

ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

LK

Snap-in Terminal Type, Standard series

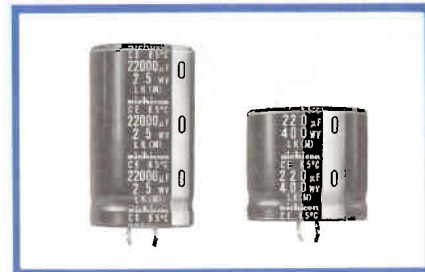
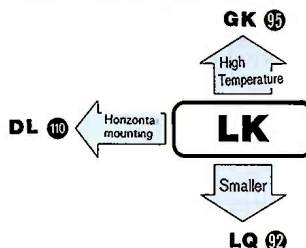


RCJ Approved An-Solvent Feature Through 00V only



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

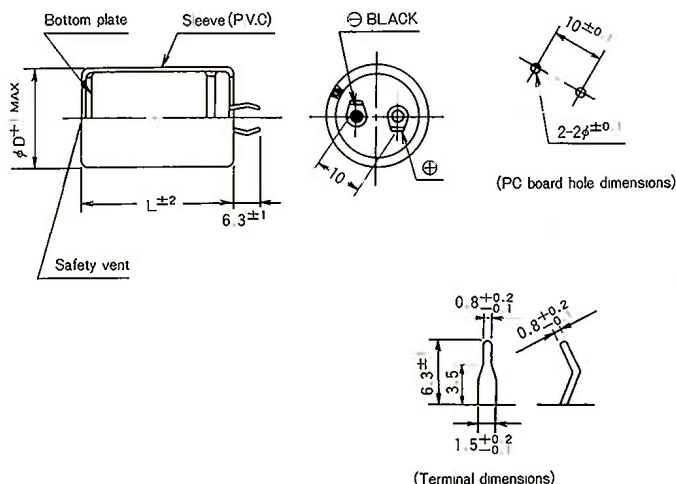
- Standard snap-in terminal series
- Extended capacitance ranges based on the numerical values in E12 series under JIS



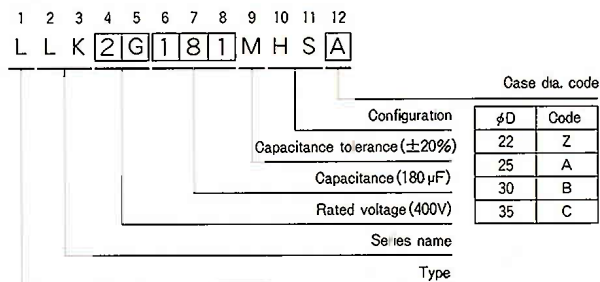
Specifications

Item	Performance Characteristics																									
Operating Temperature Range	-40~+85°C (16~250V)						-25~+85°C (400~450V)																			
Voltage Range	16~450V																									
Capacitance Range	47~33000μF																									
Capacitance Tolerance	±20% (120Hz 20°C)																									
Leakage Current	$I \leq 3 \sqrt{CV}$ (μA) (After 5 minutes' application of rated voltage) [C: Capacitance (μF), V: Voltage (V)]																									
tan δ	Measurement frequency: 120Hz Temperature: 20°C																									
	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°C/Z+20°C				4				3				8												
	ZT/Z20 (MAX.)	Z-40°C/Z+20°C				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°C, 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°C 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



Type numbering system (Example: 400V 180μF)



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LK series

■ Dimensions

DXL (mm)

V (Code) Cap. (μF) Code		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												

V (Code) Cap. (μF) Code		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								

Allowable Ripple(A) at 85°C 120Hz

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LK series

■ Dimensions

D×L(mm)

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

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

Allowable Ripple (A) at 85°C 120Hz

● Frequency coefficient of allowable ripple current

Frequency (Hz)	50	60	120	1 k	10k~
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