ALUMINUM ELECTROLYTIC CAPACITORS

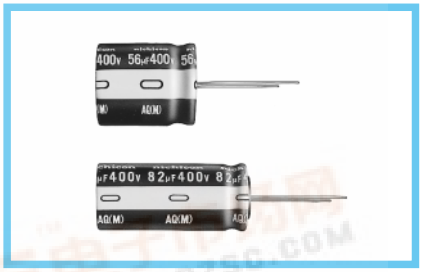
nichicon

AQ

Wide Temperature Range, Permissible Abnormal Voltage
(Radial Lead Type) series

- Improved safety feature for abnormally excessive voltage.
- High ripple current product.
- Adapted to the RoHS directive (2002/95/EC).

AQ
Smaller
AS



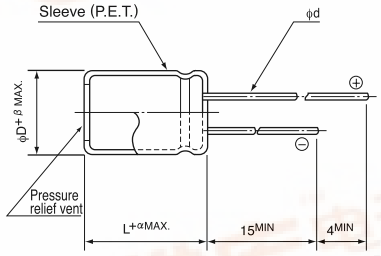
■Specifications

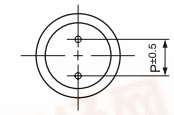
Item	Performance Characteristics
Category Temperature Range	–40 ~ +105°C
Rated Voltage Range	200 · 400V
Rated Capacitance Range	10 ~ 220μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 1 minute's application of rated voltage, leakage current is 0.04CV+100 (μA) or less.
tan δ	Rated voltage (V): 200 / 400; tan δ (MAX.): 0.15 / 0.15. Measurement frequency:120Hz, Temperature:20°C
Stability at Low Temperature	Rated voltage (V): 200 / 400. Impedance ratio ZT / Z20 (MAX.): Z–25°C / Z+20°C: 3 / 8; Z–40°C / Z+20°C: 6 / 10. Measurement frequency : 120Hz
Endurance	After an application of D.C. bias voltage plus the rated ripple current for 2000 hours at 105°C the peak voltage shall not exceed the rated D.C. voltage, capacitors meet the characteristic requirements listed at right. Capacitance change: Within ±20% of initial value; tan δ: 200% or less of initial specified value; Leakage current: Initial specified value or less
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.
Safety Performance	The pressure relief vent will operate in normal conditions, with no dangerous conditons such as flames, ignitions or dispersion of pieces of the capacitor and / or case.

voltage (V)	Test conditions: Limited DC current	Test conditions: Test Voltage
200	4A	300VDC and 375VDC
400	2A	500VDC and 600VDC

Marking	Printed with white color letter on dark brown sleeve.

■Radial Lead Type





(mm)

φD	10	12.5	16	18	22
β	0.5	0.5	0.5	0.5	1.0
P	5.0	5.0	7.5	7.5	10
φd	0.6	0.6※	0.8	0.8	1.0

α	(φD≦18) 2.0
	(φD >18) 3.0

※In case L>25 for φ12.5 (D) case sizes, lead diameter φ0.8 (d) will be applied.

• Please refer to page 21 about the end seal configulation.

Type numbering system (Example : 200V 100μF)

1	2	3	4	5	6	7	8	9	10	11	12
U	A	Q	2	D	1	0	1	M	H	D	

Size code
Configuration※
Capacitance tolerance (±20%)
Rated Capacitance (100μF)
Rated voltage (200V)
Series name
Type

※Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
10	PD
12.5 ~ 18	HD
22	RD

■Dimensions

Cap.(μF) \ V(Code) / Code \ φD	200 (2D) φ10	φ12.5	φ16	φ18	φ22	400 (2G) φ12.5	φ16	φ18	φ22
10 / 100						12.5×20 / 100			
22 / 220	10×20 / 120					12.5×31.5 / 145	○16×20 / 145		
33 / 330	10×25 / 160	○12.5×20 / 160				12.5×40 / 195	○16×25 / 195	※18×20 / 195	
47 / 470	10×31.5 / 195	○12.5×20 / 195					16×35.5 / 280	○18×25 / 280	
56 / 560		12.5×25 / 210					16×35.5 / 320	○18×31.5 / 320	※22×20 / 280
68 / 680		12.5×25 / 250					16×40 / 350	○18×35.5 / 350	※22×25 / 320
82 / 820		12.5×31.5 / 285	○16×20 / 285					18×40 / 420	
100 / 101		12.5×35.5 / 335	○16×25 / 335	※18×20 / 335					
150 / 151			16×31.5 / 435	○18×25 / 435	※22×20 / 435				
180 / 181			16×35.5 / 495	○18×31.5 / 495	※22×25 / 495				
220 / 221				18×35.5 / 575					Case size φD×L (mm) / Rated ripple

Rated Ripple (mArms) at 105°C 120Hz

○ : In case of low profile type, 6 will be put at 12th digit of type numbering system.
※ : For further low profile product, 3 will be put at 12th digit.

●Frequency coefficient of rated ripple current

Frequency	50, 60Hz	120Hz	300Hz	1kHz	10kHz ~