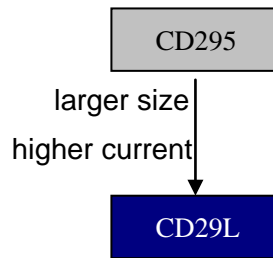


# CD29L Snap In Aluminum Electrolytic Capacitors



## 5000h at 85°C

- Larger Size Components
- Long Useful Life
- High Ripple Current
- Industrial Power Supplies



Items	Characteristics								
Operating Temperature Range(°C)	-40 ~ +85				-25~+85				
Voltage Range (V)	16~400				450~500				
Capacitance Range(μF)	390~120000								
Capacitance Tolerance (20°C,120Hz)	±20%								
Leakage Current (μA)	After 5Minutes at 20°C application of rated voltage, leakage current is notMore 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)	16	25	35	50	63~10 0	160~2 50	350~4 50	500
	Tan δ(max)	0.60	0.50	0.40	0.30	0.20	0.15		
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage(V)	16~35	50~10 0	160~2 00	250~4 00	450	500		
	Z <sub>-25°C</sub> /Z <sub>+20°C</sub>	4	3		4				
	Z <sub>-40°C</sub> /Z <sub>+20°C</sub>	15	10	6	8	-			

	Useful Life		Load Life	Endurance Test	Shelf Life
Life Time	7000h	>100000h	5000h	5000h	1000h
Leakage Current	NotMore than specified value		NotMore than specified value	NotMore than specified value	NotMore 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	NotMore than 300% of specified value		NotMore than 200% of specified value	NotMore than200% of specified value	NotMore than 200% of specified value
Condition:					<div style="border: 1px solid black; padding: 5px;">                     After test:                      U<sub>R</sub> = 0                      I<sub>R</sub> = 0                      85°C                      U<sub>R</sub> to be applied for 30min&gt;24h before measurement                 </div>
Applied Voltage	U <sub>R</sub>	U <sub>R</sub>	U <sub>R</sub>	U <sub>R</sub>	
Applied Current	I <sub>R</sub>	1.2×I <sub>R</sub>	I <sub>R</sub>	I <sub>R</sub> = 0	
Applied Temperature	85°C	50°C	85°C	85°C	

## Frequency coefficient

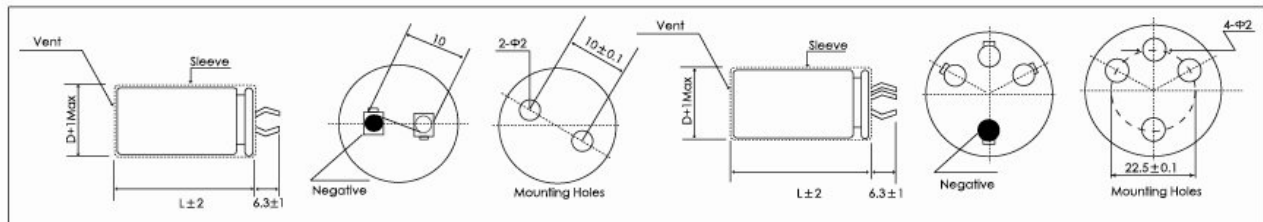
Frequency Rated Voltage(v)	50/60Hz	120Hz	300Hz	1kHz	10kHz	$\geq$ 50kHz
$\leq 50$	0.90	1.00	1.07	1.15	1.15	1.15
63~100	0.90	1.00	1.17	1.32	1.45	1.50
$\geq 160$	0.80	1.00	1.16	1.30	1.41	1.45

## Temperature Coefficient

Temperature(°C)		+40	+55	+70	+85
coefficient	$< 160V$	2.1	1.8	1.5	1.0
	$\geq 160V$	1.7	1.5	1.3	1.0

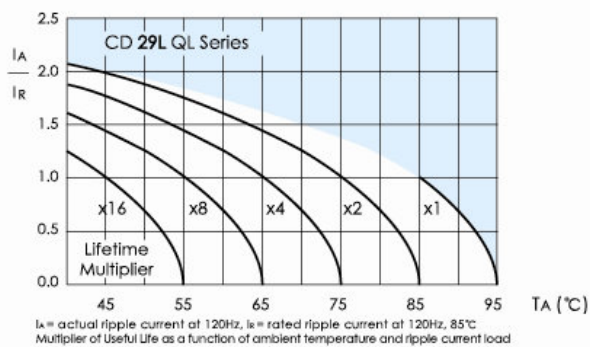
## Dimensions

mm

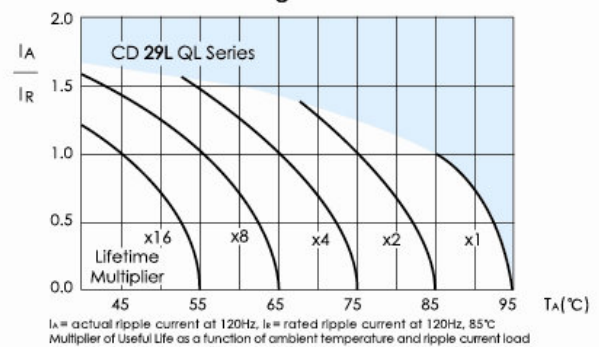


## Lifetime Diagram

Lifetime Diagram  $U_r < 160V$



Lifetime Diagram  $U_r \geq 160V$



U <sub>R</sub> (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120kHz	Size ΦDxL
(v)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)
16 (20) 1C	56000	14	10	10.4	30x45
		14	10	9.8	40x40
	68000	12	8	10.8	35x50
		12	8	11.5	40x50
	82000	10	7	11.8	35x60
		10	7	11.8	40x50
	100000	8	6	13.2	35x80
		8	6	13.5	40x60
	120000	7	5	15.3	35X105
		7	5	14.8	40x80
25 (32) 1E	33000	20	14	8.1	35x40
		20	14	8.7	40x40
	39000	17	12	9.0	35x45
		17	12	9.6	40x40
	47000	14	10	9.6	35X50
		12	8	10.3	35x60
	56000	12	8	10.8	40x50
		10	7	11.3	35x80
	68000	10	7	11.8	40x60
		8	6	13.5	40x80
35 (44) 1V	27000	20	14	8.2	35X45
		20	14	8.0	40x40
	33000	16	11	8.7	35X50
		14	10	10.3	35x60
	39000	14	10	9.6	40x50
		11	8	11.4	35x80
	47000	11	8	10.8	40x60
		10	7	12.1	40x70
	68000	8	6	14.2	40x80
		50 (63) 1H	15000	27	19
27	19			8.1	40x40
18000	22		16	8.3	35x45
	22		16	8.3	40x40
22000	18		13	9.1	35x50
	18		13	9.4	40x50
27000	15		10	11.2	35x80
	15		10	10.8	40x60
33000	12		8	13.4	35X80
	12		8	13.4	40x70
39000	10	7	15.5	40x80	
	63 (79) 1J	12000	22	16	8.7
22			16	8.6	40x40
15000		18	12	10.2	35X70
		18	12	9.5	40x50
18000		15	10	11.2	35X80
		15	10	10.7	40x60
27000	10	7	12.7	40x80	
80 (100) 1K	8200	32	23	6.9	35x50
		27	19	8.7	35X60
	12000	22	16	9.7	35X70
		22	16	9.0	40x50
	15000	18	12	10.5	35x80
		18	12	10.2	40x60
18000	15	10	12.3	40x80	

### Ratings for CD 29L QL Series

U <sub>R</sub> (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120kHz	Size ΦDxL
(v)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)
100 (125) 2A	5600	47	33	7.0	35x45
		47	33	7.4	40x40
	6800	39	27	8.0	35x50
		39	27	8.9	40x50
	8200	32	23	9.6	35X70
		32	23	9.6	40x60
	10000	27	19	10.4	35X80
		27	19	10.2	40x60
		22	16	12.3	40x80
	160 (200) 2C	2200	91	63	4.9
2700		74	52	5.3	35X50
3300		60	42	5.5	35X70
		60	42	5.5	40X60
3900		51	36	5.9	35X80
4700		42	30	7.3	40X80
200 (250) 2D	1500	133	93	4.3	35X40
	1800	111	77	4.7	35X45
	2200	91	63	5.4	35X50
		91	63	5.4	40X40
	2700	74	52	5.9	35X60
		74	52	5.9	40X50
250 (300) 2E	3300	60	42	6.5	35X80
	3900	51	36	7.0	40X80
	4700	42	30	9.2	40X90
	1000	199	139	3.7	35X40
	1200	166	116	3.8	35X45
	1500	133	93	4.4	35X50
133		93	4.5	40X40	
1800	111	77	5.0	35X70	
	111	77	5.0	40X50	
2200	91	63	5.4	35X70	
2700	74	52	6.9	40X80	
350 (400) 2V	680	293	205	3.6	35X45
		293	205	3.6	40X40
	820	243	170	4.5	35X60
		243	170	4.3	40X50
	1000	199	139	5.2	35X70
		199	139	4.9	40X60
	1200	166	116	5.5	35X80
		166	116	5.6	40X70
	1500	133	93	6.5	40X80
		133	93	6.2	45X70
1800	111	77	7.9	40X100	
	111	77	7.1	45X70	
2200	91	63	8.7	40x100	

U <sub>R</sub> (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120kHz	Size ΦDxL
(v)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)
400 (450) 2G	560	355	249	3.2	35X50
		355	249	2.8	40X40
	680	293	205	3.7	35X60
		293	205	3.8	40X50
	820	243	170	4.2	35X60
		243	170	4.1	40X50
	1000	199	139	4.9	35X70
		199	139	4.8	40X60
		199	139	4.6	45X50
	1200	166	116	5.8	35X80
166		116	5.5	40X60	
1500	133	93	6.9	40X90	
	133	93	6.6	45X70	
	133	93	6.8	45X80	
1800	111	77	7.9	40x100	
	111	77	7.3	45X80	
2200	91	63	8.8	40X110	
	91	63	8.3	45X90	
450 (500) 2W	470	424	296	3.0	35X50
		424	296	3.0	40x40
	560	355	249	3.1	35X50
		355	249	3.3	35X60
		355	249	3.4	40X50
	680	293	205	3.5	35X60
		293	205	3.8	35X70
		293	205	3.8	40X60
	820	243	170	4.6	35X80
		243	170	4.4	40X60
1000	199	139	5.7	35X80	
	199	139	5.2	40X60	
1200	166	116	5.9	40X70	
	166	116	6.2	45X70	
	133	93	7.3	40X100	
1500	133	93	7.0	45X80	
	111	77	7.9	45X100	
500 (550) 2H	390	510	357	1.9	35X50
		424	296	2.3	35X60
	470	355	249	2.5	35X60
		355	249	2.7	40X60
	680	293	205	3.1	35X80
		293	205	2.8	40X70
	820	243	170	3.4	35X90
		243	170	3.3	40X70
	1000	199	139	3.9	40X80
		199	139	3.9	45X70
1200	166	116	4.3	40X90	
1500	133	93	4.8	40X100	