

# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

**BC**

Chip Type, High Temperature Range,  
Vibration Resistance  
series



For SMD



Long Life



Anti-Solvent  
Feature



- Highly dependable reliability withstanding load life of 1000 hours at +150°C.
- Suited for automobile electronics where heavy duty services are indispensable.
- Compliant to the RoHS directive (2011/65/EU).

**BC**

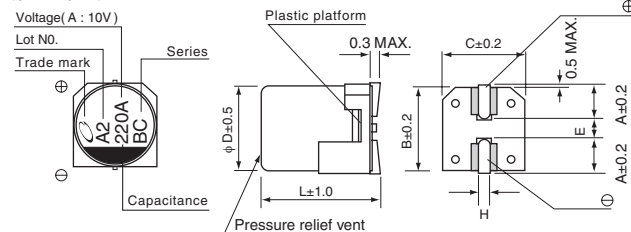


## Specifications

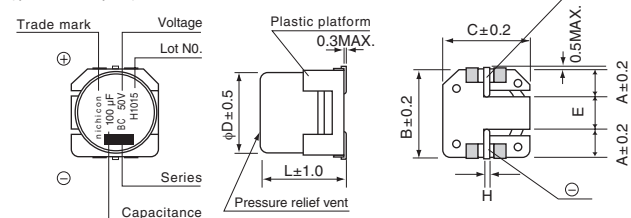
| Item                          | Performance Characteristics                                                                                                                                                                                                             |              |      |      |                    |      |                                                   |            |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------|------|--------------------|------|---------------------------------------------------|------------|
| Category Temperature Range    | -40 to +150°C (φ8 to 10), -55 to +150°C (φ12.5 to 18)                                                                                                                                                                                   |              |      |      |                    |      |                                                   |            |
| Rated Voltage Range           | 10 to 50V                                                                                                                                                                                                                               |              |      |      |                    |      |                                                   |            |
| Rated Capacitance Range       | 33 to 3300μF                                                                                                                                                                                                                            |              |      |      |                    |      |                                                   |            |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C                                                                                                                                                                                                                     |              |      |      |                    |      |                                                   |            |
| Leakage Current               | After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (μA), whichever is greater.                                                                                                                 |              |      |      |                    |      |                                                   |            |
| Tangent of loss angle (tan δ) | Rated voltage (V)                                                                                                                                                                                                                       |              | 10   | 16   | 25                 | 35   | 50                                                | 120Hz 20°C |
|                               | tan δ                                                                                                                                                                                                                                   | φ8 · φ10     | 0.26 | 0.20 | 0.16               | 0.14 | 0.14                                              |            |
|                               | (MAX.)                                                                                                                                                                                                                                  | φ12.5 to φ18 | 0.22 | 0.18 | 0.16               | 0.14 | 0.12                                              |            |
|                               | For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.                                                                                                                                                             |              |      |      |                    |      |                                                   |            |
| Stability at Low Temperature  | Rated voltage (V)                                                                                                                                                                                                                       |              | 10   | 16   | 25                 | 35   | 50                                                | 120Hz      |
|                               | Impedance ratio                                                                                                                                                                                                                         | φ8 · φ10     | 10   | 8    | 6                  | 4    | 4                                                 |            |
|                               | Z-40°C / Z+20°C (MAX.)                                                                                                                                                                                                                  | φ12.5 to φ18 | 8    | 6    | 4                  | 4    | 4                                                 |            |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 150°C.                                                                                    |              |      |      | Capacitance change |      | Within ±30% of the initial capacitance value      |            |
|                               |                                                                                                                                                                                                                                         |              |      |      | tan δ              |      | 300% 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 150°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 specified values for the endurance characteristics listed above. |              |      |      |                    |      |                                                   |            |
| Marking                       | Black print on the case top.                                                                                                                                                                                                            |              |      |      |                    |      |                                                   |            |

## Chip Type

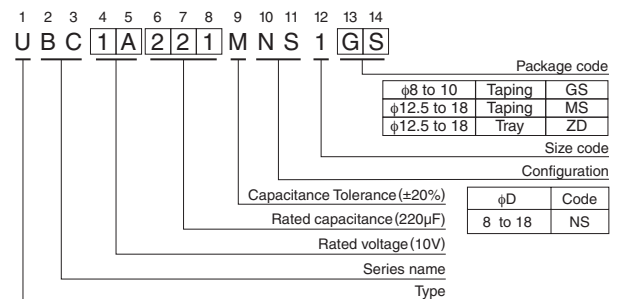
(φ8 to φ10)



(φ12.5 to φ18)



Type numbering system (Example : 10V 220μF)



| φD | 8          | 10         | 12.5       | 16         | 18         |
|----|------------|------------|------------|------------|------------|
| A  | 2.9        | 3.2        | 4.8        | 5.4        | 6.4        |
| B  | 8.3        | 10.3       | 13.6       | 17.1       | 19.1       |
| C  | 8.3        | 10.3       | 13.6       | 17.1       | 19.1       |
| E  | 3.1        | 4.5        | 4.0        | 6.3        | 6.3        |
| L  | 10         | 10         | 13.5       | 16.5, 21.5 | 21.5       |
| H  | 1.1 to 1.5 | 1.1 to 1.5 | 1.0 to 1.4 | 1.0 to 1.4 | 1.0 to 1.4 |

## Dimensions

| V        | 10  | 16              | 25              | 35              | 50                                 |
|----------|-----|-----------------|-----------------|-----------------|------------------------------------|
| Cap.(μF) | 1A  | 1C              | 1E              | 1V              | 1H                                 |
| 33       | 330 |                 |                 |                 | 8 × 10 70                          |
| 47       | 470 |                 |                 |                 | 10 × 10 100                        |
| 100      | 101 | 8 × 10 110      | 8 × 10 110      | 8 × 10 80       | 12.5 × 13.5 420                    |
| 220      | 221 | 10 × 10 150     | 10 × 10 150     | 12.5 × 13.5 550 | 16 × 16.5 550                      |
| 330      | 331 | 10 × 10 150     | 12.5 × 13.5 650 | 12.5 × 13.5 650 | 16 × 21.5 650                      |
| 470      | 471 |                 | 12.5 × 13.5 750 | 16 × 16.5 750   | 16 × 21.5 850                      |
| 680      | 681 | 12.5 × 13.5 800 | 12.5 × 13.5 800 | 16 × 21.5 950   | 18 × 21.5 1100                     |
| 1000     | 102 | 12.5 × 13.5 900 | 16 × 16.5 850   | 16 × 21.5 1000  | 18 × 21.5 1150                     |
| 2200     | 222 | 18 × 21.5 1350  | 18 × 21.5 1350  |                 |                                    |
| 3300     | 332 | 18 × 21.5 1400  |                 |                 |                                    |
|          |     |                 |                 |                 | Case size φD × L (mm) Rated ripple |

Rated ripple current (mA rms) at 150°C 100kHz

## Frequency coefficient of rated ripple current

| Frequency   | 120 Hz | 300 Hz | 1 kHz | 10kHz or more |
|-------------|--------|--------|-------|---------------|
| Coefficient | 0.67   | 0.79   | 0.91  | 1.00          |

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.

**CAT.8100D**