ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

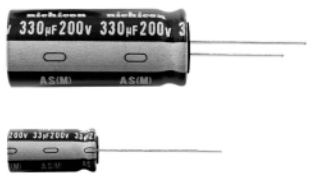
AS

Wide Temperature Range, Miniature Type Permissible Abnormal Voltage series

Smaller

AQ
Smaller
AS

- Improved safety feature for abnormally excessive voltage.
- High ripple current product.
- Compliant to the RoHS directive (2011/65/EU).



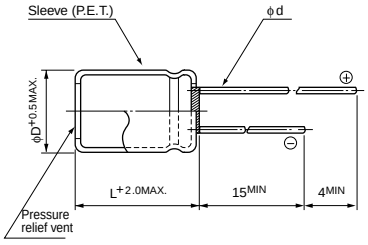
■Specifications

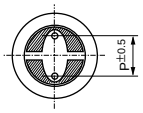
Item	Performance Characteristics
Category Temperature Range	−40 to +105°C
Rated Voltage Range	200V, 400V
Rated Capacitance Range	4.7 to 330μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 1 minute's application of rated voltage, leakage current is 0.04CV+100 (μA) or less.
Tangent of 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 configuration.

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) \ Code \ V / 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						Case size ϕDxL (mm)	Rated ripple
330	331							18×40	910							

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

▲: In case of low profile type, 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