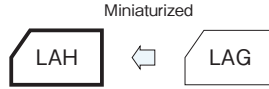


Miniaturized, High-Reliability, High-Ripple Capacitors

GREEN CAP 105°C 2000hours

- High-reliability, high-ripple capacitors.
- Guarantees 2000 hours at 105°C.



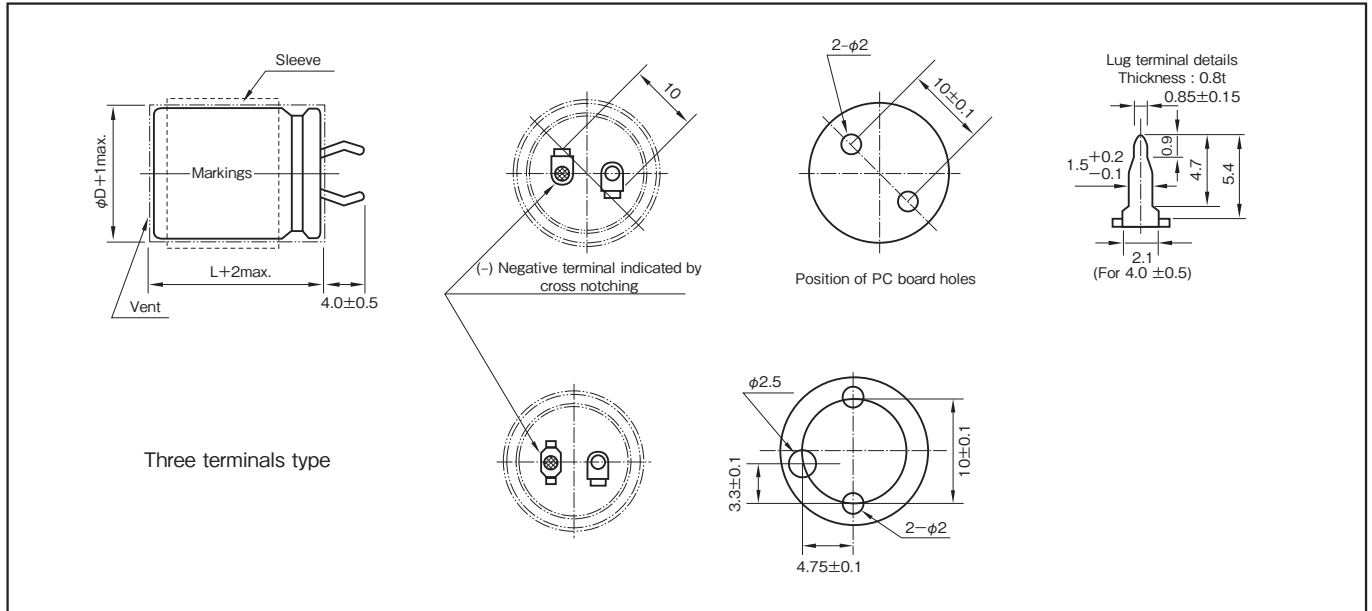
Marking color : White print on a black sleeve

Specifications

Item	Performance																	
Category temperature range (°C)	-40 to +105 (-25 to +105 at 160V or more)																	
Tolerance at rated capacitance (%)	± 20 (20°C, 120Hz)																	
Leakage current (µA)	Less than 3√CV (after 5 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>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63 to 100</th> <th>160 to 250</th> <th>400 to 450</th> </tr> </thead> <tbody> <tr> <td>tanδ (max.)</td> <td>0.50</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.20</td> <td>0.15</td> <td>0.20</td> </tr> </tbody> </table> (20°C, 120Hz)		Rated voltage (V)	16	25	35	50	63 to 100	160 to 250	400 to 450	tanδ (max.)	0.50	0.40	0.35	0.30	0.20	0.15	0.20
Rated voltage (V)	16	25	35	50	63 to 100	160 to 250	400 to 450											
tanδ (max.)	0.50	0.40	0.35	0.30	0.20	0.15	0.20											
Characteristics at high and low temperature	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>16 to 100</th> <th>160 to 200</th> <th>250 to 400</th> </tr> </thead> <tbody> <tr> <td>Impedance ratio Z-25°C/Z+20°C (max.)</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>15</td> <td>—</td> <td>—</td> </tr> </tbody> </table> (120Hz)		Rated voltage (V)	16 to 100	160 to 200	250 to 400	Impedance ratio Z-25°C/Z+20°C (max.)	4	4	4	Z-40°C/Z+20°C	15	—	—				
Rated voltage (V)	16 to 100	160 to 200	250 to 400															
Impedance ratio Z-25°C/Z+20°C (max.)	4	4	4															
Z-40°C/Z+20°C	15	—	—															
Endurance (105°C) (Applied ripple current)	<table border="1"> <tbody> <tr> <td>Test time</td> <td>2000 hours</td> </tr> <tr> <td>Leakage current</td> <td>The initial specified value or less</td> </tr> <tr> <td>Percentage of capacitance change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Tangent of the loss angle</td> <td>200% or less of the initial specified value</td> </tr> </tbody> </table>		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								
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 (105°C)	<table border="1"> <tbody> <tr> <td>Test time</td> <td>1000 hours</td> </tr> <tr> <td>Leakage current</td> <td>The initial specified value or less</td> </tr> <tr> <td>Percentage of capacitance change</td> <td>Within ±15% of initial value</td> </tr> <tr> <td>Tangent of the loss angle</td> <td>150% or less of the initial specified value</td> </tr> </tbody> </table> Voltage application treatment		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								
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																	
Applicable standards	JIS C5101-1, -4 1998 (IEC 60384-1 1992, -4 1985)																	

Outline Drawing

Unit: mm



Part numbering system								
series LAH, standard terminal type :400V330µF								
LAH	—	400	V	331	M	S54	#	B
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol		Optional symbol
series LTH, three terminals type :400V330µF								
LTH	—	400	V	331	M	S54	#	B
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol		Optional symbol

Coefficient of Frequency for Rated Ripple Current

Rated voltage (V) \ Frequency (Hz)	50	120	1k	10k	30k
100 or less	0.95	1	1.10	1.15	1.15
160 to 250	0.81	1	1.32	1.45	1.50
315 or more	0.77	1	1.30	1.41	1.43

• The standard ratings are described on next page.

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)		16		25		35		50		63		80		100	
		Rated capacitance (μF)	Rated ripple current (Arms)	Rated capacitance (μF)	Rated ripple current (Arms)	Rated capacitance (μF)	Rated ripple current (Arms)	Rated capacitance (μF)	Rated ripple current (Arms)	Rated capacitance (μF)	Rated ripple current (Arms)	Rated capacitance (μF)	Rated ripple current (Arms)	Rated capacitance (μF)	Rated ripple current (Arms)
Case φD×L (mm)	Item Casing Symbol														
		22×20	S21	4700	1.23	3300	1.21	2200	1.08	1200	0.99	820	0.96	560	0.85
5600	1.35			3900	1.31	2700	1.20	1500	1.11	1000	1.06	680	0.94	470	0.91
6800	1.48			4700	1.44	3300	1.33	1800	1.22	1200	1.16	820	1.03	560	0.99
22×25	S22	6800	1.60	4700	1.55	3300	1.43	1800	1.31	1200	1.25	820	1.11	560	1.07
		8200	1.76	5600	1.69	3900	1.55	2200	1.45	1500	1.40	1000	1.23	680	1.18
		10000	1.94	6800	1.86	4700	1.71	2700	1.60	1800	1.53	1200	1.34	820	1.29
22×30	S23	10000	1.99	6800	1.91	3900	1.65	2700	1.70	1800	1.60	1200	1.39	820	1.35
		12000	2.18	8200	2.10	4700	1.81	3300	1.88	2200	1.68	1500	1.55	1000	1.49
		15000	2.44	10000	2.32	5600	1.98	3900	2.04	2700	1.86	1800	1.70	1200	1.63
22×35	S24	12000	2.28	8200	2.14	5600	2.02	3300	1.98	2200	1.73	1500	1.61	1000	1.54
		15000	2.55	10000	2.36	6800	2.23	3900	2.15	2700	1.92	1800	1.76	1200	1.69
		18000	2.79	12000	2.59	8200	2.44	4700	2.36	3300	2.12	2200	1.95	1500	1.89
22×40	S25	18000	2.89	12000	2.63	6800	2.28	4700	2.47	3300	2.18	2200	2.02	1500	1.95
		22000	3.20	15000	2.94	8200	2.50	5600	2.70	3900	2.37	2700	2.24	1800	2.13
		—	—	—	—	10000	2.76	—	—	—	—	—	—	—	—
22×45	S26	22000	3.29	15000	3.01	10000	2.83	5600	2.79	3900	2.42	2700	2.32	1800	2.18
		27000	3.65	18000	3.29	12000	3.09	6800	3.08	4700	2.65	3300	2.56	2200	2.41
		—	—	—	—	—	—	—	—	—	—	—	—	—	—
22×50	S27	27000	3.81	18000	3.44	12000	3.23	6800	3.18	4700	2.77	3300	2.67	2200	2.52
		33000	4.21	22000	3.80	—	—	8200	3.50	—	—	3900	2.90	2700	2.79
25×20	S31	6800	1.53	4700	1.48	3300	1.39	1800	1.29	1200	1.16	820	1.07	560	1.04
		8200	1.68	5600	1.61	3900	1.51	2200	1.43	1500	1.29	1000	1.18	680	1.14
		10000	1.85	6800	1.78	4700	1.66	2700	1.58	1800	1.42	1200	1.29	820	1.26
25×25	S32	10000	1.99	6800	1.91	4700	1.78	2700	1.70	1800	1.52	1200	1.39	820	1.35
		12000	2.18	8200	2.10	5600	1.94	3300	1.88	2200	1.68	1500	1.55	1000	1.49
		15000	2.44	10000	2.32	6800	2.14	3900	2.04	2700	1.86	1800	1.70	1200	1.63
25×30	S33	12000	2.30	8200	2.16	5600	2.04	3300	2.00	2200	1.75	1500	1.62	1000	1.56
		15000	2.57	10000	2.39	6800	2.25	3900	2.17	2700	1.94	1800	1.77	1200	1.71
		18000	2.82	12000	2.61	8200	2.47	4700	2.39	3300	2.14	2200	1.96	1500	1.91
25×35	S34	18000	2.94	12000	2.67	8200	2.54	4700	2.50	3300	2.20	2200	2.01	1500	1.97
		22000	3.25	15000	2.99	10000	2.80	5600	2.73	3900	2.39	2700	2.23	1800	2.16
		—	—	—	—	—	—	—	—	—	—	3300	2.46	—	—
25×40	S35	22000	3.36	15000	3.06	10000	2.87	5600	2.81	3900	2.47	2700	2.32	1800	2.22
		27000	3.72	18000	3.36	12000	3.15	6800	3.10	4700	2.71	3300	2.57	2200	2.46
		—	—	—	—	—	—	8200	3.40	—	—	3900	2.79	—	—
25×45	S36	27000	3.77	18000	3.45	12000	3.20	6800	3.24	4700	2.79	3900	2.92	2200	2.52
		33000	4.16	22000	3.81	15000	3.58	8200	3.56	5600	3.04	—	—	2700	2.79
		—	—	—	—	—	—	10000	3.93	—	—	—	—	—	—
25×50	S37	33000	4.21	22000	3.91	15000	3.64	10000	4.09	5600	3.14	3900	3.00	2700	2.85
		39000	4.58	27000	4.34	18000	3.99	—	—	6800	3.46	4700	3.29	3300	3.15
30×20	S41	8200	1.84	5600	1.74	3900	1.65	2700	1.73	1800	1.47	1200	1.38	820	1.32
		10000	2.03	6800	1.92	4700	1.82	3300	1.91	2200	1.63	1500	1.55	1000	1.46
		12000	2.23	8200	2.10	5600	1.98	3900	2.08	2700	1.81	1800	1.69	1200	1.60
30×25	S42	12000	2.38	8200	2.25	5600	2.12	3900	2.22	2700	1.93	1800	1.81	1200	1.71
		15000	2.66	10000	2.48	6800	2.34	4700	2.44	3300	2.13	2200	2.00	1500	1.91
		18000	2.91	12000	2.72	8200	2.57	5600	2.66	3900	2.32	2700	2.22	1800	2.09
30×30	S43	18000	3.00	12000	2.70	8200	2.56	4700	2.58	3300	2.24	2200	2.10	1500	2.00
		22000	3.32	15000	3.02	10000	2.83	5600	2.82	3900	2.44	2700	2.33	1800	2.19
		27000	3.67	18000	3.31	12000	3.10	6800	3.10	4700	2.67	3300	2.57	2200	2.42
30×35	S44	22000	3.39	15000	3.13	10000	2.92	6800	3.25	4700	2.80	3300	2.69	2200	2.51
		27000	3.76	18000	3.43	12000	3.20	8200	3.57	5600	3.06	3900	2.92	2700	2.78
		33000	4.15	22000	3.79	15000	3.58	—	—	—	—	—	—	—	—
30×40	S45	33000	4.23	22000	3.91	15000	3.67	8200	3.72	5600	3.17	3900	3.02	2700	2.87
		39000	4.60	27000	4.34	18000	4.02	10000	4.11	6800	3.49	4700	3.32	3300	3.17
		39000	4.67	27000	4.70	18000	4.10	10000	4.30	6800	3.61	4700	3.43	3300	3.25
30×45	S46	47000	5.13	33000	5.19	22000	4.53	12000	4.71	8200	3.97	5600	3.74	3900	3.53
		47000	5.20	33000	5.40	22000	4.71	12000	4.68	8200	4.10	5600	3.89	3900	3.61
		56000	5.68	39000	5.88	27000	5.22	15000	5.23	10000	4.52	6800	4.28	4700	3.96
35×20	S51	12000	2.38	8200	2.17	5600	2.16	3300	2.10	2200	1.85	1500	1.68	1000	1.59
		15000	2.66	10000	2.40	6800	2.38	3900	2.28	2700	2.05	1800	1.84	1200	1.74
		18000	2.91	12000	2.63	8200	2.61	4700	2.51	3300	2.26	2200	2.04	1500	1.94
35×25	S52	18000	3.10	12000	2.80	8200	2.78	4700	2.67	3300	2.41	2200	2.17	1500	2.07
		22000	3.43	15000	3.13	10000	3.07	5600	2.91	3900	2.62	2700	2.40	1800	2.27
		27000	3.80	18000	3.43	12000	3.36	6800	3.21	4700	2.88	3300	2.66	2200	2.51
35×30	S53	27000	3.82	15000	3.22	12000	3.20	6800	3.31	4700	2.83	3300	2.71	2200	2.56
		33000	4.22	18000	3.53	15000	3.58	8200	3.63	5600	3.09	3900	2.95	2700	2.79
		39000	4.59	22000	3.90	18000	3.92	10000	4.01	6800	3.40	4700	3.23	3300	3.09
35×35	S54	33000	4.24	22000	3.96	15000	3.69	8200	3.66	5600	3.24	3900	3.07	2700	2.90
		39000	4.61	27000	4.39	18000	4.04	10000	4.05	6800	3.57	4700	3.37	3300	3.21
		47000	5.06	33000	4.85	22000	4.47	12000	4.43	8200	3.92	5600	3.68	3900	3.49
35×40	S55	47000	5.18	27000	4.56	22000	4.60	12000	4.46	8200	4.07	5600	3.82	3900	3.60
		56000	5.66	33000	5.04	27000	5.09	15000	4.98	10000	4.50	6800	4.21	4700	3.95
		—	—	39000	5.48	—	—	—	—	—	—	—	—	—	—
35×45	S56	56000	5.75	39000	5.71	27000	5.24	15000	5.03	10000	4.59	6800	4.26	4700	4.05
		68000	6.34	—	—	33000	5.80	18000	5.51	12000	5.03	8200	4.68	5600	4.42
		68000	6.59	47000	6.43	33000	6.03	18000	5.73	12000	5.14	8200	4.60	5600	4.52
35×50	S57	82000	7.23	—	—	—	—	22000	6.33	15000	5.74	10000	5.08	6800	4.98
		—	—	—	—	—	—	—	—	—	—	12000	5.14	—	—

(Note) Rated ripple current : 105°C, 120Hz

Standard Ratings

Case φD×L (mm)	Casing Symbol	Item	160		180		200		250		400		450	
			Rated capacitance	Rated ripple current	Rated capacitance	Rated ripple current	Rated capacitance	Rated ripple current	Rated capacitance	Rated ripple current	Rated capacitance	Rated ripple current	Rated capacitance	Rated ripple current
			(μF)	(Arms)	(μF)	(Arms)	(μF)	(Arms)	(μF)	(Arms)	(μF)	(Arms)	(μF)	(Arms)
22×25	S22		330	1.16	270	1.08	220	1.08	180	0.94	68	0.47	56	0.47
22×30	S23		390	1.43	330	1.30	330	1.30	220	1.10	82	0.56	68	0.56
22×35	S24		470	1.52	470	1.50	390	1.41	270	1.13	120	0.64	82	0.64
22×40	S25		560	1.62	560	1.62	470	1.50	330	1.20	150	0.70	100	0.70
22×45	S26		680	1.70	—	—	560	1.58	390	1.26	—	—	120	0.73
22×50	S27		820	1.81	680	1.76	680	1.68	470	1.37	180	0.78	150	0.78
25×25	S32		470	1.55	390	1.35	330	1.35	220	1.15	82	0.65	68	0.65
25×30	S33		560	1.73	470	1.62	470	1.47	330	1.30	120	0.70	100	0.70
25×35	S34		680	1.81	560	1.69	560	1.65	390	1.41	150	0.73	120	0.73
25×40	S35		820	1.98	680	1.72	680	1.80	470	1.52	180	0.82	150	0.82
25×45	S36		1000	2.04	820	1.78	—	—	560	1.59	220	0.87	180	0.87
25×50	S37		1200	2.12	1000	1.91	820	1.87	680	1.66	270	0.94	220	0.94
30×25	S42		680	1.82	560	1.67	470	1.56	330	1.30	120	0.78	100	0.78
30×30	S43		820	1.98	680	1.74	680	1.82	470	1.36	180	0.83	150	0.83
30×35	S44		1000	2.14	820	1.85	820	1.99	560	1.57	220	0.86	180	0.86
30×40	S45		1200	2.22	1000	2.01	—	—	680	1.76	270	0.95	220	0.95
30×45	S46		1500	2.46	1200	2.19	1000	2.17	820	1.83	330	1.11	270	1.11
30×50	S47		—	—	1500	2.36	1200	2.22	1000	1.87	390	1.15	330	1.15
35×25	S52		820	1.93	680	1.92	680	1.96	470	1.40	180	0.86	150	0.86
35×30	S53		1200	2.40	1000	2.16	820	2.07	560	1.56	270	0.91	220	0.91
35×35	S54		1500	2.53	1200	2.34	1000	2.22	820	1.82	330	1.13	270	1.13
35×40	S55		—	—	1500	2.56	1200	2.42	1000	1.99	390	1.26	330	1.26
35×45	S56		1800	2.98	1800	2.67	1500	2.59	1200	2.10	470	1.31	390	1.31
35×50	S57		2200	3.10	—	—	1800	2.70	—	—	560	1.50	470	1.50

(Note) Rated ripple current : 105°C, 120Hz