

ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

LK

Snap-in Terminal Type, Standard series



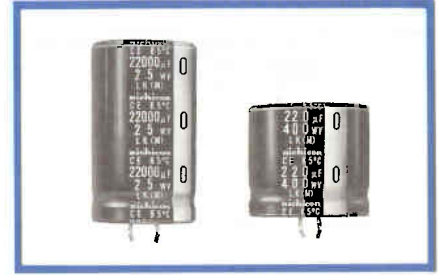
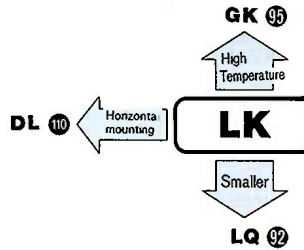
RoHS Approved



An-Solvent Feature
(Through 00V on y)

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

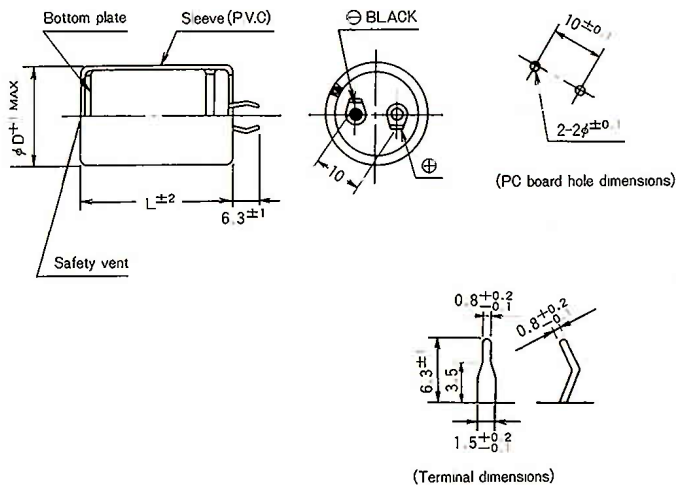
- Standard snap-in terminal series.
- Extended capacitance ranges based on the numerical values in E12 series under JIS



Specifications

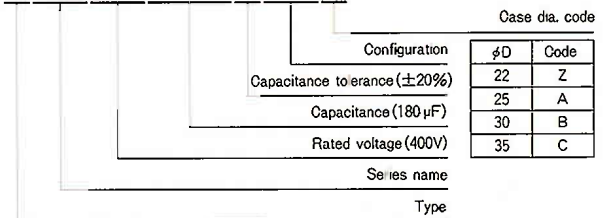
Item	Performance Characteristics													
Operating Temperature Range	-40~+85°C (16~250V)	-25~+85°C (400~450V)												
Voltage Range	16~450V													
Capacitance Range	47~33000μF													
Capacitance Tolerance	±20% (120Hz, 20°C)													
Leakage Current	$I \leq 3\sqrt{CV}$ (μA) (After 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											
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)

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	
φD	Code
22	Z
25	A
30	B
35	C

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■ Dimensions

DXL (mm)

Cap. (μF)	V (Code)		16(1C)				25(1E)				35(1V)				50(1H)			
	Code	#D	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				
3900	392													22×30				
														2.25				
4700	472						22×25							22×30	25×25			
							1.90							2.40	2.40			
5600	562						22×30							22×35	25×30			
							2.25							2.75	2.75			
6800	682		22×25				22×35	25×25						22×40	25×35	30×25		
			2.50				2.55	2.55						2.95	2.95	2.95		
8200	822		22×30				22×40	25×30	30×25					22×45	25×40	30×30		
			2.65				3.10	3.10	3.20					3.45	3.50	3.45		
10000	103		22×30	25×25			22×45	25×35	30×30					25×45	30×35			
			2.85	2.85			3.40	3.40	3.40					4.00	4.00			
12000	123		22×35	25×30			22×50	25×40	30×30					25×50	30×40	35×30		
			3.25	3.25			4.00	3.90	3.85					4.45	4.50	4.40		
15000	153		22×40	25×35	30×25			25×45	30×35	35×30				30×45	35×35			
			3.70	3.75	3.65			3.75	4.45	4.45				5.00	5.00			
18000	183		22×50	25×40	30×30				30×40	35×35				30×50	35×40			
			4.35	4.25	4.20				5.00	5.10				5.55	5.50			
22000	223			25×45	30×35	35×30			30×50	35×40					35×50			
				4.80	4.80	4.80			5.80	5.75					6.25			
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)		63(1J)				80(1K)				100(2A)			
	Code	#D	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								

Allowable Ripple(A) at 85°C 120Hz

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LK series

■ Dimensions

DXL(mm)

Cap. (μF)	V (Code) Code	φD	160(2C)				200(2D)				250(2E)			
			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								

Cap. (μF)	V (Code) Code	φD	400(2G)				450(2W)							
			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

Coeff	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