



Aluminum Electrolytic Capacitors

LSG

Features

- Snap-in terminal type
- 105°C, 2,000 hours assured
- RoHS Compliance



Sleeve & Marking Color: Brown & White

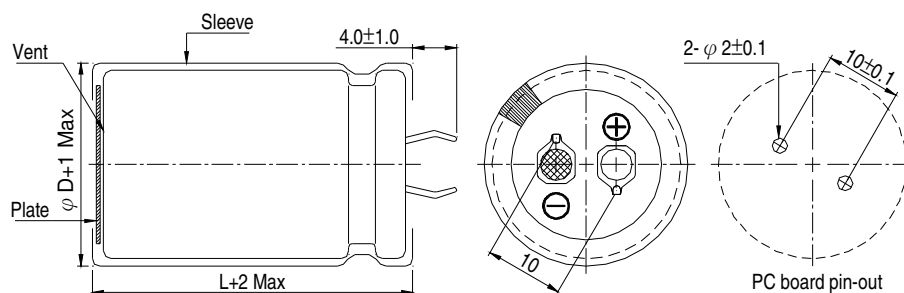
SPECIFICATIONS

Items	Performance																																									
Category Temperature Range	-40℃ ~ +105℃																																									
Capacitance Tolerance	±20% (at 120Hz, 20℃)																																									
Leakage Current (at 20℃)	$I=3\sqrt{CV}$ or 1.5 mA whichever is smaller (after 5 minutes) Where, C = rated capacitance in μF V = rated DC working voltage in V																																									
Dissipation Factor (Tan δ at 120Hz, 20℃)	Rated Voltage	16	25	35	50	63	100	160	200	250	350	400	420	450	500																											
	Tan δ (max)	0.50	0.45	0.40	0.35	0.30	0.20	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15																											
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below.																																									
	Rated Voltage				16	25	35	50	63	100	160	200	250	350	400	420	450	500																								
	Impedance Ratio	Z(-25℃)/Z(+20℃)				4	3	3	2	2	4	4	4	4	8	8	8	8																								
		Z(-40℃)/Z(+20℃)				15	10	8	6	5	4	8	10	10	16	18	18	20	20																							
Endurance	<table><tr><td>Test Time</td><td>2,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> * The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied with rated ripple current for 2,000 hours at 105℃.																		Test Time	2,000 Hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 200% of specified value	Leakage Current	Within specified value																
Test Time	2,000 Hrs																																									
Capacitance Change	Within ±20% of initial value																																									
Dissipation Factor	Less than 200% of specified value																																									
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Shelf Life Test	<table><tr><td>Test Time</td><td>1,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>Less than 150% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> * The above specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. The rated voltage shall be applied to the capacitors before the measurements (Refer to JIS C 5101-4 4.1).																		Test Time	1,000 Hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 150% of specified value	Leakage Current	Within specified value																
Test Time	1,000 Hrs																																									
Capacitance Change	Within ±20% of initial value																																									
Dissipation Factor	Less than 150% of specified value																																									
Leakage Current	Within specified value																																									
Ripple Current & Frequency Multipliers	<table><tr><th>Freq.(Hz) W. V.(V)</th><th>50 / 60</th><th>100 / 120</th><th>500</th><th>1k</th><th>10k up</th></tr><tr><td>Under 100</td><td>0.92</td><td>1.00</td><td>1.13</td><td>1.19</td><td>1.20</td></tr><tr><td>160 ~ 250</td><td>0.81</td><td>1.00</td><td>1.32</td><td>1.45</td><td>1.50</td></tr><tr><td>350 to up</td><td>0.77</td><td>1.00</td><td>1.30</td><td>1.41</td><td>1.43</td></tr></table>																		Freq.(Hz) W. V.(V)	50 / 60	100 / 120	500	1k	10k up	Under 100	0.92	1.00	1.13	1.19	1.20	160 ~ 250	0.81	1.00	1.32	1.45	1.50	350 to up	0.77	1.00	1.30	1.41	1.43
Freq.(Hz) W. V.(V)	50 / 60	100 / 120	500	1k	10k up																																					
Under 100	0.92	1.00	1.13	1.19	1.20																																					
160 ~ 250	0.81	1.00	1.32	1.45	1.50																																					
350 to up	0.77	1.00	1.30	1.41	1.43																																					

• 3000 Hrs specifications are available upon request.

DIAGRAM OF DIMENSIONS

Unit: mm





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Dimension: $\phi D \times L$ (mm)

Ripple Current: A/rms at 120 Hz, 105°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

μF	V. DC ϕD	16V (1C)								25V (1E)							
		22 ϕ		25 ϕ		30 ϕ		35 ϕ		22 ϕ		25 ϕ		30 ϕ		35 ϕ	
4,700										22x25	1.39						
5,600										22x25	1.52						
6,800		22x25	1.57							22x25	1.68	25x25	1.87				
										22x30	1.86						
8,200		22x25	1.61							22x30	1.93	25x25	1.92	30x25	2.15		
										22x35	2.11	25x30	2.12				
10,000		22x25	1.78	25x30	2.12					22x30	2.05	25x25	2.05				
		22x30	1.97							22x40	2.39	25x35	2.42				
12,000		22x25	1.92	25x25	1.87	30x25	2.45			22x40	2.48	25x30	2.36	30x25	2.45	35x25	2.74
		22x35	2.22	25x30	2.24					22x45	2.69	25x40	2.74	30x30	2.70		
15,000		22x30	2.20	25x25	2.19							25x35	2.75	30x25	2.66	35x25	2.97
		22x40	2.55	25x35	2.58					22x45	2.86	25x45	3.15	30x35	3.13	35x30	3.27
18,000		22x35	2.49	25x30	2.52	30x25	2.61	35x25	2.92	22x50	3.19	25x40	3.11	30x30	3.07		
		22x45	2.87	25x40	2.92	30x30	2.88					25x50	3.54	30x40	3.54		
22,000		22x40	2.90	25x30	2.77	30x25	2.79					25x50	3.71	30x35	3.53	35x30	3.34
				25x45	3.32	30x35	3.29							30x45	4.04	35x35	3.64

μF	V. DC ϕD	35V (1V)								50V (1H)							
		22 ϕ		25 ϕ		30 ϕ		35 ϕ		22 ϕ		25 ϕ		30 ϕ		35 ϕ	
1,800										22x25	1.33						
2,200										22x25	1.48						
2,700										22x25	1.53	25x25	1.57				
										22x30	1.69						
3,300										22x30	1.76	25x25	1.70				
										22x35	1.93	25x35	1.85				
3,900										22x35	1.97	25x30	1.99	30x25	1.95		
										22x40	2.16	25x35	2.18				
4,700		22x25	1.63	25x25	1.70					22x40	2.22	25x30	2.18	30x25	2.04	35x25	2.48
										22x45	2.43			30x30	2.25		
5,600		22x30	1.77	25x25	1.77	30x25	1.99			22x45	2.56	25x35	2.47	30x25	2.33		
		22x35	1.95	25x30	1.96					22x50	2.75	25x40	2.70	30x35	2.76		
6,800		22x35	2.02	25x30	2.04					22x50	3.00	25x40	2.92	30x30	2.84	35x25	2.91
		22x40	2.20	25x35	2.23							25x50	3.30	30x40	3.30		
8,200		22x40	2.25	25x35	2.60	30x25	2.49	35x25	2.69			25x45	3.13	30x35	3.13	35x30	3.23
		22x50	2.55	25x40	2.65	30x30	2.65							30x45	3.60	35x35	3.55
10,000				25x40	2.83	30x30	2.75							30x40	3.55	35x30	3.47
				25x45	2.87	30x35	2.90							30x50	4.04	35x40	4.03
12,000						30x35	2.96	35x25	2.75								
						30x40	3.23	35x30	2.99					30x45	4.04	35x35	3.98
15,000								35x25	3.12							35x45	4.55
						30x45	3.72	35x35	3.67								
18,000								35x35	4.02								
						30x45	4.07	35x40	4.37								
22,000								35x40	4.69								
						30x50	4.71	35x50	4.92								

μF	V. DC ϕD	63V (1J)								100V (2A)							
		22 ϕ		25 ϕ		30 ϕ		35 ϕ		22 ϕ		25 ϕ		30 ϕ		35 ϕ	
1,200		22x25	1.19							22x35	1.55	25x30	1.56	30x25	1.68		
										22x40	1.69	25x35	1.71				
1,500		22x25	1.30							22x40	1.78	25x35	1.80	30x25	1.76	35x25	1.98
										22x45	1.94	25x40	1.98	30x30	1.95		
1,800		22x25	1.36	25x25	1.52					22x45	1.99	25x40	2.03	30x30	2.29	35x25	2.34
		22x30	1.51									25x45	2.25	30x35	2.50		
2,200		22x30	1.55	25x25	1.55							25x45	2.30	30x35	2.43	35x25	2.27
		22x35	1.73	25x30	1.74							25x50	2.53	30x40	2.70	35x30	2.50
2,700		22x35	1.80	25x30	1.81	30x25	1.76							30x40	2.61	35x30	2.62
		22x40	1.97	25x35	1.99							25x50	2.59	30x45	2.88	35x35	2.86
3,300		22x40	1.99	25x35	2.06	30x25	2.00	35x25	2.06					30x45	3.03	35x35	2.99
		22x50	2.29	25x40	2.27	30x30	2.24							30x50	3.28	35x40	3.27
3,900		22x45	2.28	25x35	2.20	30x25	2.18	35x25	2.40					30x50	3.36	35x40	3.35
				25x45	2.54	30x35	2.55									35x45	3.38
4,700		22x50	2.58	25x40	2.51	30x30	2.48	35x25	2.54							35x45	3.67
				25x50	2.86	30x40	2.86	35x30	2.79							35x50	3.70
5,600						30x35	2.78	35x30	2.92								
						30x45	3.22	35x35	3.19							35x50	3.80
6,800						30x40	3.18	35x30	3.16								
						30x50	3.65	35x40	3.64								
8,200								35x35	3.41								
						30x45	3.46	35x45	3.90								
10,000								35x40	3.90								
								35x50	4.40								
12,000								35x45	4.50								



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Dimension: $\phi D \times L$ (mm)
Ripple Current: A/rms at 120 Hz, 105°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V. DC μF	ϕD	160V (2C)								200V (2D)							
		22 ϕ		25 ϕ		30 ϕ		35 ϕ		22 ϕ		25 ϕ		30 ϕ		35 ϕ	
180										22x25	0.80						
220										22x25	0.89						
270		22x25	0.86							22x25	0.87	25x25	1.00				
330		22x25	1.10							22x30	1.00						
		22x30	1.20							22x35	1.13	25x25	1.13				
		22x35	1.20							22x40	1.20	25x30	1.17				
390		22x30	1.22	25x25	1.15					22x35	1.25	25x30	1.21	30x25	1.20		
		22x35	1.30							22x40	1.31						
470		22x35	1.35	25x25	1.33					22x40	1.32	25x30	1.32	30x25	1.50		
		22x40	1.40	25x30	1.41					22x45	1.40	25x35	1.41				
560		22x40	1.50	25x30	1.45	30x25	1.40			22x45	1.53	25x35	1.50	30x30	1.52	35x25	1.49
				25x35	1.51					22x50	1.56	25x40	1.53				
680		22x45	1.65	25x35	1.65	30x25	1.65			22x50	1.74	25x40	1.70	30x35	1.73	35x25	1.72
		22x50	1.71	25x40	1.70	30x30	1.72					25x45	1.74			35x30	1.73
820		22x50	1.93	25x40	1.85	30x30	1.76	35x25	1.91			25x50	2.04	30x40	1.93	35x30	1.76
				25x45	2.01	30x35	2.00	35x30	2.00							35x35	1.93
1,000				25x45	2.20	30x35	2.02	35x30	2.44					30x45	2.20	35x35	2.20
						30x40	2.22	35x35	2.20					30x50	2.30	35x40	2.30
1,200				25x50	2.45	30x40	2.35	35x35	2.50					30x50	2.60	35x40	2.65
						30x45	2.44										
1,500						30x45	2.82	35x40	2.70							35x45	2.58
																35x50	2.80
1,800						30x50	3.31	35x45	2.85							35x50	3.47
								35x50	3.10								

V. DC μF	ϕD	250V (2E)								350V (2V)							
		22 ϕ		25 ϕ		30 ϕ		35 ϕ		22 ϕ		25 ϕ		30 ϕ		35 ϕ	
68										22x25	0.51						
82										22x25	0.56						
100										22x30	0.66	25x25	0.66				
120										22x30	0.69	25x25	0.69				
										22x35	0.75						
150										22x35	0.80	25x30	0.83	30x25	0.83		
										22x40	0.82						
180		22x25	0.78	25x25	0.85					22x40	0.84	25x35	0.92	30x25	0.85		
		22x30	0.82							22x45	0.92			30x30	0.92		
220		22x30	0.85	25x25	0.90	30x25	1.00			22x50	1.05	25x40	1.04	30x30	1.02	35x25	1.04
		22x35	0.90	25x30	1.00												
270		22x30	0.91	25x25	0.91	30x25	1.01					25x45	1.17	30x35	1.17	35x25	1.12
		22x35	1.00									25x50	1.18			35x30	1.15
		22x40	1.14														
330		22x40	1.10	25x30	1.13	30x25	1.05					25x50	1.20	30x40	1.25	35x30	1.21
		22x45	1.26	25x35	1.20	30x30	1.13							30x45	1.31	35x35	1.29
390		22x45	1.25	25x35	1.27	30x30	1.24							30x45	1.42	35x35	1.40
		22x50	1.49	25x40	1.38									30x50	1.49	35x40	1.48
470		22x50	1.57	25x40	1.49	30x30	1.37	35x25	1.17					30x50	1.64	35x40	1.63
				25x45	1.57	30x35	1.57	35x30	1.30							35x45	1.71
560				25x45	1.79	30x40	1.79	35x25	1.61							35x45	1.87
								35x30	1.79							35x50	1.95
680				25x50	1.98	30x40	2.00	35x30	1.95								
								35x35	2.07								
820						30x45	2.30	35x35	2.27								
						30x50	2.41	35x40	2.40								
1,000						35x40	2.65										
						35x45	2.78										
1,200								35x45	3.05								

DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension: $\phi D \times L(\text{mm})$

Ripple Current: A/rms at 120 Hz, 105°C

V. DC		400V (2G)								450V (2W)							
μF	φ D	22 φ		25 φ		30 φ		35 φ		22 φ		25 φ		30 φ		35 φ	
56										22×25	0.40						
68		22×25 22×30	0.50 0.51							22×25 22×30	0.42 0.45	25×25	0.45				
82		22×25 22×30	0.51 0.55	25×25	0.54					22×30 22×35	0.50 0.56	25×25	0.50				
100		22×30 22×35	0.58 0.61	25×25 25×30	0.58 0.64					22×35 22×40	0.59 0.64	25×25 25×30	0.51 0.57	30×25	0.64		
120		22×35 22×40	0.67 0.72	25×25 25×30 25×35	0.61 0.69 0.72	30×25	0.68			22×35 22×45	0.62 0.72	25×30 25×35	0.65 0.71	30×25	0.67		
150		22×40 22×50	0.77 0.82	25×30 25×35 25×40	0.70 0.78 0.84	30×25 30×30	0.76 0.81			22×45 22×50	0.80 0.84	25×35 25×40	0.77 0.82	30×25 30×30	0.75 0.81	35×25	0.83
180		22×45 22×50	0.88 0.95	25×35 25×40 25×45	0.85 0.90 0.95	30×25 30×30 30×35	0.83 0.89 0.95	35×25 35×30	0.91 0.98	22×50	0.92	25×40 25×45	0.90 0.94	30×30 30×35	0.88 0.94		
220				25×40 25×45 25×50	1.00 1.05 1.10	30×30 30×35 30×40	0.99 1.05 1.11	35×25 35×30	1.01 1.08			25×45 25×50	1.04 1.09	30×35 30×40	1.04 1.10	35×25 35×30	1.00 1.07
270				25×45 25×50	1.17 1.22	30×35 30×40 30×45	1.16 1.23 1.29	35×30 35×35	1.20 1.28			25×50	1.21	30×40 30×45	1.22 1.28	35×30 35×35	1.19 1.27
330						30×40 30×45	1.36 1.43	35×30 35×40	1.33 1.49					30×45 30×50	1.42 1.49	35×35 35×45	1.40 1.55
390						30×45 30×50	1.56 1.63	35×30 35×45	1.44 1.70					30×50	1.62	35×40 35×50	1.61 1.76
470								35×40 35×50	1.78 1.95							35×45 35×50	1.85 1.94
560								35×45	2.04							35×50	2.12

V. DC		420V (2P)								500V (2H)							
μF	φ D	22 φ		25 φ		30 φ		35 φ		22 φ		25 φ		30 φ		35 φ	
82		22×25	0.45							22×30	0.75	25×30	0.81				
100		22×30	0.53							22×40	0.94	25×40	1.00				
120		22×35	0.62	25×25	0.58					22×50	1.14	25×50	1.22				
150		22×40	0.74	25×35	0.75					22×50	1.27	25×55	1.42				
180		22×45	0.85	25×30	0.77	30×30	0.86								30×35	1.42	
220		22×50	1.00	25×40	0.96	30×30	0.95								30×35	1.57	35×40
270		22×60	1.20	25×50	1.10	30×30	1.05	35×35	1.23								35×45
330				25×55	1.36			35×35	1.35								35×50
470																	35×60
680								35×50	2.12								35×70
820								35×70	2.70								40×70
1,000								35×70	3.08								40×80

Ripple current: A/rms
Case size: ϕ D×L(mm)

Part numbering system

LSG series	100μF	±20%	400V	4.0±0.5mm	22 ϕ×30L	Pb-free Terminal + PVC Sleeve
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LSG 101 M 2G -- A 2230

Series name	Capacitance Example:	Capacitance tolerance M = ±20% K = ±10%	Rated voltage Example:	Terminal type Example:	Terminal length “-”: 6.3±1.0 mm	Case size Example:	Terminal and Sleeve Type
	Cap. Symbol		WV Symbol	Type Symbol		φ D×L Code	
	56 560		400 2G	2 pins --		22x30 2230	
	220 221		450 2W	5 pins L5		25x25 2525	
	470 471					30x40 3040	

Note: For more details, please refer to “Product Code Guide– Snap-in Type” on page 15.