ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

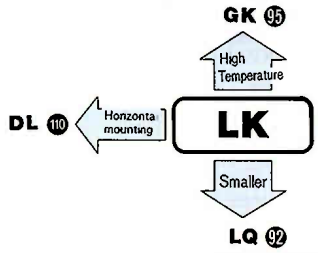
LK Snap-in Terminal Type, Standard series

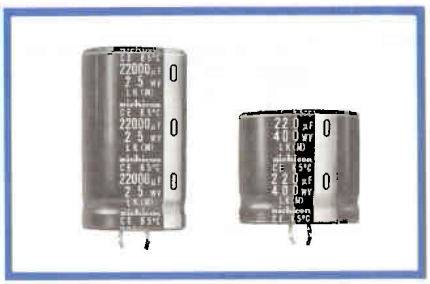
RCJ Approved

Anti-Solvent Feature (Through 100V only)

Approved by Reliability Center for Electronic Component, Japan Certification No. RCJ-03-25C

- Standard snap-in terminal series.
- Extended capacitance ranges based on the numerical values in E12 series under JIS.





■Specifications

Item	Performance Characteristics
Operating Temperature Range	−40～+85℃ (16～250V)　　−25～+85℃ (400・450V)
Voltage Range	16～450V
Capacitance Range	47～33000μF
Capacitance Tolerance	±20% (120Hz, 20℃)
Leakage Current	$I \leqq 3\sqrt{CV}$ (μA) (After 5 minutes' application of rated voltage) [C: Capacitance (μF), V: Voltage (V)]
tan δ	Measurement frequency: 120Hz, Temperature: 20℃

Rated voltage (V)	16	25	35	50	63	80	100	160	200	250	400	450
tan δ (MAX.)	0.5	0.4	0.35	0.3	0.25	0.2	0.2	0.15	0.10	0.10	0.20	0.20

Stability at Low Temperature — Measurement frequency: 120Hz

Rated voltage (V)		16～100	160～250	400・450
Impedance ratio	Z−25℃/Z+20℃	4	3	8
ZT/Z20 (MAX.)	Z−40℃/Z+20℃	15	12	—

Load Life — After an application of rated voltage (maximum value of DC voltage overlapped by an allowable ripple current) for 2000 hours at 85℃, capacitors meet the characteristics requirements listed at right.

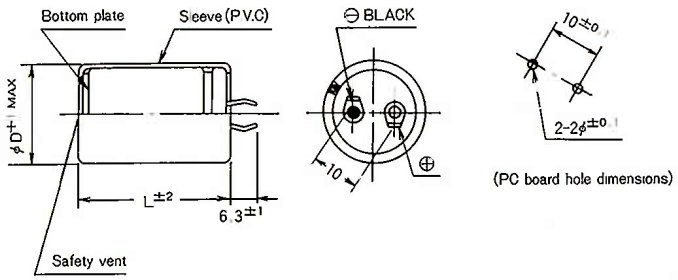
Leakage current	Initial specified value or less
Capacitance change	Within ±20% of initial value
tan δ	200% or less of initial specified value

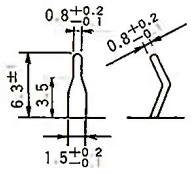
Shelf Life — After leaving capacitors under no load at 85℃ for 1000 hours, they meet the requirements listed at right.

Leakage current	Initial specified value or less
Capacitance change	Within ±15% of initial value
tan δ	150% or less of initial specified value

Marking	Printed with white color letter on black sleeve.
Applicable Standards	JIS C-5141 and JIS C-5102

■Drawing





(Terminal dimensions)

Type numbering system (Example: 400V 180μF)

1	2	3	4	5	6	7	8	9	10	11	12
L	L	K	2	G	1	8	1	M	H	S	A

Case dia. code

Configuration	
Capacitance tolerance (±20%)	
Capacitance (180μF)	
Rated voltage (400V)	
Series name	
Type	

φD	Code
22	Z
25	A
30	B
35	C

• Dimension table in next page.

ALUMINUM ELECTROLYTIC CAPACITORS

LK series

■ Dimensions

DXL (mm)

Cap. (μF)	Code	V (Code) / φD	16 (1C)				25 (1E)				35 (1V)				50 (1H)			
			22	25	30	35	22	25	30	35	22	25	30	35	22	25	30	35
2200	222														22×25 1.85			
2700	272														22×30 2.10			
3300	332										22×25 2.20				22×35 2.35	25×25 2.35		
3900	392										22×30 2.25				22×35 2.50	25×30 2.50		
4700	472						22×25 1.90				22×30 2.40	25×25 2.40			22×40 2.80	25×35 2.80	30×25 2.80	
5600	562						22×30 2.25				22×35 2.75	25×30 2.75			22×45 3.30	25×40 3.30	30×30 3.30	
6800	682	22×25 2.50					22×35 2.55	25×25 2.55			22×40 2.95	25×35 2.95	30×25 2.95		22×50 3.80	25×40 3.80	30×35 3.80	
8200	822	22×30 2.65					22×40 3.10	25×30 3.10	30×25 3.20		22×45 3.45	25×40 3.50	30×30 3.45			25×50 4.30	30×40 4.35	35×30 4.25
10000	103	22×30 2.85	25×25 2.85				22×45 3.40	25×35 3.40	30×30 3.40			25×45 4.00	30×35 4.00				30×45 4.75	35×35 4.70
12000	123	22×35 3.25	25×30 3.25				22×50 4.00	25×40 3.90	30×30 3.85			25×50 4.45	30×40 4.50	35×30 4.40			30×50 5.30	35×40 5.25
15000	153	22×40 3.70	25×35 3.75	30×25 3.65				25×45 3.75	30×35 4.45	35×30 4.45			30×45 5.00	35×35 5.00				35×45 5.90
18000	183	22×50 4.35	25×40 4.25	30×30 4.20					30×40 5.00	35×35 5.10			30×50 5.55	35×40 5.50				35×50 6.50
22000	223		25×45 4.80	30×35 4.80	35×30 4.80				30×50 5.80	35×40 5.75				35×50 6.25				
27000	273			30×40 5.20	35×30 5.15					35×50 6.60								
33000	333			30×45 5.80	35×40 5.90													

Cap. (μF)	Code	V (Code) / φD	63 (1J)				80 (1K)				100 (2A)			
			22	25	30	35	22	25	30	35	22	25	30	35
820	821										22×25 1.20			
1000	102										22×30 1.50	25×25 1.50		
1200	122						22×25 1.30				22×35 1.75	25×30 1.75		
1500	152						22×30 1.80	25×25 1.80			22×40 1.95	25×30 1.90	30×25 1.95	
1800	182	22×25 1.70					22×35 2.05	25×30 2.05			22×45 2.30	25×35 2.20	30×30 2.30	
2200	222	22×30 2.30	25×25 2.30				22×40 2.30	25×30 2.30	30×25 2.30		22×50 2.65	25×40 2.60	30×30 2.55	
2700	272	22×35 2.40	25×30 2.45				22×45 2.50	25×35 2.45	30×30 2.50			25×45 2.85	30×35 2.85	35×30 2.95
3300	332	22×40 2.75	25×35 2.80	30×25 2.75			22×50 2.95	25×40 2.85	30×30 2.80				30×40 3.45	35×35 3.45
3900	392	22×45 3.00	25×35 2.90	30×30 3.00				25×45 3.20	30×35 3.20				30×45 3.85	35×35 3.75
4700	472	22×50 3.30	25×40 3.25	30×30 3.20				25×50 3.75	30×40 3.80	35×30 3.70				35×40 4.30
5600	562		25×45 3.75	30×35 3.75					30×45 4.40	35×35 4.35				35×50 5.10
6800	682			30×40 4.20	35×30 4.15				30×50 4.80	35×40 4.80				
8200	822			30×45 4.70	35×35 4.65					35×45 5.35				
10000	103				35×40 5.20									
12000	123				35×50 6.10									Case size Allowable ripple

Allowable Ripple (A) at 85℃ 120Hz

LK series

■ Dimensions

DXL(mm)

Cap.(μF)	Code	V (Code) / φD	160(2C) 22	25	30	35	200(2D) 22	25	30	35	250(2E) 22	25	30	35
180	181										22×25 0.95			
220	221						22×25 1.10				22×30 1.15	25×25 1.15		
270	271						22×30 1.25				22×35 1.25	25×30 1.25		
330	331	22×25 1.30					22×30 1.40	25×25 1.40			22×40 1.45	25×30 1.45	30×25 1.45	
390	391	22×30 1.50	25×25 1.55				22×35 1.60	25×30 1.60			22×45 1.70	25×35 1.70	30×30 1.70	
470	471	22×35 1.75	25×30 1.75				22×40 1.80	25×35 1.80	30×25 1.75		22×50 1.90	25×40 1.90	30×35 1.90	35×25 1.90
560	561	22×35 1.90	25×30 1.90	30×25 1.95			22×45 2.00	25×35 2.00	30×30 2.05			25×45 2.15	30×35 2.15	35×30 2.15
680	681	22×40 2.15	25×35 2.20	30×30 2.20				25×40 2.25	30×35 2.25	35×25 2.30			30×40 2.40	35×30 2.35
820	821	22×50 2.45	25×40 2.45	30×30 2.45	35×25 2.50			25×50 2.55	30×40 2.60	35×30 2.50			30×45 2.75	35×35 2.75
1000	102		25×45 2.80	30×35 2.80	35×30 2.85				30×45 2.95	35×35 2.90				35×40 3.00
1200	122		25×50 3.10	30×40 3.20	35×35 3.25				30×50 3.40	35×40 3.40				35×50 3.50
1500	152			30×45 3.70	35×40 3.75					35×45 3.80				
1800	182				35×40 4.00					35×50 4.15				
2200	222				35×50 4.50									

Cap.(μF)	Code	V (Code) / φD	400(2G) 22	25	30	35	450(2W) 22	25	30	35
47	470						22×25 0.49			
56	560						22×30 0.57			
68	680	22×25 0.58					22×30 0.63	25×25 0.63		
82	820	22×30 0.60					22×35 0.74	25×30 0.75		
100	101	22×30 0.77	25×25 0.77				22×40 0.88	25×35 0.89	30×25 0.86	
120	121	22×35 0.86	25×30 0.86				22×45 0.96	25×40 0.98	30×30 0.96	35×25 0.99
150	151	22×40 0.97	25×30 0.92	30×25 0.96				25×45 1.10	30×35 1.10	35×30 1.13
180	181	22×45 1.10	25×35 1.06	30×30 1.11	35×25 1.13			25×50 1.24	30×40 1.18	35×30 1.22
220	221	22×50 1.25	25×40 1.22	30×35 1.28	35×30 1.32				30×45 1.42	35×35 1.40
270	271		25×50 1.39	30×40 1.47	35×30 1.46				30×50 1.62	35×40 1.61
330	331			30×45 1.68	35×35 1.70					35×45 1.83
390	391			30×50 1.95	35×40 1.93					35×50 2.10
470	471				35×45 2.23					
560	561				35×50 2.54					Case size / Allowable ripple

Allowable Ripple(A) at 85℃ 120Hz

●Frequency coefficient of allowable ripple current

	Frequency(Hz)	50	60	120	1 k	10k～
Coeff	16～100V	0.88	0.90	1.00	1.15	1.15
	160～250V	0.85	0.88	1.00	1.15	1.20
	400・450V	0.88	0.90	1.00	1.10	1.15

●Allowable ripple current vs. Ambient temperature

Ambient temp.(C)	～+45	+60	+70	+85
Coefficient	1.48	1.42	1.30	1.00

Mouser Electronics

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Nichicon:

LLK1E472MHSZ LLK1H392MHSA LLK2E181MHSZ LLK1H332MESA LLK2G101MESA LLK2D221MHSZ LLK1H222MHSZ LLK1H472MHSB LLK1V472MHSA LLK1H472MHSA LLK2E681MHSC LLK1H332MHSA LLK1H682MHSA LLK1H103MHSB LLK1J222MHSA LLK1J472MHSBZP LLK2G391MHSC LLK2G471MHSC LLK1E472MESZ LLK1V472MELA