			603	422	1.14	25 × 40
			603	422	1.14	30 × 30
			603	422	1.13	35 × 25
	390		510	357	1.45	25 × 45
			510	357	1.47	30 × 35
			510	357	1.50	35 × 30
	470		423	296	1.54	25 × 50
			423	296	1.61	30 × 40
			423	296	1.50	35 × 30
	560		355	248	1.70	30 × 45
			355	248	1.67	35 × 35
	680		292	204	1.82	30 × 50
			292	204	1.87	35 × 40
820		242	169	2.08	35 × 45	
		242	169	2.14	30 × 60	
<b>450 (500) 2W</b>	180	1474	774	0.79	25 × 30	
	220		1206	633	0.85	22 × 45
			1206	633	0.87	25 × 35
			1206	633	0.89	30 × 30
	270		983	516	1.00	22 × 50
			983	516	1.10	25 × 40
			983	516	1.01	30 × 30
			983	516	1.00	35 × 25
	330		804	422	1.28	25 × 50
			804	422	1.31	30 × 35
			804	422	1.25	35 × 30
	390		680	357	1.41	30 × 40
			680	357	1.45	35 × 35
	470		565	296	1.61	35 × 40
			565	296	1.52	30 × 45
	560	474	248	1.75	35 × 45	
680	390	204	1.93	35 × 50		