

LSQ SERIES

Load Life : 85°C 3000 hours

RoHS compliance



◆ SPECIFICATIONS

Items	Characteristics																																																																															
Category Temperature Range	-40~+85°C	-25~+85°C																																																																														
Rated Voltage Range	10~100Vdc	160~450Vdc																																																																														
Capacitance Tolerance	±20% (20°C, 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 border="1"> <thead> <tr> <th>Vdc \ φD</th> <th>36</th> <th>51</th> <th>64</th> <th>77</th> <th>90</th> <th>Vdc \ φD</th> <th>36</th> <th>51</th> <th>64</th> <th>77</th> <th>90</th> <th>(20°C, 120Hz)</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>0.75</td> <td>1.0</td> <td>1.3</td> <td>1.5</td> <td>1.5</td> <td>63</td> <td>0.2</td> <td>0.25</td> <td>0.3</td> <td>0.4</td> <td>0.4</td> <td></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> <td>80</td> <td>0.2</td> <td>0.2</td> <td>0.25</td> <td>0.3</td> <td>0.3</td> <td></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> <td>100</td> <td>0.15</td> <td>0.2</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> <td></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> <td>160~250</td> <td>0.15</td> <td>0.15</td> <td>0.2</td> <td>0.2</td> <td>0.2</td> <td></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> <td>350~450</td> <td>0.2</td> <td>0.2</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> <td></td> </tr> </tbody> </table>		Vdc \ φD	36	51	64	77	90	Vdc \ φD	36	51	64	77	90	(20°C, 120Hz)	10	0.75	1.0	1.3	1.5	1.5	63	0.2	0.25	0.3	0.4	0.4		16	0.6	0.7	0.8	1.0	1.0	80	0.2	0.2	0.25	0.3	0.3		25	0.4	0.5	0.7	0.8	0.8	100	0.15	0.2	0.25	0.25	0.25		35	0.3	0.5	0.6	0.7	0.7	160~250	0.15	0.15	0.2	0.2	0.2		50	0.25	0.3	0.5	0.6	0.6	350~450	0.2	0.2	0.25	0.25	0.25	
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Endurance	<p>After applying rated voltage with rated ripple current for 3000 hours at 85°C, the capacitors shall meet the following requirements.</p> <table border="1"> <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	<p>After storage for 500 hours with no voltage applied at 85°C, the capacitors shall be subjected to the voltage treatment in JIS C 5101-4 item 4.1 and shall be meet the following requirements.</p> <table border="1"> <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

	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
Y type	90	54.0	60.0	4.5	6.0	14	31.4
	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

Cap(μF) \ Vdc	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													

Cap(μF) \ Vdc	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						
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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.]