ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

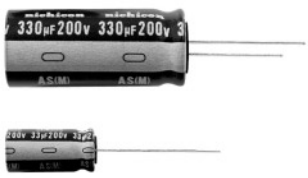
AS

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 (2002/95/EC).



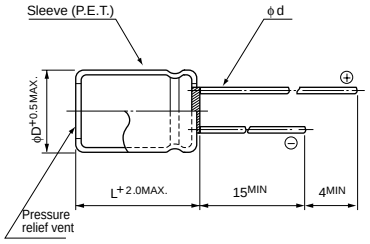
■Specifications

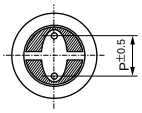
Item	Performance Characteristics
Category Temperature Range	−40 to +105°C
Rated Voltage Range	200V
Rated Capacitance Range	33 to 330μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 1 minute's application of rated voltage, leakage current is 0.04CV+100 (μA) or less.
Tangent of loss angle (tan δ)	Rated voltage (V): 200; tan δ (MAX.): 0.15 — Measurement frequency:120Hz, Temperature:20°C
Stability at Low Temperature	Rated voltage (V): 200; Impedance ratio ZT / Z20 (MAX.): Z−25°C / Z+20°C: 3, Z−40°C / Z+20°C: 6 — 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

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	7.5	7.5
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	

- 12: Size code
- 10, 11: Configuration※
- 9: Capacitance tolerance (±20%)
- 6, 7, 8: Rated capacitance (220μF)
- 4, 5: Rated voltage (200V)
- 3: Series name
- 1, 2: 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	
33	330	10 × 20	160					Case size φD × L (mm)	Rated ripple
47	470	10 × 25	195	▲12.5 × 20	195				
56	560			12.5 × 20	210				
68	680			12.5 × 25	320				
82	820			12.5 × 25	360				
100	101			12.5 × 31.5	430	▲16 × 20	430		
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.

●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

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