

Features

- Snap-in terminal type
- 85°C, 2,000 hours assured
- Good safe characteristics which shall be failed with open mode without sparking and catching fire, when it is applied excess voltage
- RoHS compliance

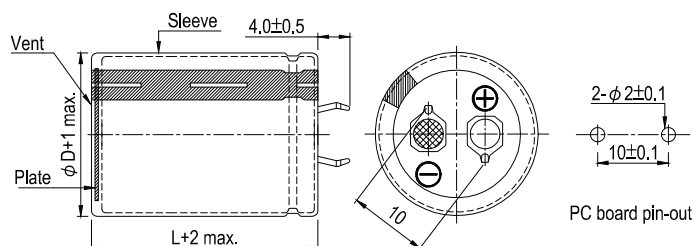


Specifications

Items	Performance																					
Category	200 ~ 400V		450V																			
Temperature Range	-40°C ~ +85°C		-25°C ~ +85°C																			
Capacitance Tolerance	±20% (at 120 Hz, 20°C)																					
Leakage Current (at 20°C)	I = 3√CV or 1.5 mA whichever is smaller (after 5 minutes) Where, C = rated capacitance in μF, V = rated DC Rated Voltage in V																					
Tanδ (at 120 Hz, 20°C)	<table><tr><td>Rated Voltage</td><td>200</td><td>250</td><td>400</td><td>450</td></tr><tr><td>Tanδ (max)</td><td>0.15</td><td>0.15</td><td>0.20</td><td>0.20</td></tr></table>					Rated Voltage	200	250	400	450	Tanδ (max)	0.15	0.15	0.20	0.20							
Rated Voltage	200	250	400	450																		
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Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below. <table><tr><td colspan="2">Rated Voltage</td><td>200</td><td>250</td><td>400</td><td>450</td></tr><tr><td rowspan="2">Impedance Ratio</td><td>Z(-25°C)/Z(+20°C)</td><td>4</td><td>4</td><td>8</td><td>8</td></tr><tr><td>Z(-40°C)/Z(+20°C)</td><td>8</td><td>10</td><td>18</td><td>-</td></tr></table>					Rated Voltage		200	250	400	450	Impedance Ratio	Z(-25°C)/Z(+20°C)	4	4	8	8	Z(-40°C)/Z(+20°C)	8	10	18	-
Rated Voltage		200	250	400	450																	
Impedance Ratio	Z(-25°C)/Z(+20°C)	4	4	8	8																	
	Z(-40°C)/Z(+20°C)	8	10	18	-																	
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>Tanδ</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 2,000 hours at 85°C.</p>					Test Time	2,000 Hrs	Capacitance Change	Within ±20% of initial value	Tanδ	Less than 200% of specified value	Leakage Current	Within specified value									
Test Time	2,000 Hrs																					
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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>Tanδ</td><td>Less than 150% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85 °C without voltage applied. The rated voltage shall be applied to the capacitors before the measurements (Refer to JIS C 5101-4 4.1).</p>					Test Time	1,000 Hrs	Capacitance Change	Within ±20% of initial value	Tanδ	Less than 150% of specified value	Leakage Current	Within specified value									
Test Time	1,000 Hrs																					
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Ripple Current and Frequency Multipliers	<table><tr><td>Frequency (Hz)</td><td>50 / 60</td><td>100 / 120</td><td>300</td><td>1k</td><td>10k up</td></tr><tr><td>Multiplier</td><td>0.8</td><td>1.0</td><td>1.1</td><td>1.3</td><td>1.4</td></tr></table>					Frequency (Hz)	50 / 60	100 / 120	300	1k	10k up	Multiplier	0.8	1.0	1.1	1.3	1.4					
Frequency (Hz)	50 / 60	100 / 120	300	1k	10k up																	
Multiplier	0.8	1.0	1.1	1.3	1.4																	
Safety Function Test Conditions	1. DC reverse voltage test: The capacitor is shall be connected in reverse polarity, and applied under specified Rated Voltage. 2. DC over voltage test: The voltage of 1.2 times shall be applied to the capacitor.																					
Failure percentage Failure rate	When the failure percentage / failure rate is required, please contact with us for further discussion.																					

Diagram of Dimensions

Unit: mm



Dimension and Permissible Ripple Current

Rated Voltage V _{DC}	Capacitance 120 Hz, 20°C μF	φ D×L mm	Ripple Current 120 Hz, 85°C A/rms	Tan δ at 120 Hz, 20°C	ESR 120 Hz, 20°C Ω	LC 5 minutes mA	Part Number
200	560	35 × 20	2.08	0.15	0.355	1.00	LS2561M2D--A3520
	680	35 × 20	2.23	0.15	0.293	1.11	LS2681M2D--A3520
	680	35 × 25	2.30	0.15	0.293	1.11	LS2681M2D--A3525
	820	35 × 25	2.53	0.15	0.243	1.21	LS2821M2D--A3525
	1,000	35 × 30	2.96	0.15	0.199	1.34	LS2102M2D--A3530
	1,200	35 × 35	3.40	0.15	0.166	1.47	LS2122M2D--A3535
	1,500	35 × 40	3.87	0.15	0.133	1.50	LS2152M2D--A3540
	1,800	35 × 45	4.37	0.15	0.111	1.50	LS2182M2D--A3545
250	390	35 × 20	1.68	0.15	0.510	0.94	LS2391M2E--A3520
	470	35 × 20	1.85	0.15	0.423	1.03	LS2471M2E--A3520
	470	35 × 25	2.01	0.15	0.423	1.03	LS2471M2E--A3525
	560	35 × 25	2.21	0.15	0.355	1.12	LS2561M2E--A3525
	680	35 × 30	2.54	0.15	0.293	1.24	LS2681M2E--A3530
	820	35 × 35	2.90	0.15	0.243	1.36	LS2821M2E--A3535
	1,000	35 × 35	3.21	0.15	0.199	1.50	LS2102M2E--A3535
	1,200	35 × 40	3.56	0.15	0.166	1.50	LS2122M2E--A3540
400	1,500	35 × 50	4.26	0.15	0.133	1.50	LS2152M2E--A3550
	220	35 × 25	1.60	0.20	1.206	0.89	LS2221M2G--A3525
	270	35 × 30	1.75	0.20	0.983	0.99	LS2271M2G--A3530
	330	35 × 30	1.95	0.20	0.804	1.09	LS2331M2G--A3530
	390	35 × 35	2.17	0.20	0.680	1.18	LS2391M2G--A3535
	470	35 × 40	2.42	0.20	0.565	1.30	LS2471M2G--A3540
450	560	35 × 45	2.71	0.20	0.474	1.42	LS2561M2G--A3545
	120	35 × 20	1.11	0.20	2.212	0.70	LS2121M2W--A3520
	150	35 × 20	1.24	0.20	1.769	0.78	LS2151M2W--A3520
	150	35 × 25	1.35	0.20	1.769	0.78	LS2151M2W--A3525
	180	35 × 25	1.39	0.20	1.474	0.85	LS2181M2W--A3525
	220	35 × 30	1.61	0.20	1.206	0.94	LS2221M2W--A3530
	270	35 × 35	1.86	0.20	0.983	1.05	LS2271M2W--A3535
	330	35 × 35	2.06	0.20	0.804	1.16	LS2331M2W--A3535
	390	35 × 45	2.34	0.20	0.680	1.26	LS2391M2W--A3545
	470	35 × 50	2.63	0.20	0.565	1.38	LS2471M2W--A3550

Part Numbering System

LS2 Series 220μF ±20% 400V 4.0±0.5mm 35 φ ×25L

LS2

Series Name

221

Capacitance

Example:

Cap.	Symbol
56	560
220	221
470	471

M

Capacitance tolerance

M = ±20%
K = ±10%

2G

Rated voltage

Example:

Voltage	Symbol
400	2G
450	2W

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Terminal type

Example:

Type	Symbol
2 pins	--
5 pins	L5

A

Terminal length

"A":
6.3±1.0 mm

3525

Case size

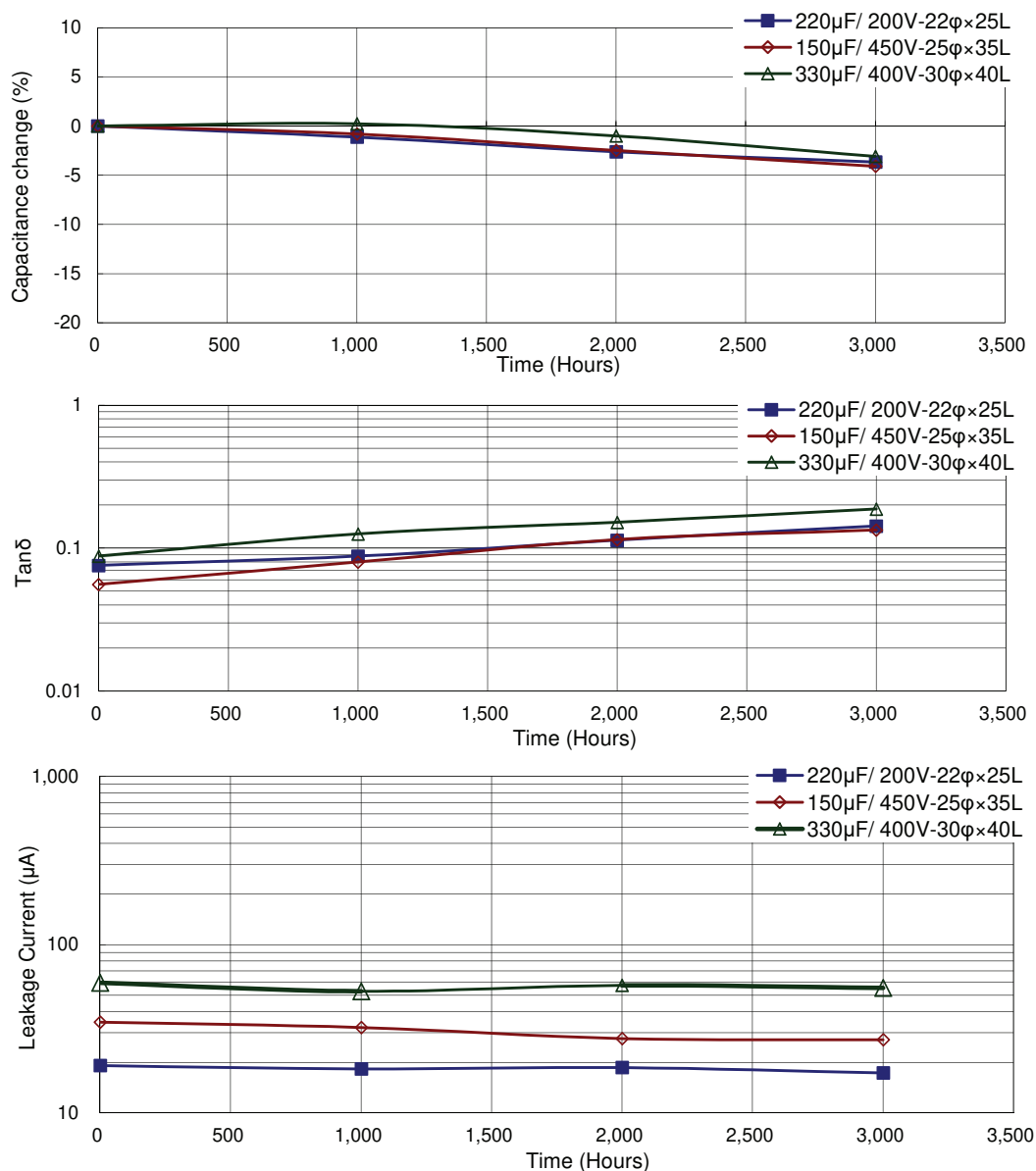
Example:

φ D×L	Code
22×30	2230
25×25	2525
30×40	3040

xx

S = Standard
KS = AEC-Q200 Qualified,
Safety Critical Application
LS = AEC-Q200 Qualified,
Non-Safety Critical
Application

Typical Endurance Curves



Useful Life Chart

