

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

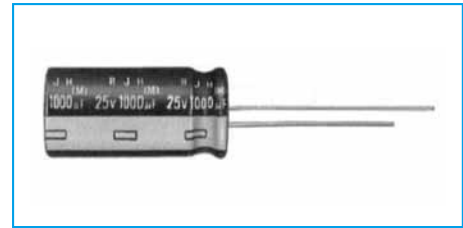
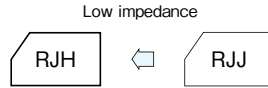
GREEN CAP

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°C.  
( $\phi 5$  to 6.3 : 2000 hours ;  $\phi 8$  to 10 : 3000 hours)



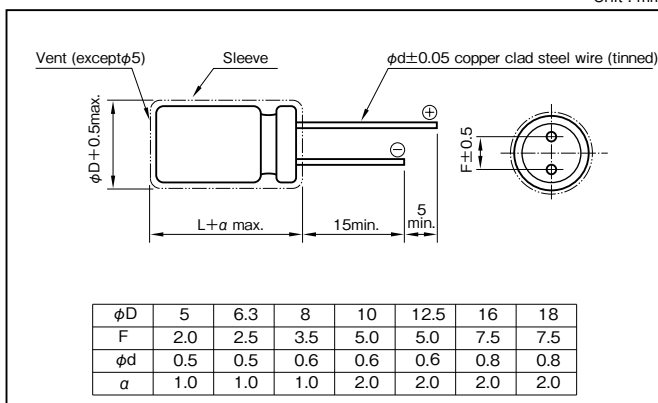
Marking color : White print on a black sleeve

### Specifications

Item	Performance																										
Category temperature range (°C)	-55 to +105																										
Tolerance at rated capacitance (%)	±20 (20°C, 120Hz)																										
Leakage current (µA)	Less than 0.01CV + 2 (after 2 minutes) C : Rated capacitance (µF) ; V : Rated voltage (V) (20°C)																										
Tangent of loss angle (tanδ)	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>tanδ (max.)</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.07</td> </tr> </tbody> </table>	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								
	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°C, 120Hz)																											
Characteristics at high and low temperature	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance ratio (max.)</td> <td>Z-25°C/Z+20°C</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-55°C/Z+20°C</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Rated voltage (V)	6.3	10	16	25	35	50	63	100	Impedance ratio (max.)	Z-25°C/Z+20°C	2	2	2	2	2	2	2	Z-55°C/Z+20°C	3	3	3	3	3	3	3
	Rated voltage (V)	6.3	10	16	25	35	50	63	100																		
Impedance ratio (max.)	Z-25°C/Z+20°C	2	2	2	2	2	2	2																			
	Z-55°C/Z+20°C	3	3	3	3	3	3	3																			
(120Hz)																											
Endurance (105°C) (Applied ripple current)	Test time	5000 hours ( $\phi 5$ to 6.3 : 2000 hours) ( $\phi 8$ 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°C)	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



### Coefficient of Frequency for Rated Ripple Current

Rated capacitance (µF)	Frequency (Hz)			
	120	1k	10k	100k
1 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	1.00	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			Taping/Forming symbol

Standard Ratings

Rated voltage (V)		6.3					10					
Case φD×L (mm)	Casing symbol	Item	Rated capacitance (μF)	ESR (Ω)	Impedance (Ω max.)		Rated ripple current (mArms)	Rated capacitance (μF)	ESR (Ω)	Impedance (Ω max.)		Rated ripple current (mArms)
					20°C	-10°C				20°C	-10°C	
5×11.5	E3		100	3.65	0.65	1.46	175	82	3.84	0.65	1.46	175
6.3×11.5	F3		220	1.66	0.31	0.70	290	180	1.75	0.31	0.70	290
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	0.10	0.23	625	470	0.671	0.10	0.23	625
10×16	H4		820	0.446	0.080	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	0.030	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

MINIATURE  
ALUMINUM

Rated voltage (V)		16					25					
Case φD×L (mm)	Casing symbol	Item	Rated capacitance (μF)	ESR (Ω)	Impedance (Ω max.)		Rated ripple current (mArms)	Rated capacitance (μF)	ESR (Ω)	Impedance (Ω max.)		Rated ripple current (mArms)
					20°C	-10°C				20°C	-10°C	
5×11.5	E3		56	4.74	0.65	1.46	175	39	5.96	0.65	1.46	175
6.3×11.5	F3		120	2.21	0.31	0.70	290	82	2.83	0.31	0.70	290
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) Rated ripple current : 105°C, 100kHz; ESR : 20°C, 120Hz; Impedance : 100kHz  
 • : The black circles in the capacitance column denote semi-standard products.

• The standard ratings follow the next page.

## Standard Ratings

Rated voltage (V)			35					50				
Case φD×L (mm)	Casing symbol	Item	Rated capacitance (μF)	ESR (Ω)	Impedance (Ω max.)		Rated ripple current (mArms)	Rated capacitance (μF)	ESR (Ω)	Impedance (Ω max.)		Rated ripple current (mArms)
					20°C	-10°C				20°C	-10°C	
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
6.3×11.5	F3		56	3.56	0.31	0.70	290	39	4.25	0.43	0.86	148
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	0.11	1010
12.5×15	I4	•	330	0.604	0.062	0.140	1010	• 180	0.922	0.095	0.19	745
12.5×20	I5		560	0.356	0.042	0.095	1400	330	0.503	0.060	0.12	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	0.13	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

Rated voltage (V)			63					100				
Case φD×L (mm)	Casing symbol	Item	Rated capacitance (μF)	ESR (Ω)	Impedance (Ω max.)		Rated ripple current (mArms)	Rated capacitance (μF)	ESR (Ω)	Impedance (Ω max.)		Rated ripple current (mArms)
					20°C	-10°C				20°C	-10°C	
5×11.5	E3		12	11.1	1.2	3.6	120	5.6	20.7	1.9	7.6	57
6.3×11.5	F3		27	4.92	0.55	1.7	148	12	9.68	1.1	4.4	78
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	1.0	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	0.13	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) Rated ripple current : 105°C, 100kHz ; ESR : 20°C, 120Hz ; Impedance : 100kHz  
 • : The black circles in the capacitance column denote semi-standard products.