ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

Upgrade

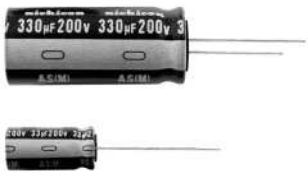
AS

Wide Temperature Range, Miniature Type Permissible Abnormal Voltage series

Smaller

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

AQ
Smaller
AS



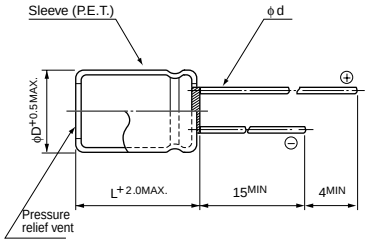
■Specifications

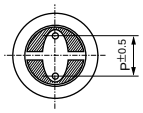
Item	Performance Characteristics
Category Temperature Range	–40 to +105°C
Rated Voltage Range	200V, 400V
Rated Capacitance Range	4.7 to 330μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 1 minute's application of rated voltage, leakage current is 0.04CV+100 (μA) or less.
Tangent of loss angle (tan δ)	Rated voltage (V): 200 / 400; tan δ (MAX.): 0.15 / 0.15. Measurement frequency:120Hz at 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	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 leaving capacitors under no load at 105°C for 1000 hours they shall meet the specified values for the 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 (5A : 330μF)	300VDC and 375VDC
400	2A (4A : 100μF or more)	500VDC and 600VDC

Marking	Printed with white color letter on dark brown sleeve.

■Radial Lead Type





(mm)

φD	10	12.5	16	18
P	5.0	5.0	5.0	5.0
φd	0.6	0.6※	0.8	0.8

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

• Please refer to page 20 about the end seal configulation.

Type numbering system (Example : 200V 220μF)

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

Size code
Configuration※
Capacitance tolerance (±20%)
Rated capacitance (220μF)
Rated voltage (200V)
Series name
Type

※Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
10	PD
12.5 to 18	HD

■Dimensions

Cap.(μF) \ V / Code \ φD		200 (2D) φ10		φ12.5		φ16		φ18		400 (2G) φ10		φ12.5		φ16		φ18	
4.7	4R7									10×9	60						
22	220											12.5×20	165				
27	270											12.5×25	200				
33	330	10×20	160											16×20	225		
39	390													16×25	255	▲18×20	255
47	470	10×25	195	▲12.5×20	195									16×25	290	▲18×20	280
56	560			12.5×20	210									16×31.5	340	▲18×25	320
68	680			12.5×25	320									16×35.5	385	▲18×25	360
82	820			12.5×25	360									16×40	435	▲18×31.5	430
100	101			12.5×31.5	430	▲16×20	430									18×35.5	490
120	121															18×40	540
150	151					16×25	460	▲18×20	460								
180	181					16×31.5	600	▲18×25	600								
220	221							▲18×31.5	710								
270	271							▲18×35.5	890								
330	331							▲18×40	910								

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

▲: In this case, 6 will be put at 12th digit of type numbering system.

Please refer to page 20, 21, 22 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.

●Frequency coefficient of rated ripple current

Frequency	50, 60Hz	120Hz	300Hz	1kHz	10kHz or more
Coefficient	0.80	1.00	1.25	1.40	1.60