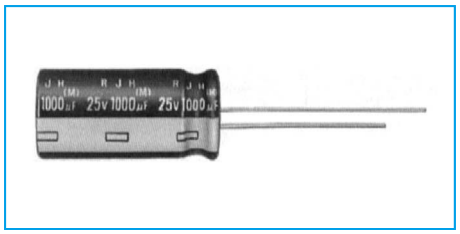
105°C Use, High-Reliability, Low Impedance Capacitors

GREEN CAP | Low Impedance | 105°C 5000hours | Anti-cleaning solvent

- The capacitor of this Series achieves high reliability under the environmental loading prevailing in a piece of equipment on which it is mounted.
- Guarantees 5000 hours at 105℃.
  (φ5 to 6.3 : 2000 hours ; φ8 to 10 : 3000 hours)

Low impedance

RJH ⇦ RJJ



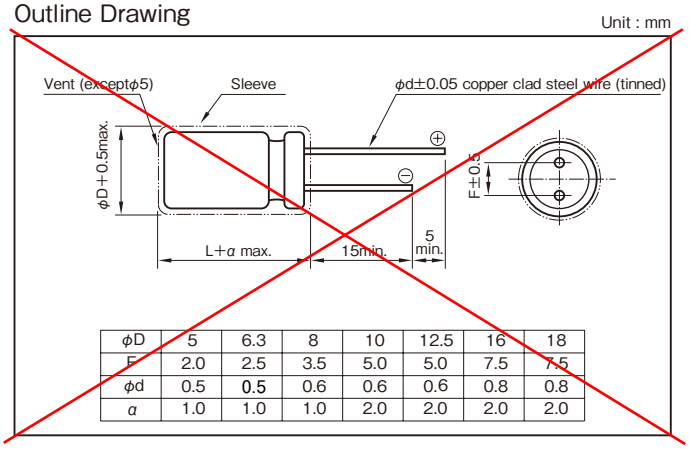
Marking color : White print on a black sleeve

Specifications

Item	Performance
Category temperature range (℃)	−55 to +105
Tolerance at rated capacitance (%)	±20 (20℃,120Hz)
Leakage current (μA)	Less than 0.01CV + 2 (after 2 minutes) 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 tanδ (max.): 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.08 / 0.07 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 Impedance ratio (max.) Z−25℃/Z+20℃: 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 Impedance ratio (max.) Z−55℃/Z+20℃: 3 / 3 / 3 / 3 / 3 / 3 / 3 / 3 (120Hz)
Endurance (105℃) (Applied ripple current)	Test time: 5000 hours (φ5 to 6.3 : 2000 hours) (φ8 to 10 : 3000 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 (105℃)	Test time: 1000 hours Leakage current: The initial specified value or less Percentage of capacitance change: Within ±15% of initial value Tangent of the loss angle: 150% or less of the initial specified value Voltage application treatment
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	1.0	1.0	1.0	2.0	2.0	2.0	2.0

See drawing last page

• The electric characteristics are described on page 142.

Coefficient of Frequency for Rated Ripple Current

Rated capacitance (μF) \ Frequency (Hz)	120	1k	10k	100k
0.47 to 4.7	0.40	0.68	0.78	1
5.6 to 47	0.50	0.76	0.87	1
56 to 270	0.70	0.85	0.90	1
330 to 1000	0.80	0.93	0.98	1
1200 to 15000	0.90	0.95	1	1

Part numbering system (example : 10V5600μF)

RJH	—	10	V	562	M	J7	#
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol	

NOTE
Design, Specifications are subject to change without notice.
Ask factory for technical specifications before purchase and/or use.

Standard Ratings

Rated voltage (V) / Item / Case φD×L (mm)	Casing symbol	6.3					10				
		Rated capacitance	ESR	Impedance Ω/100kHz		Rated ripple current	Rated capacitance	ESR	Impedance Ω/100kHz		Rated ripple current
		μF	Ω	20℃	−10℃	mArms	μF	Ω	20℃	−10℃	mArms
5×11.5	E3	100	3.65	0.65	1.46	175	82	3.84	0.65	1.46	175
5×15	E4	150	2.43	0.46	1.04	235	100	3.15	0.46	1.04	235
6.3×11.5	F3	220	1.66	0.31	0.70	290	180	1.75	0.31	0.70	290
6.3×15	F4	330	1.11	0.20	0.45	400	220	1.43	0.20	0.45	400
8×12	G3	470	0.777	0.17	0.38	488	330	0.956	0.17	0.38	488
8×15	G4	680	0.537	0.13	0.29	617	470	0.671	0.13	0.29	617
8×20	G5	1000	0.365	0.095	0.21	800	680	0.464	0.095	0.21	800
10×12.5	H3	680	0.537	0.1	0.23	625	470	0.671	0.10	0.23	625
10×16	H4	820	0.446	0.08	0.18	825	560	0.563	0.080	0.18	825
10×20	H5	1200	0.305	0.062	0.14	1010	1000	0.316	0.062	0.14	1010
10×25	H6	1500	0.244	0.052	0.12	1190	1200	0.263	0.052	0.12	1190
10×30	H7	2200	0.181	0.044	0.099	1440	1500	0.211	0.044	0.099	1440
12.5×15	I4	• 1200	0.305	0.062	0.14	1010	• 1000	0.316	0.062	0.14	1010
12.5×20	I5	2200	0.181	0.042	0.095	1400	1800	0.176	0.042	0.095	1400
12.5×25	I6	2700	0.148	0.034	0.076	1690	2200	0.159	0.034	0.076	1690
12.5×30	I7	3900	0.111	0.03	0.068	1950	2700	0.130	0.030	0.068	1950
12.5×35	I8	4700	0.099	0.024	0.054	2220	3300	0.116	0.024	0.054	2220
12.5×40	I9	5600	0.089	0.021	0.047	2390	3900	0.098	0.021	0.047	2390
16×16	J4	• 2700	0.148	0.046	0.10	1310	• 1800	0.176	0.046	0.10	1310
16×20	J5	• 4700	0.099	0.034	0.077	1660	• 3300	0.116	0.034	0.077	1660
16×25	J6	5600	0.089	0.028	0.063	2070	3900	0.098	0.028	0.063	2070
16×31.5	J7	6800	0.079	0.025	0.056	2350	5600	0.080	0.025	0.056	2350
16×35.5	J8	8200	0.073	0.022	0.050	2550	6800	0.071	0.022	0.050	2550
16×40	J9	12000	0.059	0.018	0.041	2970	8200	0.067	0.018	0.041	2970
18×16	K4	• 3300	0.131	0.043	0.097	1460	• 2200	0.159	0.043	0.097	1460
18×20	K5	• 5600	0.089	0.030	0.068	1850	• 3900	0.098	0.030	0.068	1850
18×25	K6	• 6800	0.079	0.027	0.061	2120	• 4700	0.089	0.027	0.061	2120
18×31.5	K7	10000	0.064	0.023	0.052	2410	6800	0.071	0.023	0.052	2410
18×35.5	K8	12000	0.059	0.019	0.043	2680	8200	0.067	0.019	0.043	2680
18×40	K9	15000	0.054	0.017	0.038	3010	10000	0.059	0.017	0.038	3010

Rated voltage (V) / Item / Case φD×L (mm)	Casing symbol	16					25				
		Rated capacitance	ESR	Impedance Ω/100kHz		Rated ripple current	Rated capacitance	ESR	Impedance Ω/100kHz		Rated ripple current
		μF	Ω	20℃	−10℃	mArms	μF	Ω	20℃	−10℃	mArms
5×11.5	E3	56	4.74	0.65	1.46	175	39	5.96	0.65	1.46	175
5×15	E4	82	3.24	0.46	1.04	235	56	4.15	0.46	1.04	235
6.3×11.5	F3	120	2.21	0.31	0.70	290	82	2.83	0.31	0.70	290
6.3×15	F4	180	1.48	0.20	0.45	400	120	1.94	0.20	0.45	400
8×12	G3	270	0.983	0.17	0.38	488	180	1.29	0.17	0.38	488
8×15	G4	330	0.805	0.13	0.29	617	220	1.06	0.13	0.29	617
8×20	G5	470	0.565	0.095	0.21	800	330	0.704	0.095	0.21	800
10×12.5	H3	330	0.805	0.10	0.23	625	220	1.06	0.10	0.23	625
10×16	H4	390	0.681	0.080	0.18	825	270	0.861	0.080	0.18	825
10×20	H5	680	0.391	0.062	0.14	1010	470	0.495	0.062	0.14	1010
10×25	H6	820	0.324	0.052	0.12	1190	560	0.415	0.052	0.12	1190
10×30	H7	1200	0.222	0.044	0.099	1440	820	0.284	0.044	0.099	1440
12.5×15	I4	• 680	0.391	0.062	0.14	1010	• 470	0.495	0.062	0.14	1010
12.5×20	I5	1200	0.222	0.042	0.095	1400	820	0.284	0.042	0.095	1400
12.5×25	I6	1500	0.177	0.034	0.076	1690	1000	0.233	0.034	0.076	1690
12.5×30	I7	2200	0.136	0.030	0.068	1950	1500	0.155	0.030	0.068	1950
12.5×35	I8	2700	0.111	0.024	0.054	2220	1800	0.130	0.024	0.054	2220
12.5×40	I9	3300	0.101	0.021	0.047	2390	2200	0.121	0.021	0.047	2390
16×16	J4	• 1500	0.177	0.046	0.10	1310	• 820	0.284	0.046	0.10	1310
16×20	J5	• 2200	0.136	0.034	0.077	1660	• 1500	0.155	0.034	0.077	1660
16×25	J6	2700	0.111	0.028	0.063	2070	1800	0.130	0.028	0.063	2070
16×31.5	J7	3900	0.086	0.025	0.056	2350	2700	0.099	0.025	0.056	2350
16×35.5	J8	4700	0.078	0.022	0.050	2550	3300	0.091	0.022	0.050	2550
16×40	J9	5600	0.072	0.018	0.041	2970	3900	0.077	0.018	0.041	2970
18×16	K4	• 1500	0.177	0.043	0.097	1460	• 1200	0.194	0.043	0.097	1460
18×20	K5	• 2700	0.111	0.030	0.068	1850	• 1800	0.130	0.030	0.068	1850
18×25	K6	• 3900	0.086	0.027	0.061	2120	• 2700	0.099	0.027	0.061	2120
18×31.5	K7	4700	0.078	0.023	0.052	2410	3300	0.091	0.023	0.052	2410
18×35.5	K8	6800	0.064	0.019	0.043	2680	3900	0.077	0.019	0.043	2680
18×40	K9	8200	0.061	0.017	0.038	3010	4700	0.071	0.017	0.038	3010

(Note) ESR : 20℃, 120Hz ; Rated ripple current : 105℃, 100kHz
• : The black circles in the capacitance column denote semi-standard products.

• The standard ratings follow the next page.

Standard Ratings

Case φD×L (mm)	Casing symbol	Rated voltage (V) / Item	35 Rated capacitance μF	35 ESR Ω	35 Impedance Ω/100kHz 20℃	35 Impedance Ω/100kHz −10℃	35 Rated ripple current mArms	50 Rated capacitance μF	50 ESR Ω	50 Impedance Ω/100kHz 20℃	50 Impedance Ω/100kHz −10℃	50 Rated ripple current mArms
5×11.5	E3		—	—	—	—	—	0.47	353	3.9	7.8	22
5×11.5	E3		—	—	—	—	—	1	166	3.5	7.0	36
5×11.5	E3		—	—	—	—	—	2.2	75.4	3.0	6.0	54
5×11.5	E3		—	—	—	—	—	3.3	50.3	2.6	5.2	63
5×11.5	E3		—	—	—	—	—	4.7	35.3	2.2	4.4	75
5×11.5	E3		—	—	—	—	—	10	16.6	1.4	2.8	110
5×11.5	E3		27	7.37	0.65	1.46	175	18	9.22	0.95	1.9	120
5×15	E4		39	5.10	0.46	1.04	235	27	6.14	0.66	1.32	135
6.3×11.5	F3		56	3.56	0.31	0.70	290	39	4.25	0.43	0.86	148
6.3×15	F4		82	2.43	0.20	0.45	400	56	2.96	0.33	0.66	153
8×12	G3		120	1.66	0.17	0.38	488	68	2.44	0.20	0.40	360
8×15	G4		180	1.11	0.13	0.29	617	82	2.02	0.18	0.36	460
8×20	G5		220	0.905	0.095	0.21	800	120	1.38	0.13	0.26	670
10×12.5	H3		150	1.33	0.10	0.23	625	82	2.02	0.18	0.36	443
10×16	H4		180	1.11	0.080	0.18	825	100	1.66	0.15	0.30	553
10×20	H5		330	0.604	0.062	0.14	1010	180	0.922	0.085	0.17	676
10×25	H6		390	0.511	0.052	0.12	1190	220	0.754	0.075	0.15	876
10×30	H7		560	0.356	0.044	0.099	1440	330	0.503	0.055	0.110	1010
12.5×15	I4	•	330	0.604	0.062	0.140	1010	• 180	0.922	0.095	0.190	745
12.5×20	I5		560	0.356	0.042	0.095	1400	330	0.503	0.060	0.120	979
12.5×25	I6		680	0.293	0.034	0.076	1690	470	0.353	0.044	0.088	1180
12.5×30	I7		1000	0.200	0.030	0.068	1950	560	0.297	0.040	0.080	1310
12.5×35	I8		1200	0.166	0.024	0.054	2220	680	0.244	0.036	0.072	1470
12.5×40	I9		1500	0.133	0.021	0.047	2390	820	0.203	0.034	0.068	1590
16×16	J4	•	560	0.356	0.046	0.10	1310	• 330	0.503	0.065	0.130	982
16×20	J5	•	1000	0.200	0.034	0.077	1660	• 680	0.244	0.045	0.090	1210
16×25	J6		1200	0.166	0.028	0.063	2070	820	0.203	0.038	0.076	1490
16×31.5	J7		1800	0.111	0.025	0.056	2350	1000	0.166	0.032	0.064	1890
16×35.5	J8		2200	0.106	0.022	0.050	2550	1200	0.139	0.028	0.056	2140
16×40	J9		2700	0.087	0.018	0.041	2970	1500	0.111	0.026	0.052	2410
18×16	K4	•	680	0.293	0.043	0.097	1460	• 470	0.353	0.048	0.096	1180
18×20	K5	•	1200	0.166	0.030	0.068	1850	• 820	0.203	0.036	0.072	1450
18×25	K6	•	1800	0.111	0.027	0.061	2120	• 1000	0.166	0.032	0.064	1720
18×31.5	K7		2200	0.106	0.023	0.052	2410	1500	0.111	0.026	0.052	1970
18×35.5	K8		2700	0.087	0.019	0.043	2680	1800	0.074	0.025	0.050	2310
18×40	K9		3300	0.081	0.017	0.038	3010	2200	0.073	0.024	0.048	2530

Case φD×L (mm)	Casing symbol	Rated voltage (V) / Item	63 Rated capacitance μF	63 ESR Ω	63 Impedance Ω/100kHz 20℃	63 Impedance Ω/100kHz −10℃	63 Rated ripple current mArms	100 Rated capacitance μF	100 ESR Ω	100 Impedance Ω/100kHz 20℃	100 Impedance Ω/100kHz −10℃	100 Rated ripple current mArms
5×11.5	E3		12	11.1	1.2	3.6	120	5.6	20.7	1.9	7.6	57
5×15	E4		18	7.37	0.85	2.6	135	8.2	14.2	1.3	5.2	74
6.3×11.5	F3		27	4.92	0.55	1.7	148	12	9.68	1.1	4.4	78
6.3×15	F4		39	3.40	0.38	1.1	153	18	6.45	0.62	2.5	85
8×12	G3		47	2.82	0.32	0.96	360	22	5.28	0.53	2.1	275
8×15	G4		68	1.95	0.24	0.72	469	33	3.52	0.35	1.4	360
8×20	G5		82	1.62	0.17	0.51	682	39	2.98	0.27	1.1	490
10×12.5	H3		56	2.37	0.23	0.69	448	27	4.30	0.47	1.9	319
10×16	H4		68	1.95	0.17	0.51	553	33	3.52	0.32	1.3	424
10×20	H5		120	1.11	0.12	0.36	676	56	2.07	0.25	0.1	499
10×25	H6		150	0.885	0.10	0.30	876	68	1.71	0.18	0.72	634
10×30	H7		180	0.738	0.085	0.26	1020	100	1.16	0.15	0.60	739
12.5×15	I4	•	150	0.885	0.11	0.33	745	• 68	1.71	0.20	0.80	613
12.5×20	I5		220	0.604	0.075	0.23	979	100	1.16	0.13	0.52	805
12.5×25	I6		270	0.492	0.065	0.20	1180	120	0.968	0.11	0.44	857
12.5×30	I7		390	0.341	0.055	0.17	1310	180	0.646	0.090	0.36	1120
12.5×35	I8		470	0.283	0.048	0.14	1470	220	0.528	0.075	0.30	1240
12.5×40	I9		560	0.237	0.042	0.13	1590	270	0.431	0.060	0.24	1330
16×16	J4	•	220	0.604	0.080	0.24	982	• 120	0.968	0.130	0.52	706
16×20	J5	•	390	0.341	0.057	0.17	1210	• 180	0.646	0.11	0.44	916
16×25	J6		470	0.283	0.052	0.16	1490	220	0.528	0.081	0.32	1290
16×31.5	J7		680	0.196	0.042	0.13	1890	330	0.352	0.059	0.23	1630
16×35.5	J8		820	0.162	0.036	0.11	2140	390	0.298	0.052	0.21	1750
16×40	J9		1000	0.133	0.032	0.096	2410	470	0.248	0.045	0.18	1920
18×16	K4	•	330	0.403	0.065	0.20	1200	• 150	0.775	0.12	0.48	871
18×20	K5	•	560	0.237	0.058	0.17	1460	• 270	0.431	0.085	0.34	1170
18×25	K6	•	680	0.196	0.050	0.15	1740	• 330	0.352	0.071	0.28	1500
18×31.5	K7		820	0.162	0.042	0.13	1990	390	0.298	0.058	0.23	1630
18×35.5	K8		1000	0.133	0.035	0.11	2340	560	0.208	0.054	0.22	1920
18×40	K9		1200	0.111	0.032	0.096	2560	680	0.171	0.041	0.16	2100

(Note) ESR : 20℃, 120Hz ; Rated ripple current : 105℃, 100kHz

• : The black circles in the capacitance column denote semi-standard products.

NOTE
Design, Specifications are subject to change without notice.
Ask factory for technical specifications before purchase and/or use.

■ Lead Forming

• In order to facilitate insertion into printed circuit board, lead wires are cut or formed.

Product Size Table

Unit: mm

Forming name	Lead forming symbol	Dimension F (Lead pitch)	Dimension φD (Case diameter)	Style	Outline drawing
Forming cut	F10	2.0	4	B	Processed style A / Processed style B
	F1		5	A	
	F12	2.5	4 to 5	B	
	F1		6.3	B	
	F1	3.5	8	A	
	F4		4 to 8	B	
	F	5.0	4 to 8	B	
	F		10 to 12.5	A	
	F	7.5	16 to 18	A