

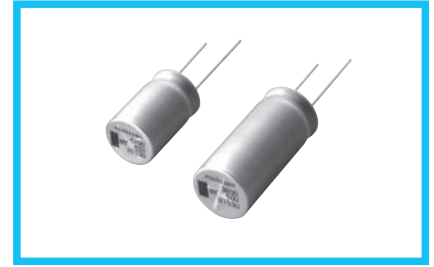
# ALUMINUM ELECTROLYTIC CAPACITORS

# UBY

High Temperature Range,  
For +125°C or 135°C Use



- Higher capacitance and higher ripple current than UBT and UBW.
- Ideal for automobile control circuits such as electric power steering and direct injection engine drive.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.



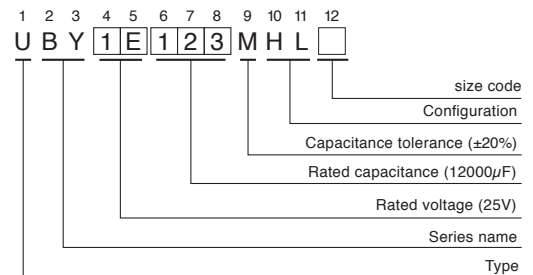
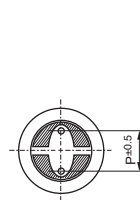
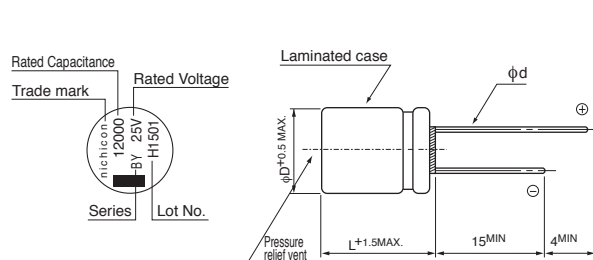
## Specifications

| Item                          | Performance Characteristics   |                   |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
|-------------------------------|---|-------------------|-------------|------|-----------|-------|-----------|-------|--------------|------------------------|-----------------|-----------|-------|-----------|--------------------|--|-------|---|-----------------|---|---|---|---|---|
| Category Temperature Range    | -40 to +135°C   |                   |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| Rated Voltage Range           | 25 to 100V  |                   |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| Rated Capacitance Range       | 160 to 12000μF  |                   |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C   |                   |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| Leakage Current               | After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV (μA)   |                   |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| Tangent of loss angle (tan δ) | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </table> <p>120Hz, 20°C<br/>For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.</p>  | Rated voltage (V) | 25          | 35   | 50        | 63    | 80        | 100   | tan δ (MAX.) | 0.14                   | 0.12            | 0.10      | 0.10  | 0.08      | 0.08               |  |       |   |                 |   |   |   |   |   |
| Rated voltage (V)             | 25  | 35                | 50          | 63   | 80        | 100   |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| tan δ (MAX.)                  | 0.14  | 0.12              | 0.10        | 0.10 | 0.08      | 0.08  |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| Stability at Low Temperature  | <table border="1"> <tr> <td colspan="2">Rated voltage (V)</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td rowspan="2">Impedance ratio (MAX.)</td> <td>Z-25°C / Z+20°C</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </table> <p>120Hz</p>   | Rated voltage (V) |             | 25   | 35        | 50    | 63        | 80    | 100          | Impedance ratio (MAX.) | Z-25°C / Z+20°C | 2         | 2     | 2         | 2                  | 2  | 2     | Z-40°C / Z+20°C                               | 4               | 4   | 4 | 4 | 4 | 4 |
| Rated voltage (V)             |   | 25                | 35          | 50   | 63        | 80    | 100       |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| Impedance ratio (MAX.)        | Z-25°C / Z+20°C   | 2                 | 2           | 2    | 2         | 2     | 2         |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
|                               | Z-40°C / Z+20°C   | 4                 | 4           | 4    | 4         | 4     | 4         |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| Endurance                     | <p>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 the time shown in right table at 125°C or 135°C, the peak voltage shall not exceed the rated voltage.</p> <table border="1"> <tr> <td>Rated voltage</td> <td>Temperature</td> <td>Time</td> </tr> <tr> <td rowspan="2">25 to 50V</td> <td>125°C</td> <td>3000hours</td> </tr> <tr> <td>135°C</td> <td>3000hours</td> </tr> <tr> <td rowspan="2">63 to 100V</td> <td>125°C</td> <td>3000hours</td> </tr> <tr> <td>135°C</td> <td>2000hours</td> </tr> </table> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table> | Rated voltage     | Temperature | Time | 25 to 50V | 125°C | 3000hours | 135°C | 3000hours    | 63 to 100V             | 125°C           | 3000hours | 135°C | 2000hours | 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 |   |   |   |   |
| Rated voltage                 | Temperature   | Time              |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| 25 to 50V                     | 125°C   | 3000hours         |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
|                               | 135°C   | 3000hours         |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| 63 to 100V                    | 125°C   | 3000hours         |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
|                               | 135°C   | 2000hours         |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |
| 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 125°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.  |                   |             |      |           |       |           |       |              |                        |                 |           |       |           |                    |  |       |   |                 |   |   |   |   |   |

The UBY series places emphasis on high ripple current, as a result the lifetime calculation is different than other series. Please contact Nichicon for details.

## Radial Lead Type

Type numbering system (Example : 25V 12000μF)



|    | (mm) |     |     |
|----|------|-----|-----|
| φD | 12.5 | 16  | 18  |
| P  | 5.0  | 7.5 | 7.5 |
| φd | 0.6※ | 0.8 | 0.8 |

※ In case L > 25 for the φ12.5 dia. unit, lead dia. φd = 0.8mm.

## Frequency coefficient of rated ripple current

| Cap. (μF)     | Frequency |      |       |                |
|---------------|-----------|------|-------|----------------|
|               | 120Hz     | 1kHz | 10kHz | 100kHz or more |
| 160           | 0.40      | 0.75 | 0.90  | 1.00           |
| 220 to 620    | 0.50      | 0.85 | 0.94  | 1.00           |
| 680 to 2000   | 0.60      | 0.87 | 0.95  | 1.00           |
| 2200 to 4300  | 0.75      | 0.90 | 0.95  | 1.00           |
| 4700 to 12000 | 0.85      | 0.95 | 0.98  | 1.00           |

• Dimension table in next page.



## ■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 1 minute) | ESR (Ω) MAX.  |                | Rated Ripple (mA rms) |                | Part Number  |
|--------------------------|------------------------|---------------------|-------|---|---------------|----------------|-----------------------|----------------|--------------|
|                          |                        |                     |       |   | 20°C / 100kHz | -40°C / 100kHz | 125°C / 100kHz        | 135°C / 100kHz |              |
| 25 (1E)                  | 2000                   | 12.5×20             | 0.16  | 1500  | 0.042         | 0.48           | 2760                  | 1690           | UBY1E202MHL  |
|                          | 3000                   | 12.5×25             | 0.18  | 2250  | 0.033         | 0.30           | 3480                  | 2010           | UBY1E302MHL  |
|                          | 3300                   | 16×20               | 0.18  | 2475  | 0.031         | 0.27           | 3040                  | 1860           | UBY1E332MHL  |
|                          | 3600                   | 12.5×31.5           | 0.18  | 2700  | 0.028         | 0.24           | 4490                  | 2900           | UBY1E362MHL  |
|                          | 4300                   | 18×20               | 0.20  | 3225  | 0.030         | 0.22           | 3250                  | 1870           | UBY1E432MHL  |
|                          | 4700                   | 16×25               | 0.20  | 3525  | 0.026         | 0.22           | 4260                  | 2870           | UBY1E472MHL  |
|                          | 5100                   | 12.5×40             | 0.22  | 3825  | 0.024         | 0.19           | 5810                  | 3470           | UBY1E512MHL  |
|                          | 6200                   | 16×31.5             | 0.24  | 4650  | 0.023         | 0.18           | 5480                  | 3400           | UBY1E622MHL  |
|                          | 6200                   | 18×25               | 0.24  | 4650  | 0.025         | 0.19           | 4500                  | 2900           | UBY1E622MHL6 |
|                          | 7500                   | 16×35.5             | 0.26  | 5625  | 0.020         | 0.14           | 6070                  | 3630           | UBY1E752MHL  |
|                          | 8200                   | 18×31.5             | 0.28  | 6150  | 0.022         | 0.16           | 5600                  | 3470           | UBY1E822MHL  |
|                          | 9100                   | 16×40               | 0.30  | 6825  | 0.019         | 0.12           | 6810                  | 3930           | UBY1E912MHL  |
|                          | 10000                  | 18×35.5             | 0.32  | 7500  | 0.019         | 0.12           | 6280                  | 3750           | UBY1E103MHL  |
| 12000                    | 18×40                  | 0.36                | 9000  | 0.018   | 0.10          | 7070           | 4080                  | UBY1E123MHL    |              |
| 35 (1V)                  | 1300                   | 12.5×20             | 0.12  | 1365  | 0.042         | 0.48           | 2760                  | 1690           | UBY1V132MHL  |
|                          | 1800                   | 12.5×25             | 0.12  | 1890  | 0.033         | 0.30           | 3480                  | 2010           | UBY1V182MHL  |
|                          | 2200                   | 12.5×31.5           | 0.14  | 2310  | 0.028         | 0.24           | 4490                  | 2900           | UBY1V222MHL  |
|                          | 2200                   | 16×20               | 0.14  | 2310  | 0.031         | 0.27           | 3040                  | 1860           | UBY1V222MHL6 |
|                          | 2700                   | 12.5×35.5           | 0.14  | 2835  | 0.025         | 0.21           | 5140                  | 3190           | UBY1V272MHL  |
|                          | 2700                   | 18×20               | 0.14  | 2835  | 0.030         | 0.22           | 3250                  | 1870           | UBY1V272MHL6 |
|                          | 3000                   | 16×25               | 0.16  | 3150  | 0.026         | 0.22           | 4260                  | 2870           | UBY1V302MHL  |
|                          | 3300                   | 12.5×40             | 0.16  | 3465  | 0.024         | 0.19           | 5810                  | 3470           | UBY1V332MHL  |
|                          | 3900                   | 16×31.5             | 0.16  | 4095  | 0.023         | 0.18           | 5480                  | 3400           | UBY1V392MHL  |
|                          | 3900                   | 18×25               | 0.16  | 4095  | 0.025         | 0.19           | 4500                  | 2900           | UBY1V392MHL6 |
|                          | 4700                   | 16×35.5             | 0.18  | 4935  | 0.020         | 0.14           | 6070                  | 3630           | UBY1V472MHL  |
|                          | 5100                   | 18×31.5             | 0.20  | 5355  | 0.022         | 0.16           | 5600                  | 3470           | UBY1V512MHL  |
|                          | 5600                   | 16×40               | 0.20  | 5880  | 0.019         | 0.12           | 6810                  | 3930           | UBY1V562MHL  |
|                          | 6200                   | 18×35.5             | 0.22  | 6510  | 0.019         | 0.12           | 6280                  | 3750           | UBY1V622MHL  |
|                          | 7500                   | 18×40               | 0.24  | 7875  | 0.018         | 0.10           | 7070                  | 4080           | UBY1V752MHL  |
| 50 (1H)                  | 620                    | 12.5×20             | 0.10  | 930   | 0.056         | 0.52           | 2400                  | 1470           | UBY1H621MHL  |
|                          | 820                    | 12.5×25             | 0.10  | 1230  | 0.044         | 0.35           | 3350                  | 2260           | UBY1H821MHL  |
|                          | 1000                   | 16×20               | 0.10  | 1500  | 0.039         | 0.30           | 2960                  | 1870           | UBY1H102MHL  |
|                          | 1100                   | 12.5×31.5           | 0.10  | 1650  | 0.037         | 0.26           | 4220                  | 2520           | UBY1H112MHL  |
|                          | 1300                   | 12.5×35.5           | 0.10  | 1950  | 0.033         | 0.23           | 4810                  | 2780           | UBY1H132MHL  |
|                          | 1300                   | 16×25               | 0.10  | 1950  | 0.033         | 0.22           | 4040                  | 2500           | UBY1H132MHL6 |
|                          | 1300                   | 18×20               | 0.10  | 1950  | 0.038         | 0.20           | 3130                  | 2110           | UBY1H132MHL3 |
|                          | 1600                   | 12.5×40             | 0.10  | 2400  | 0.032         | 0.20           | 5240                  | 3020           | UBY1H162MHL  |
|                          | 1800                   | 16×31.5             | 0.10  | 2700  | 0.029         | 0.19           | 5130                  | 2960           | UBY1H182MHL  |
|                          | 1800                   | 18×25               | 0.10  | 2700  | 0.032         | 0.19           | 4230                  | 2530           | UBY1H182MHL6 |
|                          | 2200                   | 16×35.5             | 0.12  | 3300  | 0.025         | 0.14           | 5480                  | 3160           | UBY1H222MHL  |
|                          | 2400                   | 18×31.5             | 0.12  | 3600  | 0.025         | 0.16           | 5240                  | 3020           | UBY1H242MHL  |
|                          | 2700                   | 16×40               | 0.12  | 4050  | 0.022         | 0.13           | 5930                  | 3420           | UBY1H272MHL  |
|                          | 3000                   | 18×35.5             | 0.14  | 4500  | 0.022         | 0.12           | 5870                  | 3390           | UBY1H302MHL  |
|                          | 3600                   | 18×40               | 0.14  | 5400  | 0.020         | 0.10           | 6420                  | 3700           | UBY1H362MHL  |

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).  
 If there is no size code in the part number, please add size code "1" and then add the appropriate code.

## UBY

### ■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 1 minute) | ESR (Ω) MAX.  |                | Rated Ripple (mArms) |                | Part Number  |
|--------------------------|------------------------|---------------------|-------|---|---------------|----------------|----------------------|----------------|--------------|
|                          |                        |                     |       |   | 20°C / 100kHz | -40°C / 100kHz | 125°C / 100kHz       | 135°C / 100kHz |              |
| 63 (1J)                  | 390                    | 12.5×20             | 0.10  | 737.1   | 0.074         | 0.56           | 1640                 | 1420           | UBY1J391MHL  |
|                          | 560                    | 12.5×25             | 0.10  | 1058.4  | 0.054         | 0.39           | 2520                 | 2050           | UBY1J561MHL  |
|                          | 750                    | 12.5×31.5           | 0.10  | 1417.5  | 0.042         | 0.30           | 3110                 | 2630           | UBY1J751MHL  |
|                          | 750                    | 16×20               | 0.10  | 1417.5  | 0.053         | 0.34           | 2140                 | 1910           | UBY1J751MHL6 |
|                          | 950                    | 12.5×35.5           | 0.10  | 1795.5  | 0.038         | 0.25           | 3760                 | 2970           | UBY1J951MHL  |
|                          | 950                    | 18×20               | 0.10  | 1795.5  | 0.048         | 0.26           | 2350                 | 2100           | UBY1J951MHL6 |
|                          | 1000                   | 16×25               | 0.10  | 1890  | 0.038         | 0.23           | 2940                 | 2680           | UBY1J102MHL  |
|                          | 1100                   | 12.5×40             | 0.10  | 2079  | 0.031         | 0.22           | 4610                 | 3260           | UBY1J112MHL  |
|                          | 1300                   | 16×31.5             | 0.10  | 2457  | 0.034         | 0.20           | 3860                 | 3050           | UBY1J132MHL  |
|                          | 1300                   | 18×25               | 0.10  | 2457  | 0.035         | 0.19           | 3080                 | 2810           | UBY1J132MHL6 |
|                          | 1700                   | 16×35.5             | 0.10  | 3213  | 0.027         | 0.15           | 4590                 | 3420           | UBY1J172MHL  |
|                          | 1800                   | 18×31.5             | 0.10  | 3402  | 0.028         | 0.15           | 4080                 | 3220           | UBY1J182MHL  |
|                          | 2000                   | 16×40               | 0.12  | 3780  | 0.025         | 0.14           | 5190                 | 3670           | UBY1J202MHL  |
|                          | 2200                   | 18×35.5             | 0.12  | 4158  | 0.023         | 0.12           | 5220                 | 3690           | UBY1J222MHL  |
| 2500                     | 18×40                  | 0.12                | 4725  | 0.021   | 0.11          | 5660           | 3820                 | UBY1J252MHL    |              |
| 80 (1K)                  | 270                    | 12.5×20             | 0.08  | 648   | 0.074         | 0.56           | 1640                 | 1420           | UBY1K271MHL  |
|                          | 390                    | 12.5×25             | 0.08  | 936   | 0.054         | 0.39           | 2520                 | 2050           | UBY1K391MHL  |
|                          | 470                    | 16×20               | 0.08  | 1128  | 0.053         | 0.34           | 2140                 | 1910           | UBY1K471MHL  |
|                          | 510                    | 12.5×31.5           | 0.08  | 1224  | 0.042         | 0.30           | 3110                 | 2630           | UBY1K511MHL  |
|                          | 620                    | 12.5×35.5           | 0.08  | 1488  | 0.038         | 0.25           | 3760                 | 2970           | UBY1K621MHL  |
|                          | 620                    | 18×20               | 0.08  | 1488  | 0.048         | 0.26           | 2350                 | 2100           | UBY1K621MHL6 |
|                          | 680                    | 16×25               | 0.08  | 1632  | 0.038         | 0.23           | 2940                 | 2680           | UBY1K681MHL  |
|                          | 750                    | 12.5×40             | 0.08  | 1800  | 0.031         | 0.22           | 4610                 | 3260           | UBY1K751MHL  |
|                          | 820                    | 16×31.5             | 0.08  | 1968  | 0.034         | 0.20           | 3860                 | 3050           | UBY1K821MHL  |
|                          | 820                    | 18×25               | 0.08  | 1968  | 0.035         | 0.19           | 3080                 | 2810           | UBY1K821MHL6 |
|                          | 1000                   | 16×35.5             | 0.08  | 2400  | 0.027         | 0.15           | 4590                 | 3420           | UBY1K102MHL  |
|                          | 1100                   | 18×31.5             | 0.08  | 2640  | 0.028         | 0.15           | 4080                 | 3220           | UBY1K112MHL  |
|                          | 1300                   | 16×40               | 0.08  | 3120  | 0.025         | 0.14           | 5190                 | 3670           | UBY1K132MHL  |
|                          | 1300                   | 18×35.5             | 0.08  | 3120  | 0.023         | 0.12           | 5220                 | 3690           | UBY1K132MHL6 |
| 1600                     | 18×40                  | 0.08                | 3840  | 0.021   | 0.11          | 5660           | 3820                 | UBY1K162MHL    |              |
| 100 (2A)                 | 160                    | 12.5×20             | 0.08  | 480   | 0.074         | 0.56           | 1640                 | 1420           | UBY2A161MHL  |
|                          | 220                    | 12.5×25             | 0.08  | 660   | 0.054         | 0.39           | 2520                 | 2050           | UBY2A221MHL  |
|                          | 270                    | 16×20               | 0.08  | 810   | 0.053         | 0.34           | 2140                 | 1910           | UBY2A271MHL  |
|                          | 300                    | 12.5×31.5           | 0.08  | 900   | 0.042         | 0.30           | 3110                 | 2630           | UBY2A301MHL  |
|                          | 360                    | 12.5×35.5           | 0.08  | 1080  | 0.038         | 0.25           | 3760                 | 2970           | UBY2A361MHL  |
|                          | 360                    | 18×20               | 0.08  | 1080  | 0.048         | 0.26           | 2350                 | 2100           | UBY2A361MHL6 |
|                          | 390                    | 16×25               | 0.08  | 1170  | 0.038         | 0.23           | 2940                 | 2680           | UBY2A391MHL  |
|                          | 430                    | 12.5×40             | 0.08  | 1290  | 0.031         | 0.22           | 4610                 | 3260           | UBY2A431MHL  |
|                          | 470                    | 16×31.5             | 0.08  | 1410  | 0.034         | 0.20           | 3860                 | 3050           | UBY2A471MHL  |
|                          | 510                    | 18×25               | 0.08  | 1530  | 0.035         | 0.19           | 3080                 | 2810           | UBY2A511MHL  |
|                          | 560                    | 16×35.5             | 0.08  | 1680  | 0.027         | 0.15           | 4590                 | 3420           | UBY2A561MHL  |
|                          | 680                    | 18×31.5             | 0.08  | 2040  | 0.028         | 0.15           | 4080                 | 3220           | UBY2A681MHL  |
|                          | 750                    | 16×40               | 0.08  | 2250  | 0.025         | 0.14           | 5190                 | 3670           | UBY2A751MHL  |
|                          | 820                    | 18×35.5             | 0.08  | 2460  | 0.023         | 0.12           | 5220                 | 3690           | UBY2A821MHL  |
|                          | 950                    | 18×40               | 0.08  | 2850  | 0.021         | 0.11           | 5660                 | 3820           | UBY2A951MHL  |

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).  
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

• For formed lead or taped product specifications and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

单击下面可查看定价，库存，交付和生命周期等信息

[>>Nichicon\(尼吉康\)](#)