

135°C Use, Miniature, Low ESR Capacitors

GREEN CAP

Low ESR

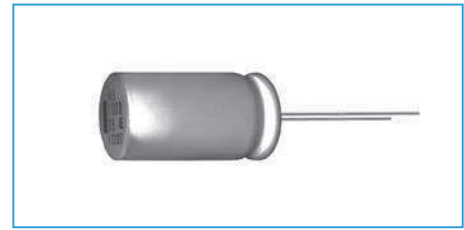
135°C
3000hours

Anti-cleaning solvent

- High temperature guaranteed and low ESR series for automotive.
- Guarantees 3000 hours at 135°C. ($\phi 10$: 2000 hours)



High temperature



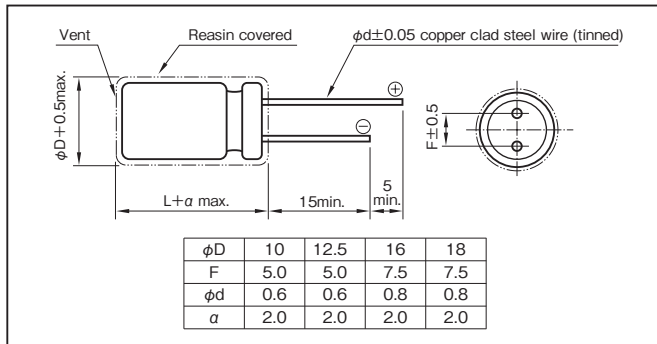
Marking color : Black print

Specifications

Item	Performance																		
Category temperature range (°C)	-40 to +135																		
Tolerance at rated capacitance (%)	± 20 (20°C, 120Hz)																		
Leakage current (μA)	Less than 0.01CV or 4 whichever is larger (after 2 minutes) C : Rated capacitance (μF), V : Rated voltage (V) (20°C)																		
Tangent of loss angle (tan δ)	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>tanδ (max.)</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </tbody> </table>	Rated voltage (V)	10	16	25	35	50	63	80	100	tan δ (max.)	0.20	0.16	0.14	0.12	0.10	0.10	0.08	0.08
	Rated voltage (V)	10	16	25	35	50	63	80	100										
tan δ (max.)	0.20	0.16	0.14	0.12	0.10	0.10	0.08	0.08											
0.02 is added to every 1000 μF increase over 1000 μF . (20°C, 120Hz)																			
Characteristics at high and low temperature	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Impedance ratio (max.)</td> <td>Z-40°C/Z+20°C</td> <td>4</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)	10	16	25	35	50	63	80	100	Impedance ratio (max.)	Z-40°C/Z+20°C	4	3	3	3	3	3	3
	Rated voltage (V)	10	16	25	35	50	63	80	100										
Impedance ratio (max.)	Z-40°C/Z+20°C	4	3	3	3	3	3	3											
(120Hz)																			
Endurance (135°C) (Applied ripple current)	Test time	3000 hours ($\phi 10$: 2000 hours)																	
	Leakage current	The initial specified value or less																	
	Percentage of capacitance change	Within $\pm 30\%$ of initial value																	
	Tangent of the loss angle	300% or less of the initial specified value																	
Shelf life (135°C)	Test time : 1000hours ; other items are same as the endurance. Voltage application treatment : According to JIS C5101-4																		
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)	50 · 60	120	1k	10k · 100k
220 to 330	0.55	0.65	0.85	1
470 to 1000	0.70	0.75	0.90	1
1200 to 6800	0.80	0.85	0.95	1

Part numbering system (example : 10V1000 μF)

RKB	—	10	V	102	M	H5	#	—	
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol			Taping(Forming) symbol

Standard Ratings

Rated voltage (V)	Item	10				16				25				35			
		Case	Casing symbol	ESR (Ω max.)	Rated ripple current (mA _{rms})	Case	Casing symbol	ESR (Ω max.)	Rated ripple current (mA _{rms})	Case	Casing symbol	ESR (Ω max.)	Rated ripple current (mA _{rms})	Case	Casing symbol	ESR (Ω max.)	Rated ripple current (mA _{rms})
		φD × L (mm)				φD × L (mm)				φD × L (mm)				φD × L (mm)			
220	—	—	—	—	10×12.5	H3	0.098	725	10×12.5	H3	0.098	725	10×12.5	H3	0.098	725	
330	10×12.5	H3	0.098	725	10×12.5	H3	0.098	725	10×12.5	H3	0.098	725	10×16	H4	0.075	951	
									10×16	H4	0.075	951	10×20	H5	0.057	1130	
470	10×12.5	H3	0.098	725	10×16	H4	0.075	951	10×16	H4	0.075	951	10×20	H5	0.057	1130	
									10×20	H5	0.057	1130	12.5×20	I5	0.040	1550	
1000	10×20	H5	0.057	1130	10×20	H5	0.057	1130	12.5×20	I5	0.040	1550	12.5×25	I6	0.032	1880	
	12.5×15	I4	0.059	1130	12.5×20	I5	0.040	1550	12.5×25	I6	0.032	1880	12.5×30	I7	0.029	2160	
1200	—	—	—	—	—	—	—	—	12.5×20	I5	0.040	1550	16×20	J5	0.032	2020	
1500	—	—	—	—	—	—	—	—	—	—	—	—	12.5×35	I8	0.023	2580	
1800	—	—	—	—	—	—	—	—	12.5×25	I6	0.032	1880	12.5×40	I9	0.020	2920	
									16×20	J5	0.032	2020	16×25	J6	0.024	2550	
2200	12.5×25	I6	0.032	1880	12.5×25	I6	0.032	1880	12.5×30	I7	0.029	2160	16×31.5	J7	0.020	3040	
	16×20	J5	0.032	2020	16×25	J6	0.024	2550	16×25	J6	0.024	2550	16×35.5	J8	0.019	3280	
2700	—	—	—	—	—	—	—	—	12.5×35	I8	0.023	2580	16×35.5	J8	0.019	3280	
									16×25	J6	0.024	2550	18×31.5	K7	0.018	3410	
3300	16×25	J6	0.024	2550	16×31.5	J7	0.020	3040	12.5×40	I9	0.020	2920	16×40	J9	0.017	3630	
	18×20	K5	0.029	2320	18×25	K6	0.022	2880	16×31.5	J7	0.020	3040	18×35.5	K8	0.017	3710	
4700	16×31.5	J7	0.020	3040	16×35.5	J8	0.019	3280	16×35.5	J8	0.019	3280	18×40	K9	0.016	4000	
	18×25	K6	0.022	2880	18×31.5	K7	0.018	3410	18×31.5	K7	0.018	3410	—	—	—	—	
5600	—	—	—	—	—	—	—	—	16×40	J9	0.017	3630	—	—	—	—	
6800	—	—	—	—	—	—	—	—	18×40	K9	0.016	4000	—	—	—	—	

Rated voltage (V)	Item	50				63				80				100			
		Case	Casing symbol	ESR (Ω max.)	Rated ripple current (mA _{rms})	Case	Casing symbol	ESR (Ω max.)	Rated ripple current (mA _{rms})	Case	Casing symbol	ESR (Ω max.)	Rated ripple current (mA _{rms})	Case	Casing symbol	ESR (Ω max.)	Rated ripple current (mA _{rms})
		φD × L (mm)				φD × L (mm)				φD × L (mm)				φD × L (mm)			
220	10×20	H5	0.098	930	—	—	—	—	—	—	—	—	16×20	J5	0.131	1070	
330	—	—	—	—	—	—	—	—	—	—	—	—	16×25	J6	0.097	1350	
470	12.5×20	I5	0.070	1170	16×20	J5	0.099	1230	16×25	J6	0.097	1350	16×35.5	J8	0.077	1740	
560	—	—	—	—	—	—	—	—	18×25	K6	0.088	1530	16×40	J9	0.069	1940	
820	12.5×30	I7	0.047	1680	16×31.5	J7	0.062	1850	18×35.5	K8	0.069	1980	18×40	K9	0.066	2120	
1000	16×25	J6	0.039	1990	16×35.5	J8	0.058	2010	18×40	K9	0.066	2120	—	—	—	—	
1800	18×31.5	K7	0.030	2670	18×40	K9	0.053	2350	—	—	—	—	—	—	—	—	
2200	18×35.5	K8	0.028	2900	—	—	—	—	—	—	—	—	—	—	—	—	

(Note) Rated ripple current : 135°C , 100kHz ; ESR : 20°C , 100kHz