



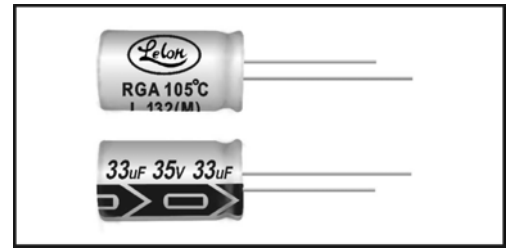
Aluminum Electrolytic Capacitors

RG/RGA

CE04 Type

Features

- 105°C, for general purpose, standard series



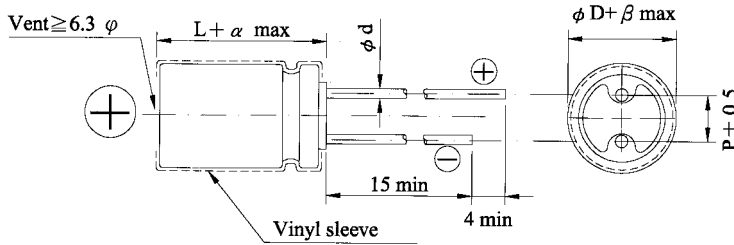
SPECIFICATIONS

Items	Performance																
	RG	RGA															
Life	1000Hrs, at 105°C	2000Hrs, at 105°C															
Operating Temperature Range	-40°C ~ +105°C																
Capacitance Tolerance	±20% (at 120Hz, 20°C)																
Leakage Current (at 20°C)	Rated voltage	≤ 100V	> 100V														
	Time	after 2 minutes	after 5 minutes														
	Leakage Current	I = 0.01CV or 3 (µA) whichever is greater		CV ≤ 1000 I = 0.03CV + 15 (µA)													
				CV > 1000 I = 0.02CV + 25 (µA)													
Where, C = rated capacitance in µF. V = rated DC working voltage in V.																	
Dissipation Factor (Tan δ at 120 Hz, 20°C)	Rated Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450		
	Tan δ (max)	0.23	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.12	0.14	0.17	0.20	0.25	0.25		
When the capacitance exceeds 1000 µF, 0.02 shall be added every 1000 µF increase.																	
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below.																
	Rated Voltage		6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	Impedance Ratio	Z(-25°C)	φ D < 16	4	3	3	2	2	2	2	2	3	6	8	12	14	16
		/Z(+20°C)	φ D ≥ 16	6	4	4	3	3	3	3	3	4	8	10	10	10	10
Ratio	Z(-40°C)	φ D < 16	8	6	6	4	4	4	3	3	4	8	10	10	10	10	
	/Z(+20°C)	φ D ≥ 16	12	10	8	8	8	8	6	6	4	8	10	10	10	10	
Load Life Test	Test Time	1000 / 2000 Hrs															
	Capacitance Change	Within ±20% of initial value															
	Dissipation Factor	Less than 200% of specified value															
	Leakage Current	Within specified value															
* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 1000/2000 hrs at 105°C.																	
Shelf Life Test	Test Time	1000 hrs															
	Capacitance Change	Within ±20% of initial value															
	Dissipation Factor	Less than 200% of specified value															
	Leakage Current	Within specified value															
* The above specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hrs at 105°C without voltage applied.																	
Ripple Current & Frequency Multipliers	Freq.(Hz)		60	120	500	1K	10K up										
	Cap.(µF)	Under 100	0.70	1.00	1.30	1.40	1.50										
		100 to 1000	0.75	1.00	1.20	1.30	1.35										
		1000 up above	0.80	1.00	1.10	1.12	1.15										
Ripple Current & Temperature Multipliers	Temperature(°C)	85					105										
	Multiplier	1.40					1.00										
Standards	Satisfies Characteristic W of JIS C 5141																

CE04 Type

DIAGRAM OF DIMENSIONS

Unit: mm



LEAD SPACING AND DIAMETER

ϕD	5	6.3	8	10	13	16	18	22	25
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10	12.5
ϕd	0.5		0.6			0.8		1.0	
α	1.0			1.5			2.0		
β	0.5								

Dimension: $\phi D \times L$ (mm)

Ripple Current: mA/rms at 120 Hz, 105°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

μF	V. DC Contents	6.3V(0J)				10V(1A)				16V(1C)				25V(1E)			
		$\phi D \times L$	mA	* $\phi D \times L$	mA	$\phi D \times L$	mA	* $\phi D \times L$	mA	$\phi D \times L$	mA	* $\phi D \times L$	mA	$\phi D \times L$	mA	* $\phi D \times L$	mA
4.7	4R7																
10	100									5 × 11	35			5 × 11	43		
22	220					5 × 11	49			5 × 11	58			5 × 11	62		
33	330	5 × 11	54			5 × 11	60			5 × 11	71			5 × 11	76		
47	470	5 × 11	65			5 × 11	76			5 × 11	85			5 × 11	97		
100	101	5 × 11	95			5 × 11	105			6.3 × 11	133	5 × 11	110	6.3 × 11	142		
220	221	6.3 × 11	160	5 × 11	140	6.3 × 11	175			8 × 11.5	215	6.3 × 11	190	8 × 11.5	236		
330	331	8 × 11.5	195	6.3 × 11	190	8 × 11.5	245	6.3 × 11	200	8 × 11.5	270			10 × 12.5	335	8 × 11.5	310
470	471	8 × 11.5	270	6.3 × 11	230	8 × 11.5	290			10 × 12.5	370	8 × 11.5	310	10 × 16	440	10 × 12.5	380
1000	102	10 × 12.5	460	8 × 11.5	380	10 × 16	550	10 × 12.5	460	10 × 20	640	10 × 16	560	13 × 20	770	10 × 20	680
2200	222	10 × 20	810			13 × 20	860	10 × 20	760	13 × 25	1000	13 × 20	920	16 × 25	1170	13 × 25	1110
3300	332	13 × 20	960	10 × 20	840	13 × 20	1100			16 × 25	1300	13 × 25	1170	16 × 31.5	1460	16 × 25	1440
4700	472	16 × 25	1330	13 × 20	1090	16 × 25	1400	13 × 25	1260	16 × 31.5	1600	16 × 25	1480	18 × 35.5	1780	16 × 31.5	1710
6800	682	16 × 25	1640	13 × 25	1460	16 × 31.5	1880	16 × 25	1690	18 × 35.5	2170	16 × 31.5	1930	18 × 40	2280	18 × 35.5	2160
10000	103	16 × 31.5	2200	16 × 25	1990	18 × 35.5	2560	16 × 35.5	2400	18 × 40	2780	18 × 35.5	2640				
22000	223	18 × 40	3270														

μF	V. DC Contents	35V(1V)				50V(1H)				63V(1J)				100V(2A)			
		$\phi D \times L$	mA	* $\phi D \times L$	mA	$\phi D \times L$	mA	* $\phi D \times L$	mA	$\phi D \times L$	mA	* $\phi D \times L$	mA	$\phi D \times L$	mA	* $\phi D \times L$	mA
0.1	OR1					5 × 11	3.2			5 × 11	3.5			5 × 11	4		
0.22	R22					5 × 11	4.9			5 × 11	5.1			5 × 11	6		
0.33	R33					5 × 11	6			5 × 11	7.5			5 × 11	8		
0.47	R47					5 × 11	7.1			5 × 11	9			5 × 11	9		
1	010					5 × 11	13			5 × 11	15			5 × 11	15		
2.2	2R2					5 × 11	20			5 × 11	30			5 × 11	30		
3.3	3R3					5 × 11	30			5 × 11	31			5 × 11	31		
4.7	4R7	5 × 11	30			5 × 11	33			5 × 11	36			6.3 × 11	40		
10	100	5 × 11	46			5 × 11	50			5 × 11	54			8 × 11.5	66	6.3 × 11	54
22	220	5 × 11	71			5 × 11	78			6.3 × 11	86			8 × 11.5	99	6.3 × 11	93
33	330	6.3 × 11	90	5 × 11	75	6.3 × 11	96	5 × 11	90	8 × 11.5	114	6.3 × 11	100	10 × 12.5	148	8 × 11.5	130
47	470	6.3 × 11	110	5 × 11	90	6.3 × 11	130			8 × 11.5	141	6.3 × 11	120	10 × 16	180	10 × 12.5	165
100	101	8 × 11.5	180	6.3 × 11	150	8 × 11.5	188			10 × 12.5	235			13 × 20	320	10 × 20	265
220	221	10 × 12.5	300	8 × 11.5	270	10 × 20	355	10 × 16	300	10 × 20	450	10 × 16	335	16 × 25	570	13 × 25	440
330	331	10 × 16	400	10 × 12.5	350	10 × 20	460	10 × 16	410	13 × 20	540	10 × 20	510	16 × 31.5	700	16 × 25	540
470	471	10 × 20	520	10 × 16	460	13 × 25	610	10 × 20	530	13 × 25	720	13 × 20	640	18 × 35.5	880	16 × 31.5	715
1000	102	13 × 25	920	13 × 20	810	16 × 25	1080	13 × 25	950	16 × 31.5	1210	16 × 25	930	22 × 40	1760	18 × 40	985
2200	222	16 × 31.5	1340	16 × 25	1260	18 × 35.5	2120	16 × 35.5	1470	18 × 40	2340						
3300	332	18 × 35.5	1650	16 × 35.5	1610	22 × 40	2290	18 × 35.5	1770	22 × 40	2510						
4700	472	18 × 40	1920	18 × 35.5	1900	25 × 40	2610	22 × 40	2340	25 × 40	3000						

Case size in mark of "*" is smaller.



Aluminum Electrolytic Capacitors

RG/RGA

CE04 Type

Dimension: $\varphi D \times L(\text{mm})$

Ripple Current: mA/rms at 120 Hz, 105°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V. DC		160V(2C)				200V(2D)				250V(2E)			
μF	Contents	$\varphi D \times L$	mA	* $\varphi D \times L$	mA	$\varphi D \times L$	mA	* $\varphi D \times L$	mA	$\varphi D \times L$	mA	* $\varphi D \times L$	mA
0.47	R47	6.3 × 11	13	5 × 11	11	6.3 × 11	14	5 × 11	12	8 × 11.5	18		
1	010	6.3 × 11	20	5 × 11	17	6.3 × 11	21	5 × 11	18	8 × 11.5	27		
2.2	2R2	6.3 × 11	29	5 × 11	25	8 × 11.5	37	6.3 × 11	30	8 × 11.5	41	6.3 × 11	35
3.3	3R3	8 × 11.5	42	6.3 × 11	36	8 × 11.5	45	6.3 × 11	39	10 × 12.5	59	8 × 11.5	50
4.7	4R7	8 × 11.5	50	6.3 × 11	43	10 × 12.5	64	8 × 11.5	54	10 × 16	93	8 × 11.5	60
10	100	10 × 16	96	10 × 12.5	87	10 × 20	115	10 × 12.5	94	10 × 20	150	10 × 16	115
22	220	13 × 20	180	10 × 20	158	13 × 20	195	10 × 20	170	13 × 20	255	10 × 20	215
33	330	13 × 20	225	10 × 20	190	13 × 25	265	13 × 20	240	13 × 25	348	13 × 20	315
47	470	13 × 25	295	13 × 20	265	16 × 25	355	13 × 25	315	16 × 25	468	13 × 25	350
100	101	16 × 25	485	13 × 25	425	16 × 35.5	565	16 × 25	485	18 × 40	685	16 × 35.5	610
220	221	18 × 35.5	750	16 × 31.5	660	18 × 40	885	18 × 35.5	835	22 × 40	945		
330	331	18 × 40	865	18 × 35.5	820								

V. DC		350V(2V)				400V(2G)				450V(2W)			
μF	Contents	$\varphi D \times L$	mA	* $\varphi D \times L$	mA	$\varphi D \times L$	mA	* $\varphi D \times L$	mA	$\varphi D \times L$	mA	* $\varphi D \times L$	mA
0.47	R47	8 × 11.5	18	6.3 × 11	16	10 × 12.5	22	8 × 11.5	18	10 × 12.5	22	8 × 11.5	18
1	010	8 × 11.5	27	6.3 × 11	23	10 × 12.5	32	8 × 11.5	27	10 × 12.5	32	8 × 11.5	27
2.2	2R2	10 × 16	53	8 × 11.5	41	10 × 16	53	10 × 12.5	48	10 × 16	53	10 × 12.5	48
3.3	3R3	10 × 16	65	10 × 12.5	59	10 × 20	72	10 × 16	65	10 × 20	72	10 × 16	65
4.7	4R7	10 × 20	86	10 × 16	78	13 × 20	100	10 × 20	86	13 × 20	100	10 × 20	86
10	100	13 × 20	145	10 × 20	125	13 × 25	160	13 × 20	145	13 × 25	160	13 × 20	145
22	220	13 × 25	235	13 × 20	210	16 × 25	265	13 × 25	235	16 × 25	265		
33	330	16 × 31.5	365	16 × 25	325	18 × 35.5	355	16 × 31.5	315	18 × 35.5	355	16 × 31.5	315
47	470	16 × 35.5	415	16 × 31.5	395	18 × 35.5	445	16 × 35.5	345	18 × 40	470	16 × 35.5	345
100	101	18 × 40	575			22 × 40	595			22 × 45	625		

Case size in mark of "*" is smaller.

※Low-Profile Size

V. DC		6.3V(0J)		10V(1A)		16V(1C)		25V(1E)		35V(1V)		50V(1H)	
μF	Contents	$\varphi D \times L$	mA	$\varphi D \times L$	mA	$\varphi D \times L$	mA	$\varphi D \times L$	mA	$\varphi D \times L$	mA	$\varphi D \times L$	mA
470	471											16 × 16	535
1000	102							13 × 16	590	16 × 16	720	16 × 20	830
2200	222			13 × 16	690	16 × 16	830	16 × 20	970	18 × 20	1110		
3300	332			16 × 16	940	16 × 20	1050	18 × 20	1220	18 × 25	1570		
4700	472	16 × 16	1010	16 × 20	1120	18 × 20	1260	18 × 25	1470				
6800	682	16 × 20	1190	18 × 20	1330	18 × 25	1560						
10000	103	18 × 20	1440	18 × 25	1700								

V. DC		160V(2C)		200V(2D)		250V(2E)	
μF	Contents	$\varphi D \times L$	mA	$\varphi D \times L$	mA	$\varphi D \times L$	mA
22	220					13 × 16	200
33	330			16 × 16	250	16 × 16	250
47	470	16 × 16	300	16 × 20	300	16 × 20	300
68	680	16 × 20	350	18 × 20	350	18 × 20	350
100	101	18 × 20	420	18 × 25	420		
150	151	18 × 25	510				