

Standard Capacitors

GREEN
CAP

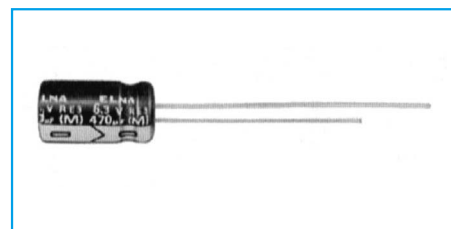
Anti-
cleaning
solvent
250V Max.

• Guarantees 2000 hours at 85°C.

RJ4

High temperature

RE3



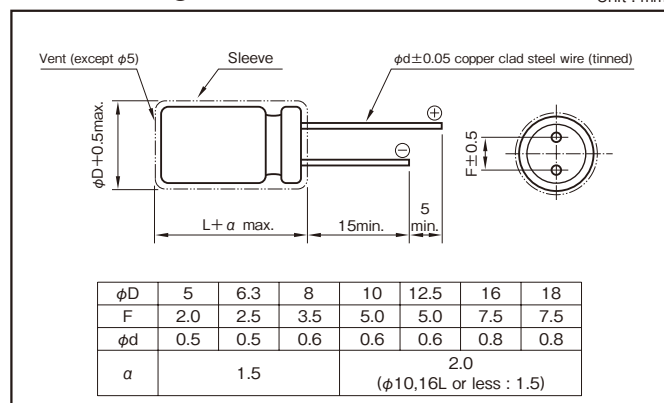
Marking color : White print on a blue sleeve

Specifications

Item	Performance
Category temperature range (°C)	−40 to +85
Tolerance at rated capacitance (%)	±20 (20°C, 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°C)
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 (20°C, 120Hz) 0.02 is added to every 1000μF increase over 1000μF.
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 Z−25°C/Z+20°C 5 4 3 2 2 2 2 2 4 4 4 4 4 4 4
	Z−40°C/Z+20°C 12 10 8 5 4 3 3 3 15 15 15 10 10 10 10 (120Hz)
Endurance (85°C) (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°C)	Test time : 1000 hours ; other items are the same as those for the endurance. Voltage application treatment
Applicable standards	JIS C5101-1, -4 1998 (IEC 60384-1 1992, -4 1985)

Outline Drawing

Unit : mm



Coefficient of Frequency for Rated Ripple Current

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

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	18×35.5	K8
10×20	H5	18×40	K9
12.5×20	I5		

NOTE

Design, Specifications are subject to change without notice.
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Standard Ratings

Rated voltage (V)	Item	6.3			10			16			25			35			50			63			100		
		Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current
		φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms
0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5×11	1990	3	—	—	—	5×11	1330	2.1	
0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5×11	905	6	—	—	—	5×11	603	4.7	
0.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5×11	603	9	—	—	—	5×11	402	7	
0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5×11	423	13	—	—	—	5×11	282	10	
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	9.05	98	5×11	7.54	100	6.3×11	6.03	130	
33	—	—	—	—	—	—	5×11	10.1	92	5×11	8.04	100	5×11	7.04	107	5×11	6.03	126	6.3×11	5.03	140	8×11.5	4.02	180	
47	—	—	—	5×11	8.47	99	5×11	7.06	110	5×11	5.65	118	5×11	4.94	130	6.3×11	4.23	155	6.3×11	3.53	170	10×12.5	2.82	230	
100	—	—	—	5×11	3.78	146	5×11	3.32	160	6.3×11	2.65	199	6.3×11	2.32	214	8×11.5	1.99	260	10×12.5	1.66	300	10×20	1.33	370	
220	5×11	2.11	200	6.3×11	1.81	240	6.3×11	1.51	264	8×11.5	1.21	349	10×12.5	1.06	443	10×12.5	0.905	443	10×16	7.54	470	12.5×20	0.603	620	
330	6.3×11	1.41	270	6.3×11	1.21	290	8×11.5	1.01	383	10×12.5	0.804	510	10×12.5	0.704	542	10×16	0.603	595	10×20	0.503	710	12.5×25	0.402	760	
470	6.3×11	0.988	322	8×11.5	0.847	417	8×11.5	0.706	457	10×12.5	0.565	545	10×16	0.494	664	12.5×20	0.423	887	12.5×20	0.353	900	16×25	0.282	1000	
1000	8×11.5	0.464	546	10×12.5	0.398	650	10×16	0.332	791	10×20	0.265	996	12.5×20	0.232	1210	12.5×25	0.199	1400	16×25	0.166	1300	18×40	0.133	1380	
2200	10×20	0.226	1010	10×20	0.196	1080	12.5×20	0.166	1350	12.5×25	0.136	1660	16×25	0.121	1950	16×35.5	0.106	2340	—	—	—	—	—	—	
3300	10×20	0.161	1230	12.5×20	0.141	1430	12.5×25	0.121	1690	16×25	0.101	2030	16×35.5	0.09	2510	18×35.5	0.08	2810	—	—	—	—	—	—	
4700	12.5×20	0.12	1710	12.5×25	0.106	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	0.07	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	160			200			250			315			350			400			450		
		Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current
		φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	mArms	φD×L (mm)	Ω	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) ESR : 20°C, 120Hz ; Rated ripple current : 85°C, 120Hz

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