Standard Capacitors

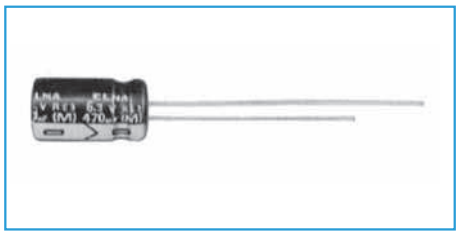
GREEN CAP | Anti-cleaning solvent 250V Max.

• Guarantees 2000 hours at 85℃.

RJ4

↑ High temperature

RE3



Marking color : White print on a blue sleeve

Specifications

Item	Performance
Category temperature range (℃)	−40 to +85
Tolerance at rated capacitance (%)	±20 (20℃,120Hz)

Leakage current (μA)

Rated voltage (V)	6.3 to 100	160 to 450
Leakage current (μA)	Less than 0.03CV or 4 whichever is larger (after 1 minute) Less than 0.01CV or 3 whichever is larger (after 2 minutes)	CV≦1000 : Less than 0.1CV+40 (after 1 minute) CV>1000 : Less than 0.04CV+100 (after 1 minute)

C : Rated capacitance (μF) V: Rated voltage (V) (20℃)

Tangent of loss angle (tanδ)

Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450
tanδ (max.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.20	0.20	0.24	0.24	0.24	0.24

0.02 is added to every 1000μF increase over 1000μF. (20℃,120Hz)

Characteristics at high and low temperature

Rated voltage (V)		6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450
Impedance ratio (max.)	Z−25℃/Z+20℃	5	4	3	2	2	2	2	2	4	4	4	4	4	4	4
	Z−40℃/Z+20℃	12	10	8	5	4	3	3	3	15	15	15	10	10	10	10

(120Hz)

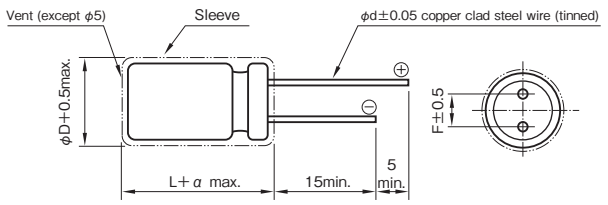
Endurance (85℃) (Applied ripple current)

Test time	2000 hours
Leakage current	The initial specified value or less
Percentage of capacitance change	Within ±20% of initial value
Tangent of the loss angle	200% or less of the initial specified value

Shelf life (85℃)	Test time : 1000 hours ; other items are the same as those for the endurance. Voltage application treatment : According to JIS C5101 -1
Applicable standards	JIS C5101-1, -4 1998 (IEC 60384-1 1992, -4 1985)

Outline Drawing

Unit : mm



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

Coefficient of Frequency for Rated Ripple Current

Rated voltage (V)	Frequency (Hz) / CV (μF×WV)	50・60	120	1k	10k	100k
6.3 to 16	All CV value	0.8	1	1.1	1.2	1.2
25 to 35	≦1000	0.8	1	1.5	1.7	1.7
	1000<	0.8	1	1.2	1.3	1.3
50 to 100	≦1000	0.8	1	1.6	1.9	1.9
	1000<	0.8	1	1.2	1.3	1.3
160 to 450	All CV value	0.8	1	1.3	1.5	1.6

Part numbering system (example : 16V1000μF)

RE3	—	16	V	102	M	H4	#	⬚	—	⬚
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol		Optional symbol		Taping(Forming) symbol

Casing symbol

Size φD×L (mm)	Casing Symbol	Size φD×L (mm)	Casing Symbol
5×11	E3	12.5×25	I6
6.3×11	F3	16×25	J6
8×11.5	G3	16×31.5	J7
10×12.5	H3	16×35.5	J8
10×16	H4	18×31.5	K7
10×20	H5	18×35.5	K8
12.5×20	I5	18×40	K9

NOTE : Design, Specifications are subject to change without notice.
It is recommended that you shall obtain technical specifications from ELNA to ensure that the component is suitable for your use.

Standard Ratings

Rated voltage (V) / Item / Rated capacitance (μF)	6.3			10			16			25			35			50			63			100		
	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5×11	199	21	—	—	—	5×11	133	21
2.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5×11	90.5	31	—	—	—	5×11	60.3	30
3.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5×11	60.3	38	—	—	—	5×11	40.2	40
4.7	—	—	—	—	—	—	—	—	—	5×11	56.5	38	5×11	49.4	40	5×11	42.3	45	5×11	35.3	45	5×11	28.2	45
10	—	—	—	—	—	—	5×11	33.2	50	5×11	26.5	55	5×11	23.2	59	5×11	19.9	66	5×11	16.6	66	6.3×11	13.3	75
22	—	—	—	—	—	—	5×11	15.1	75	5×11	12.1	82	5×11	10.6	87	5×11	9.1	98	5×11	7.5	100	6.3×11	6.0	130
33	—	—	—	—	—	—	5×11	10.1	92	5×11	8.0	100	5×11	7.0	107	5×11	6.0	126	6.3×11	5.0	140	8×11.5	4.0	180
47	—	—	—	5×11	8.5	99	5×11	7.1	110	5×11	5.7	118	5×11	4.9	130	6.3×11	4.2	155	6.3×11	3.5	170	10×12.5	2.8	230
100	—	—	—	5×11	3.8	146	5×11	3.3	160	6.3×11	2.7	199	6.3×11	2.3	214	8×11.5	2.0	260	10×12.5	1.7	300	10×20	1.3	370
220	5×11	2.1	200	6.3×11	1.8	240	6.3×11	1.5	264	8×11.5	1.2	349	10×12.5	1.1	443	10×12.5	0.91	443	10×16	7.54	470	12.5×20	0.60	620
330	6.3×11	1.4	270	6.3×11	1.2	290	8×11.5	1.0	383	10×12.5	0.81	510	10×12.5	0.70	542	10×16	0.60	595	10×20	0.50	710	12.5×25	0.40	760
470	6.3×11	0.99	322	8×11.5	0.85	417	8×11.5	0.71	457	10×12.5	0.57	545	10×16	0.49	664	12.5×20	0.42	887	12.5×20	0.35	900	16×25	0.28	1000
1000	8×11.5	0.47	546	10×12.5	0.40	650	10×16	0.33	791	10×20	0.27	996	12.5×20	0.23	1210	12.5×25	0.20	1400	16×25	0.17	1300	18×40	0.13	1380
2200	10×20	0.23	1010	10×20	0.20	1080	12.5×20	0.17	1350	12.5×25	0.14	1660	16×25	0.12	1950	16×35.5	0.11	2340	—	—	—	—	—	—
3300	10×20	0.16	1230	12.5×20	0.14	1430	12.5×25	0.12	1690	16×25	0.10	2030	16×35.5	0.090	2510	18×35.5	0.080	2810	—	—	—	—	—	—
4700	12.5×20	0.12	1710	12.5×25	0.11	1780	16×25	0.092	2100	16×31.5	0.078	2650	18×35.5	0.071	2990	—	—	—	—	—	—	—	—	—
6800	12.5×25	0.093	1930	16×25	0.083	2200	16×35.5	0.073	2580	18×35.5	0.063	3290	—	—	—	—	—	—	—	—	—	—	—	—
10000	16×25	0.076	2450	16×35.5	0.070	2700	18×35.5	0.063	3130	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15000	16×35.5	0.062	2860	18×35.5	0.058	3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
22000	18×40	0.053	3340	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Rated voltage (V) / Item / Rated capacitance (μF)	160			200			250			315			350			400			450		
	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (Ω)	Rated ripple current (mArms)
0.47	6.3×11	706	15	6.3×11	706	15	6.3×11	706	15	6.3×11	847	15	6.3×11	847	15	6.3×11	847	15	8×11.5	847	18
1	6.3×11	332	22	6.3×11	332	22	6.3×11	332	22	6.3×11	398	22	6.3×11	398	22	6.3×11	398	22	8×11.5	398	25
2.2	6.3×11	151	32	6.3×11	151	32	6.3×11	151	32	8×11.5	181	38	8×11.5	181	38	8×11.5	181	38	10×12.5	181	43
3.3	6.3×11	101	40	6.3×11	101	40	8×11.5	101	48	10×12.5	121	53	10×12.5	121	53	10×12.5	121	54	10×16	121	59
4.7	6.3×11	70.6	48	8×11.5	70.6	56	8×11.5	70.6	56	10×12.5	84.7	65	10×12.5	84.7	65	10×16	84.7	71	10×20	84.7	76
10	8×11.5	33.2	81	10×12.5	33.2	94	10×16	33.2	101	10×20	39.8	115	10×20	39.8	115	12.5×20	39.8	123	12.5×20	39.8	123
22	10×16	15.1	151	10×20	15.1	170	12.5×20	15.1	182	12.5×20	18.1	182	12.5×25	18.1	197	12.5×25	18.1	197	16×25	18.1	226
33	10×20	10.1	202	12.5×20	10.1	223	12.5×25	10.1	243	16×25	12.1	277	16×25	12.1	277	16×25	12.1	277	16×31.5	12.1	304
47	12.5×20	7.06	266	12.5×25	7.06	265	12.5×25	7.06	295	16×25	8.47	330	16×25	8.47	330	16×31.5	8.47	361	16×35.5	8.47	380
100	12.5×25	3.32	422	16×25	3.32	483	16×31.5	3.32	528	18×31.5	3.98	567	18×31.5	3.98	567	—	—	—	—	—	—
220	16×31.5	1.51	783	18×35.5	1.51	882	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
330	18×35.5	1.01	1080	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Note) Rated ripple current : 85℃, 120Hz ; ESR. : 20℃, 120Hz