

ALUMINUM ELECTROLYTIC CAPACITORS

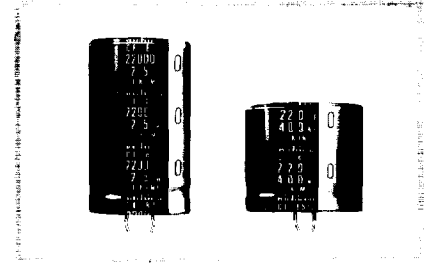
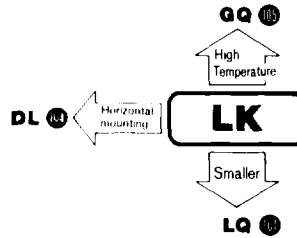


Snap-in Terminal Type, Standard series



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

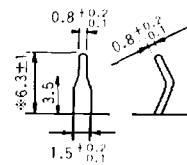
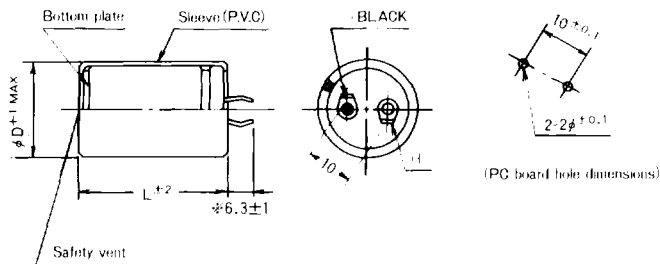
- Standard snap-in terminal series.
- Extended capacitance ranges based on the numerical values in E12 series under JIS.



Specifications

Item	Performance Characteristics														
Operating Temperature Range	-40~+85 C (16~250V) , -25~+85 C (400・450V)														
Voltage Range	16~450 V														
Capacitance Range	47~33000 μF														
Capacitance Tolerance	±20% (120Hz, 20 C)														
Leakage Current	I : 3 /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)	0.50	0.40	0.35	0.30	0.25	0.20	0.20	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						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



(Terminal dimensions)

※ Shorter terminal (4.0±0.5) is also available upon request.
Please refer to page 108 (GU series) for schematic of 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	φD Code
Capacitance tolerance (±20%)	22 Z
Capacitance (180 μF)	25 A
Rated voltage (400V)	30 B
	35 C
Series name	
Type	

ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

LK series

■ Dimensions

DXL (mm)

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

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

Case size
Allowable ripple

Allowable Ripple (A rms) at 85°C 120Hz

ALUMINUM ELECTROLYTIC CAPACITORS

LK series

■ Dimensions

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

Cap. (μF)	Code	V (Code)	φD	400(2G)				450(2W)									
				22	25	30	35	22	25	30	35						
47	470							22×25									
56	560							0.49									
68	680							22×30									
82	820							0.57									
100	101							22×30	25×25								
								0.58	0.60								
								22×30	25×30								
								0.60	0.63								
								22×30	25×35	30×25							
								0.77	0.77	0.86							
								22×35	25×30	30×30	35×25						
								0.86	0.86	0.96	0.99						
								22×40	25×30	30×25							
								0.97	0.92	0.96							
								22×45	25×35	30×30	35×25						
								1.10	1.06	1.11	1.13						
								22×50	25×40	30×35	35×30						
								1.25	1.22	1.28	1.32						
								25×50	30×40	35×30							
								1.39	1.47	1.46							
								30×45	35×35								
								1.68	1.70								
								30×50	35×40								
								1.95	1.93								
								35×45									
								2.23									
								35×50									
								2.54									

Allowable Ripple (A rms) at 85°C 120Hz

● Frequency coefficient of allowable ripple current

Coeff.	Frequency (Hz)	Ambient temp. (°C)				
		50	60	120	1k	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