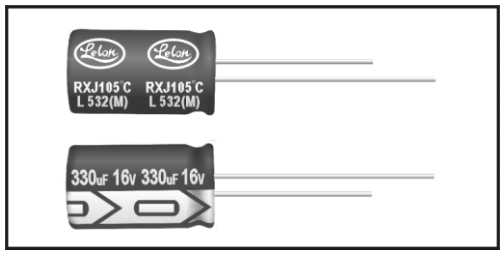
CE04 Type

Features
- 105℃, 2000 ~ 5000 hours assured
- Low ESR, suitable for switching power supplies
- Smaller size with large permissible ripple current



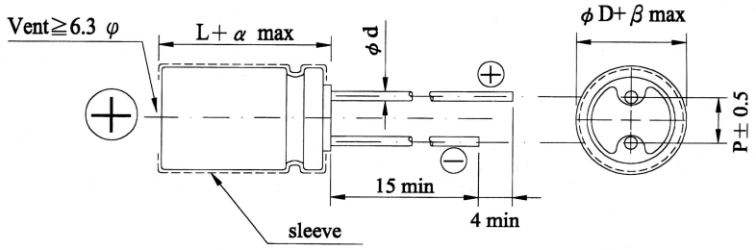
SPECIFICATIONS

Items	Performance
Operating Temperature Range	-55℃ ~ +105℃
Capacitance Tolerance	±20% (at 120Hz, 20℃)
Leakage Current (at 20℃)	I = 0.01CV or 3 (μA) whichever is greater (after 2 minutes) Where, C= rated capacitance in μF. V = rated DC working voltage in V.
Dissipation Factor (Tan δ at 120Hz, 20℃)	Rated Voltage: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 Tan δ (max): 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.08 / 0.05 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. Impedance Ratio — Rated Voltage: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 Z(-55℃)/Z(+20℃): 4 / 4 / 3 / 3 / 3 / 3 / 3 / 3
Load Life Test	Test Time: 2000 hrs for φD = 5 ~ 8 mm; 5000 hrs for φD ≧ 10 mm 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℃after the rated voltage applied with rated ripple current for 2000/5000 hrs at 105℃.
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℃after exposing them for 1000 hrs at 105℃ without voltage applied.
Ripple Current & Frequency Multipliers	Freq.(Hz) / Cap.(μF): 60 (50) / 120 / 500 / 1K / 10K / 100K Under 33: 0.40 / 0.55 / 0.65 / 0.80 / 0.90 / 1.00 39 to 330: 0.60 / 0.70 / 0.80 / 0.90 / 0.95 / 1.00 390 to 1000: 0.65 / 0.80 / 0.85 / 0.98 / 1.00 / 1.00 1200 up above: 0.80 / 0.90 / 0.95 / 0.98 / 1.00 / 1.00
Other Standards	JIS C 5101-4

CE04 Type

DIAGRAM OF DIMENSIONS

Unit: mm



LEAD SPACING AND DIAMETER

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

Dimension: φD × L(mm)

DIMENSION & PERMISSIBLE RIPPLE CURRENT

Ripple Current: mA/rms at 100 K Hz, 105°C

V.DC / Item / μF	6.3V (0J)					10V (1A)				
	φD×L	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105℃)		φD×L	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105℃)	
		20℃	-10℃	120Hz	100KHz		20℃	-10℃	120Hz	100KHz
47						5×11	2.10	5.50	78	111
56						5×11	1.90	4.80	85	121
68						5×11	1.30	3.90	108	154
100	5×11	1.30	3.90	108	154	6.3×11	0.60	1.80	182	260
220	6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	280	400
330	8×11.5	0.33	0.88	280	400	8×11.5	0.33	0.99	280	400
390	8×11.5	0.33	0.88	320	400	10×12.5	0.27	0.75	410	510
470	10×12.5	0.25	0.75	410	510	10×12.5	0.25	0.75	410	510
560	10×12.5	0.25	0.75	410	510	10×16	0.19	0.57	510	635
680	10×16	0.19	0.57	510	635	10×16	0.19	0.57	510	635
1000	10×20	0.14	0.42	690	860	10×20	0.14	0.37	690	860
1200	10×20	0.14	0.42	775	860	10×25	0.12	0.30	930	1030
2200	12.5×20	0.085	0.26	1125	1250	12.5×25	0.070	0.21	1200	1355
3300	12.5×25	0.070	0.21	1200	1355	12.5×25	0.070	0.21	1200	1355
4700	16×25	0.060	0.18	1595	1770	16×31.5	0.048	0.14	1830	2030

V.DC / Item / μF	16V (1C)					25V (1E)				
	φD×L	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105℃)		φD×L	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105℃)	
		20℃	-10℃	120Hz	100KHz		20℃	-10℃	120Hz	100KHz
33	5×11	1.30	3.90	108	154	5×11	1.30	3.90	108	154
39	5×11	1.30	3.90	108	154	6.3×11	0.60	1.80	182	260
47	6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260
56	6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260
68	6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260
100	6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	320	400
220	8×11.5	0.33	0.99	320	400	10×12.5	0.25	0.75	360	510
330	10×12.5	0.25	0.75	360	510	10×16	0.19	0.57	445	635
390	10×16	0.19	0.57	510	635	10×20	0.14	0.42	775	965
470	10×16	0.19	0.57	510	635	10×20	0.14	0.42	775	965
560	10×20	0.14	0.42	775	860	10×25	0.12	0.30	930	1030
680	10×20	0.14	0.42	775	860	12.5×20	0.085	0.26	1000	1250
1000	12.5×20	0.085	0.26	1000	1250	12.5×25	0.070	0.23	1080	1355
1200	12.5×20	0.085	0.26	1125	1250	12.5×25	0.070	0.21	1200	1355
2200	12.5×25	0.070	0.21	1200	1355	16×25	0.060	0.18	1595	1770
3300	16×31.5	0.048	0.14	1830	2030	16×35.5	0.044	0.13	2065	2295
4700	16×35.5	0.044	0.13	2065	2295	18×40	0.037	0.10	2465	2740

CE04 Type

Dimension: φD×L(mm)
Ripple Current: mA/rms at 100K Hz, 105℃

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC / Item / μF	35V (1V)					50V (1H)				
	φD×L	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105℃)		φD×L	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105℃)	
		20℃	-10℃	120Hz	100KHz		20℃	-10℃	120Hz	100KHz
1						5×11	5.0	15.0	43	78
2.2						5×11	4.0	12.0	48	88
3.3						5×11	3.50	11.0	52	94
4.7						5×11	3.00	9.00	55	100
6.8						5×11	3.00	9.00	55	100
10						5×11	2.00	6.00	68	124
22	5×11	1.30	3.90	108	154	6.3×11	0.60	1.80	143	260
33	6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	143	260
39	6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260
47	6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	320	400
56	6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	320	400
68	6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	320	400
100	8×11.5	0.33	0.99	320	400	10×16	0.19	0.57	445	635
220	10×16	0.19	0.57	445	635	10×25	0.12	0.30	825	1030
330	10×20	0.12	0.42	600	860	12.5×20	0.085	0.26	875	1250
390	10×25	0.12	0.30	930	1030	12.5×25	0.070	0.21	1085	1355
470	12.5×20	0.085	0.26	1000	1250	12.5×25	0.070	0.21	1085	1355
560	12.5×20	0.085	0.26	1000	1250	12.5×25	0.070	0.21	1085	1355
680	12.5×25	0.070	0.21	1085	1355	16×25	0.060	0.18	1415	1770
1000	12.5×25	0.070	0.21	1085	1355	16×25	0.060	0.18	1595	1770
1200	12.5×25	0.070	0.21	1200	1355	16×31.5	0.048	0.14	1830	2030
2200	16×35.5	0.044	0.13	2065	2295	18×40	0.037	0.10	2465	2740
3300	18×40	0.037	0.10	2465	2740					

V.DC / Item / μF	63V (1J)					100V (2A)				
	φD×L	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105℃)		φD×L	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105℃)	
		20℃	-10℃	120Hz	100KHz		20℃	-10℃	120Hz	100KHz
1						5×11	7.0	25.0	36	66
2.2						5×11	6.00	21.0	40	72
3.3						5×11	5.00	18.0	43	78
4.7						6.3×11	1.20	4.20	100	180
6.8						6.3×11	1.20	4.20	100	180
10	6.3×11	1.20	4.20	100	180	8×11.5	0.56	2.00	168	305
22	6.3×11	1.20	4.20	100	180	8×11.5	0.56	2.00	168	308
33	8×11.5	0.56	2.00	170	305	10×12.5	0.50	1.80	210	380
39	8×11.5	0.56	2.00	170	305	10×16	0.32	1.10	350	500
47	8×11.5	0.56	2.00	170	305	10×20	0.27	0.95	435	620
56	10×12.5	0.50	1.80	265	380	10×20	0.27	0.95	435	620
68	10×12.5	0.50	1.80	265	380	10×25	0.21	0.63	530	760
100	10×20	0.27	0.95	435	620	12.5×20	0.16	0.56	625	890
220	12.5×20	0.094	0.24	570	820	16×25	0.090	0.32	1010	1440
330	12.5×25	0.073	0.21	770	1100	16×31.5	0.060	0.17	1255	1790
390	12.5×25	0.073	0.21	770	1100	16×35.5	0.056	0.14	1650	2065
470	16×25	0.060	0.18	1420	1770					
560	16×31.5	0.048	0.14	1625	2030					
680	16×31.5	0.048	0.14	1625	2030					
1000	18×35.5	0.041	0.11	1790	2240					