ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

LAQ

Snap-in Terminal Type, 105°C Permissible Abnormal Voltage, Smaller-sized

Smaller

- Withstanding 2000 hours application of rated ripple current of 105°C.
- Extended voltage range at 200V, 220V and 400V.
- Smaller case sizes and higher ripple current than LAK.
- Improved safety features for abnormally excessive voltage.
- Ideally suited for the equipment used at voltage fluctuating area.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).

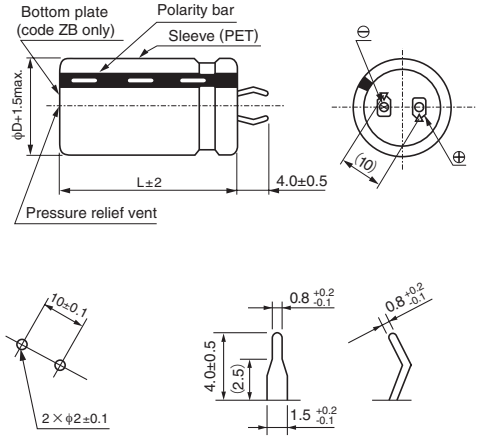
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■Specifications

Item	Performance Characteristics			
Category Temperature Range	–25 to +105°C			
Rated Voltage Range	200・220・400V			
Rated Capacitance Range	33 to 1500μF			
Capacitance Tolerance	±20% at 120Hz, 20°C			
Leakage Current	$I \leqq 3\sqrt{CV}$ (μA) (After 5 minutes' application of rated voltage at 20°C) [C : Rated Capacitance (μF) V : Voltage (V)]			
Tangent of loss angle (tan δ)	0.20max. 120Hz at 20°C			
Stability at Low Temperature	Rated voltage (V)		200・220・400	Measurement frequency : 120Hz
	Impedance ratio (max.)	Z(–25°C) / Z(+20°C)	8	
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 2000 hours at 105°C, the peak voltage shall not exceed the rated voltage.			
	Capacitance change	Within ±20% of the initial capacitance value		
	tan δ	200% or less than the initial specified value		
	Leakage current	Less than or equal to the initial specified value		
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the requirements listed at right.			
	Capacitance change	Within ±15% of the initial capacitance value		
	tan δ	150% or less than the initial specified value		
	Leakage current	Less than or equal to the initial specified value		
Safety Performance	The pressure relief vent will operate in normal conditions, with no dangerous conditions such as flames, ignitions or dispersion of pieces of the capacitor and / or case.			
	Rating		Test conditions	
	Voltage (V)	Rated Capacitance (μF)	Limited DC current	Test voltage
	200	C < 330	4 A	300VDC and 375VDC
		330 ≦ C < 470	5 A	
		470 ≦ C	7 A	
	220	C < 330	4 A	320VDC and 405VDC
		330 ≦ C < 470	5 A	
		470 ≦ C	7 A	
	400	C < 100	2 A	500VDC and 600VDC
		100 ≦ C < 220	4 A	
		220 ≦ C	7 A	
Marking	Printed with white color letter on black sleeve			

■Drawing



(PC board hole dimensions) (Terminal dimensions)

Type numbering system (Example : 200V 680μF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	A	Q	2	D	6	8	1	M	E	L	A	4	0		

- 1–3: Type
- 4–5: Series name
- 6–8: Rated voltage (200V)
- 9: Rated capacitance (680μF)
- 10: Capacitance tolerance (±20%)
- 11: Configuration※
- 12: Case dia. code

φD	Code
22	Z
25	A
30	B
35	C

- 13–14: Case length code
- 15–16: Bottom Plate

ZB	With Bottom Plate
code less	Without Bottom Plate

※Please contact to us if other configurations are required.

● Dimension table in next page.

LAQ

■ Dimensions

200V (2D)				
Cap. (μF)	Size φD × L(mm)	Ripple (mArms)	Leakage Current (mA)	Code
180	22 × 25	700	0.56	LAQ2D181MELZ25
	25 × 20	700	0.56	LAQ2D181MELA20
220	22 × 25	900	0.62	LAQ2D221MELZ25
270	22 × 25	1000	0.69	LAQ2D271MELZ25
330	22 × 30	1200	0.77	LAQ2D331MELZ30
	25 × 25	1200	0.77	LAQ2D331MELA25
390	22 × 35	1350	0.83	LAQ2D391MELZ35
	25 × 30	1350	0.83	LAQ2D391MELA30
470	22 × 40	1450	0.91	LAQ2D471MELZ40
	25 × 30	1450	0.91	LAQ2D471MELA30
	30 × 25	1450	0.91	LAQ2D471MELB25
560	22 × 45	1600	1.00	LAQ2D561MELZ45
	25 × 35	1600	1.00	LAQ2D561MELA35
	30 × 30	1600	1.00	LAQ2D561MELB30
680	22 × 50	1750	1.10	LAQ2D681MELZ50
	25 × 40	1750	1.10	LAQ2D681MELA40
	30 × 30	1750	1.10	LAQ2D681MELB30
	35 × 25	1750	1.10	LAQ2D681MELC25
820	25 × 50	2110	1.21	LAQ2D821MELA50
	30 × 35	2110	1.21	LAQ2D821MELB35
	35 × 30	2110	1.21	LAQ2D821MELC30
1000	30 × 45	2400	1.34	LAQ2D102MELB45
	35 × 35	2400	1.34	LAQ2D102MELC35
1200	30 × 50	2650	1.46	LAQ2D122MELB50
	35 × 40	2650	1.46	LAQ2D122MELC40
1500	35 × 45	3080	1.64	LAQ2D152MELC45

400V (2G)				
Cap. (μF)	Size φD × L(mm)	Ripple (mArms)	Leakage Current (mA)	Code
33	22 × 25	250	0.34	LAQ2G330MELZ25
39	22 × 25	300	0.37	LAQ2G390MELZ25
47	22 × 25	350	0.41	LAQ2G470MELZ25
56	22 × 25	450	0.44	LAQ2G560MELZ25
68	22 × 25	510	0.49	LAQ2G680MELZ25
82	22 × 30	580	0.54	LAQ2G820MELZ30
	25 × 25	580	0.54	LAQ2G820MELA25
100	22 × 30	660	0.60	LAQ2G101MELZ30
	25 × 25	660	0.60	LAQ2G101MELA25
120	22 × 35	760	0.65	LAQ2G121MELZ35
	25 × 30	760	0.65	LAQ2G121MELA30
	30 × 25	760	0.65	LAQ2G121MELB25
150	22 × 40	850	0.73	LAQ2G151MELZ40
	25 × 35	850	0.73	LAQ2G151MELA35
	30 × 25	850	0.73	LAQ2G151MELB25
180	25 × 40	950	0.80	LAQ2G181MELA40
	30 × 30	950	0.80	LAQ2G181MELB30
	35 × 25	950	0.80	LAQ2G181MELC25
220	25 × 45	1240	0.88	LAQ2G221MELA45
	30 × 35	1240	0.88	LAQ2G221MELB35
	35 × 30	1240	0.88	LAQ2G221MELC30
270	30 × 40	1300	0.98	LAQ2G271MELB40
	35 × 35	1300	0.98	LAQ2G271MELC35
330	30 × 45	1470	1.08	LAQ2G331MELB45
	35 × 35	1470	1.08	LAQ2G331MELC35
390	35 × 40	1590	1.18	LAQ2G391MELC40
470	35 × 45	1870	1.30	LAQ2G471MELC45

Rated ripple current (mArms) at 105°C 120Hz

220V (2P)				
Cap. (μF)	Size φD × L(mm)	Ripple (mArms)	Leakage Current (mA)	Code
100	22 × 20	500	0.44	LAQ2P101MELZ20
120	22 × 25	600	0.48	LAQ2P121MELZ25
150	22 × 25	650	0.54	LAQ2P151MELZ25
	25 × 20	650	0.54	LAQ2P151MELA20
180	22 × 25	700	0.59	LAQ2P181MELZ25
	25 × 25	700	0.59	LAQ2P181MELA25
220	22 × 30	900	0.66	LAQ2P221MELZ30
	25 × 25	900	0.66	LAQ2P221MELA25
	30 × 20	900	0.66	LAQ2P221MELB20
270	22 × 35	1000	0.73	LAQ2P271MELZ35
	25 × 30	1000	0.73	LAQ2P271MELA30
	30 × 25	1000	0.73	LAQ2P271MELB25
	35 × 20	1000	0.73	LAQ2P271MELC20
330	22 × 40	1200	0.80	LAQ2P331MELZ40
	25 × 30	1200	0.80	LAQ2P331MELA30
	30 × 25	1200	0.80	LAQ2P331MELB25
	35 × 25	1200	0.80	LAQ2P331MELC25
390	22 × 45	1350	0.87	LAQ2P391MELZ45
	25 × 35	1350	0.87	LAQ2P391MELA35
	30 × 30	1350	0.87	LAQ2P391MELB30
	35 × 25	1350	0.87	LAQ2P391MELC25
470	25 × 40	1450	0.96	LAQ2P471MELA40
	30 × 30	1450	0.96	LAQ2P471MELB30
	35 × 25	1450	0.96	LAQ2P471MELC25
560	25 × 45	1600	1.05	LAQ2P561MELA45
	30 × 35	1600	1.05	LAQ2P561MELB35
	35 × 30	1600	1.05	LAQ2P561MELC30
680	30 × 40	1750	1.16	LAQ2P681MELB40
	35 × 35	1750	1.16	LAQ2P681MELC35
820	30 × 45	2110	1.27	LAQ2P821MELB45
	35 × 40	2110	1.27	LAQ2P821MELC40
1000	35 × 45	2400	1.40	LAQ2P102MELC45

● Frequency coefficient of rated ripple current

Frequency (Hz)		50	60	120	1k	10k or more
Coefficient	200•220V	0.85	0.88	1.00	1.15	1.20
	400V	0.88	0.90	1.00	1.10	1.15