

LSQ SERIES

Load Life : 85°C 3000 hours

RoHS
compliance



◆SPECIFICATIONS

Items	Characteristics																																																																																					
Category Temperature Range	-40~+85℃						-25~+85℃																																																																															
Rated Voltage Range	10~100Vdc						160~450Vdc																																																																															
Capacitance Tolerance	±20% (20℃, 120Hz)																																																																																					
Leakage Current(MAX)	I=0.02CV or 5mA whichever is smaller. (After 5 minutes application of rated voltage) I=Leakage Current(μA) C=Capacitance(μF) V=Rated Voltage(Vdc)																																																																																					
Dissipation Factor(MAX) (tanδ)	<table><tr><td>Vdc\φD</td><td>36</td><td>51</td><td>64</td><td>77</td><td>90</td></tr><tr><td>10</td><td>0.75</td><td>1.0</td><td>1.3</td><td>1.5</td><td>1.5</td></tr><tr><td>16</td><td>0.6</td><td>0.7</td><td>0.8</td><td>1.0</td><td>1.0</td></tr><tr><td>25</td><td>0.4</td><td>0.5</td><td>0.7</td><td>0.8</td><td>0.8</td></tr><tr><td>35</td><td>0.3</td><td>0.5</td><td>0.6</td><td>0.7</td><td>0.7</td></tr><tr><td>50</td><td>0.25</td><td>0.3</td><td>0.5</td><td>0.6</td><td>0.6</td></tr></table>						Vdc\φD	36	51	64	77	90	10	0.75	1.0	1.3	1.5	1.5	16	0.6	0.7	0.8	1.0	1.0	25	0.4	0.5	0.7	0.8	0.8	35	0.3	0.5	0.6	0.7	0.7	50	0.25	0.3	0.5	0.6	0.6	<table><tr><td>Vdc\φD</td><td>36</td><td>51</td><td>64</td><td>77</td><td>90</td></tr><tr><td>63</td><td>0.2</td><td>0.25</td><td>0.3</td><td>0.4</td><td>0.4</td></tr><tr><td>80</td><td>0.2</td><td>0.2</td><td>0.25</td><td>0.3</td><td>0.3</td></tr><tr><td>100</td><td>0.15</td><td>0.2</td><td>0.25</td><td>0.25</td><td>0.25</td></tr><tr><td>160~250</td><td>0.15</td><td>0.15</td><td>0.2</td><td>0.2</td><td>0.2</td></tr><tr><td>350~450</td><td>0.2</td><td>0.2</td><td>0.25</td><td>0.25</td><td>0.25</td></tr></table>						Vdc\φD	36	51	64	77	90	63	0.2	0.25	0.3	0.4	0.4	80	0.2	0.2	0.25	0.3	0.3	100	0.15	0.2	0.25	0.25	0.25	160~250	0.15	0.15	0.2	0.2	0.2	350~450	0.2	0.2	0.25	0.25	0.25	(20℃, 120Hz)	
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Endurance	After applying rated voltage with rated ripple current for 3000 hours at 85℃, the capacitors shall meet the following requirements. <table><tr><td>Capacitance Change</td><td>Within ±15% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td>Not more than 175% of the specified value.</td></tr><tr><td>Leakage Current</td><td>Not more than the specified value.</td></tr></table>												Capacitance Change	Within ±15% of the initial value.	Dissipation Factor	Not more than 175% of the specified value.	Leakage Current	Not more than the specified value.																																																																				
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Shelf Life	After storage for 500 hours with no voltage applied at 85℃, the capacitors shall be subjected to the voltage treatment in JIS C 5101-4 item 4.1 and shall be meet the following requirements. <table><tr><td>Capacitance Change</td><td>Within ±15% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td>Not more than 150% of the specified value.</td></tr><tr><td>Leakage Current</td><td>Not more than the specified value.</td></tr></table>												Capacitance Change	Within ±15% of the initial value.	Dissipation Factor	Not more than 150% of the specified value.	Leakage Current	Not more than the specified value.																																																																				
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◆MULTIPLIER FOR RIPPLE CURRENT

Frequency (Hz)	60(50)	120(100)	300	500	1k	10k≤
10~50Vdc	0.80	1.00	1.03	1.04	1.05	1.08
63~100Vdc	0.80	1.00	1.04	1.05	1.07	1.10
160~450Vdc	0.80	1.00	1.06	1.10	1.13	1.18

◆PART NUMBER

LSQ M D×L
 Rated Voltage Series Capacitance Capacitance Tolerance Option Clamp Code Case Size

◆DIMENSIONS

		(mm)						
	Type	φD	W1	W2	W3	W4	W5	F
I type	36	24.0	30.0	3.5	7.0	10	12.7	
	51	34.0	40.0	3.5	6.0	12	21.8	
	64	40.0	45.0	4.5	7.0	12	28.2	
	77	47.0	53.0	4.5	6.0	12	31.4	
	90	54.0	60.0	4.5	6.0	14	31.4	
Y type	51	32.5	37.5	4.5	6.0	12	21.8	
	64	38.0	43.0	4.5	8.0	14	28.2	
	77	44.5	49.0	4.5	7.0	14	31.4	
	90	50.8	56.0	4.5	8.0	16	31.4	

◆STANDARD SIZE

Vdc Cap(μF)	10	16	25	35	50	63	80
3300							36×50 2.5
3900							36×50 2.6
4700							36×50 2.8
5600						36×50 3.0	36×63 2.9
6800					36×50 3.3	36×50 3.2	36×83 3.7
8200					36×50 3.7	36×63 3.8	36×83 4.2
10000				36×50 3.6	36×50 4.3	36×83 4.1	36×98 5.0
12000				36×50 3.7	36×63 5.3	36×83 4.4	36×118 5.4
15000				36×50 4.0	36×83 5.5	36×98 5.5	51×83 7.7
18000			36×50 5.0	36×63 4.7	36×83 5.7	36×118 6.2	51×83 7.8
22000			36×63 5.4	36×83 5.6	36×98 6.1	51×83 7.1	51×83 8.0
27000		36×50 5.1	36×83 5.8	36×83 6.2	36×118 6.7	51×83 7.4	51×98 8.7
33000		36×63 5.5	36×83 6.0	36×83 6.3	51×83 7.1	51×98 8.8	51×118 10.5
39000	36×50 5.3	36×83 7.0	36×83 6.7	36×98 7.6	51×83 7.4	51×118 10.0	64×99 12.1
47000	36×63 6.0	36×83 7.3	36×98 8.0	36×118 8.7	51×98 8.7	64×99 11.9	64×99 14.4
56000	36×83 6.3	36×98 7.6	36×118 8.4	51×83 10.0	51×98 9.8	64×99 12.6	64×119 15.0
68000	36×83 7.9	36×98 10.3	51×83 9.3	51×83 10.8	51×118 12.0	64×119 15.0	64×139 16.8
82000	36×83 8.4	36×118 10.5	51×83 10.0	51×98 12.0	64×99 12.3	77×101 16.4	77×121 19.4
100000	36×118 9.3	51×83 10.9	51×98 12.0	51×118 13.6	64×119 14.2	77×121 18.9	77×141 21.5
120000	51×83 10.0	51×98 11.1	51×118 12.9	64×99 13.8	64×119 16.0	77×141 21.6	90×141 22.3
150000	51×83 11.0	51×98 12.6	64×99 15.3	64×99 14.6	77×121 18.6	90×141 26.0	
180000	51×98 12.1	51×118 13.2	64×99 15.5	64×119 16.7	77×141 19.5		
220000	51×98 14.0	64×99 14.7	64×119 18.0	77×101 17.4	90×141 23.3		
270000	51×118 14.2	64×119 15.4	77×101 18.8	77×141 23.1	90×141 24.8		
330000	64×99 17.3	64×139 18.3	77×121 23.2	77×151 25.9			
390000	64×119 18.0	77×121 19.0	77×141 23.5	90×141 26.5			
470000	64×139 19.3	77×141 22.0	90×141 24.7	90×151 28.3			
560000	77×121 20.1	77×151 23.0	90×141 26.2				
680000	77×141 24.0						

Vdc Cap(μF)	100	160	200	250	350	400	450
270						36×50 1.3	36×50 1.6
330						36×50 1.7	36×63 1.8
390					36×50 1.9	36×63 1.8	36×83 2.2
470				36×50 1.6	36×63 2.1	36×83 2.3	36×83 2.4
560				36×50 1.6	36×83 2.4	36×83 2.7	36×98 2.8
680			36×50 1.6	36×50 1.7	36×83 2.9	36×98 2.9	36×118 3.1
820			36×50 1.7	36×63 1.8	36×98 3.4	36×98 3.4	51×83 3.6
1000			36×63 2.2	36×83 2.4	36×98 3.8	36×118 3.9	51×83 4.0
1200		36×50 2.3	36×63 2.3	36×83 2.4	36×118 4.2	51×83 4.2	51×98 4.8
1500		36×63 3.2	36×83 2.9	36×98 3.1	51×83 4.7	51×98 4.8	51×118 5.7
1800		36×83 3.4	36×83 2.9	36×118 3.4	51×98 6.3	51×98 5.7	64×99 6.5
2200	36×50 2.5	36×83 3.6	36×98 3.6	51×83 3.9	51×98 6.4	51×118 7.0	64×99 7.2
2700	36×50 2.7	36×98 3.8	36×118 4.0	51×83 4.0	64×99 8.8	64×99 7.9	64×119 8.7
3300	36×50 3.2	36×118 4.7	51×83 4.6	51×98 5.4	64×99 8.8	64×119 9.5	77×121 10.5
3900	36×63 3.3	51×83 5.3	51×83 4.7	51×118 6.0	64×119 10.3	77×101 10.7	77×121 12.0
4700	36×83 3.5	51×83 5.6	51×98 7.1	64×99 7.3	77×101 12.0	77×121 12.8	77×141 13.3
5600	36×83 3.8	51×98 6.4	51×118 8.3	64×99 7.3	77×121 12.7	77×141 14.5	90×141 15.8
6800	36×98 4.5	51×98 7.5	64×99 9.5	64×119 8.9	77×141 16.0	77×151 17.5	90×151 18.7
8200	36×118 6.0	51×118 8.1	64×99 10.0	77×101 8.9	90×141 19.0	90×141 18.0	
10000	36×118 6.3	64×99 9.9	64×119 11.1	77×121 11.8	90×141 20.0	90×151 20.5	
12000	51×83 6.6	64×119 10.8	77×101 11.6	77×141 13.1			
15000	51×83 8.5	77×101 12.7	77×121 12.9	90×141 16.5			
18000	51×98 8.9	77×121 14.1	77×141 15.2				
22000	51×118 10.2	77×141 16.6	90×141 15.6				
27000	64×99 11.0	90×141 17.7					
33000	64×119 11.7	90×141 18.9					
39000	77×101 12.5						
47000	77×121 14.5						
56000	77×141 16.2						
68000	77×151 18.3						
82000	90×141 20.1						
100000	90×141 21.0						

↑ Ripple Current (A r.m.s./120Hz, 85°C)
↑ Case Size φD×L(mm)

◆Tightening torque of bolt and Permissible current of terminal

Clamp Bolt	Recommended Tightening torque
M3	0.6 [N·m]
M4	1.3 [N·m]

Terminal	Recommended Tightening torque (Permissible Range)	Permissible Current of Terminal
M5	2.2(1.5~3.2) [N·m]	60 [A r.m.s.]