

# Surface Mount Aluminum Electrolytic Capacitors

NAZT Series

## FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
- **AVAILABLE WITH ANTI-VIBRATION WIDE TERMINATIONS**
- VERY LOW IMPEDANCE & HIGH RIPPLE CURRENT AT 100KHz
- EXTENDED LOAD LIFE (2,000 ~ 5,000 HOURS @ +105°C)
- SUITABLE FOR DC-DC CONVERTER, DC-AC INVERTER, ETC.
- DESIGNED FOR AUTOMATIC MOUNTING AND REFLOW SOLDERING
- **MEETS THE REQUIREMENTS OF AEC-Q200\***

\*Contact NIC for supporting test data

## CHARACTERISTICS

|                                                                                                                 |                                       |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Rated Voltage Rating                                                                                            | 6.3 ~ 100Vdc                          |
| Rated Capacitance Range                                                                                         | 4.7 ~ 12,000μF                        |
| Operating Temp. Range                                                                                           | -55 ~ +105°C                          |
| Capacitance Tolerance                                                                                           | ±20% (M)                              |
| Max. Leakage Current<br>After 2 Miuntes @ 20°C                                                                  | 0.01CV or 3μA<br>whichever is greater |
| Tan δ @ 120Hz/20°C                                                                                              | W.V. (Vdc)                            |
|                                                                                                                 | S.V. (Vdc)                            |
|                                                                                                                 | 4 ~ 6.3mm diameter                    |
|                                                                                                                 | 8 ~ 18mm diameter                     |
| Low Temperature<br>Stability<br>Impedance Ratio @ 120Hz                                                         | W.V. (Vdc)                            |
|                                                                                                                 | Z-40°C/Z+20°C                         |
|                                                                                                                 | Z-55°C/Z+20°C                         |
| Load Life Test @ 105°C<br>4 ~ 6mm Dia. 2,000 hours<br>10x8mm Case Size 2,000 hours<br>8 ~ 18mm Dia. 5,000 hours | Capacitance Change                    |
|                                                                                                                 | Tan δ                                 |
|                                                                                                                 | Leakage Current                       |

**SAC Alloy Compatible**  
230°C ~ 260°C



## RoHS Compliant

includes all homogeneous materials

\*See Part Number System for Details

**LOW ESR COMPONENT**  
LIQUID ELECTROLYTE  
For Performance Data  
see [www.LowESR.com](http://www.LowESR.com)

## STANDARD VALUES AND CASE SIZES (mm)

| Cap.<br>(μF) | Code | Working Voltage (Vdc) |         |         |         |         |         |         |         |         |  |
|--------------|------|-----------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
|              |      | 6.3                   | 10      | 16      | 25      | 35      | 50      | 63      | 80      | 100     |  |
| 4.7          | 4R7  | -                     | -       | -       | -       | 4x6.3   | 4x6.3   | -       | -       | -       |  |
| 10           | 100  | -                     | -       | -       | 4x6.3   | 5x6.3   | 6.3x6.3 | 6.3x6.3 | -       | -       |  |
| 15           | 150  | -                     | -       | 4x6.3   | 5x6.3   | 5x6.3   | 6.3x6.3 | -       | -       | -       |  |
| 22           | 220  | -                     | 4x6.3   | 5x6.3   | 5x6.3   | 5x6.3   | 6.3x6.3 | 6.3x6.3 | -       | -       |  |
| 27           | 270  | 4x6.3                 | 5x6.3   | 5x6.3   | 6.3x6.3 | 6.3x6.3 | 6.3x8   | -       | -       | -       |  |
| 33           | 330  | 5x6.3                 | 5x6.3   | 6.3x6.3 | 6.3x6.3 | 6.3x6.3 | 6.3x8   | -       | -       | 10x10.5 |  |
| 47           | 470  | 5x6.3                 | 6.3x6.3 | 6.3x6.3 | 6.3x6.3 | 6.3x6.3 | 6.3x8   | 10x8    | 10x10.5 | 12.5x14 |  |
| 56           | 560  | 5x6.3                 | 6.3x6.3 | 6.3x6.3 | 6.3x6.3 | 6.3x8   | 8x10.5  | -       | -       | -       |  |
| 68           | 680  | 6.3x6.3               | 6.3x6.3 | 6.3x6.3 | 6.3x6.3 | 6.3x8   | 8x10.5  | -       | -       | 12.5x14 |  |
| 100          | 101  | 5x6.3                 | 6.3x6.3 | 6.3x6.3 | 6.3x8   | 6.3x8   | 8x10.5  | 12.5x14 | 12.5x14 | 16x17   |  |
|              |      | 6.3x6.3               |         |         |         | 8x10.5  | 10x8    |         |         |         |  |
| 150          | 151  | 6.3x6.3               | 6.3x6.3 | 6.3x8   | 8x10.5  | 8x10.5  | 10x10.5 | 12.5x14 | 12.5x14 | 16x17   |  |
| 220          | 221  | 6.3x6.3               | 6.3x8   | 6.3x8   | 8x10.5  | 8x10.5  | 10x10.5 | 12.5x14 | -       | 18x17.5 |  |
| 330          | 331  | 6.3x8                 | 8x10.5  | 8x10.5  | 8x10.5  | 10x10.5 | 12.5x14 | 16x17   | 16x17   | 18x22   |  |
|              |      |                       |         | 10x8    |         |         |         |         |         |         |  |
| 470          | 471  | 8x10.5                | 8x10.5  | 8x10.5  | 10x10.5 | 10x14   | 16x17   | 16x17   | 18x17.5 | -       |  |
| 680          | 681  | 8x10.5                | 10x10.5 | 10x10.5 | 10x14   | 12.5x14 | 16x17   | 18x17.5 | -       | -       |  |
|              |      | 10x8                  |         |         |         |         |         |         |         |         |  |
| 1000         | 102  | 8x10.5                | 10x10.5 | 10x14   | 12.5x14 | 16x17   | 16x17   | 18x22   | -       | -       |  |
| 1200         | 122  | -                     | -       | -       | -       | -       | 18x17.5 | -       | -       | -       |  |
| 1500         | 152  | 10x10.5               | 10x14   | 12.5x14 | 16x17   | 16x17   | 18x22   | -       | -       | -       |  |
| 2200         | 222  | 12.5x14               | 12.5x14 |         |         |         |         |         |         |         |  |
| 2700         | 272  | -                     | -       | -       | -       | 18x22   | -       | -       | -       | -       |  |
| 3300         | 332  | -                     | -       | 16x17   | 18x17.5 | -       | -       | -       | -       | -       |  |
| 3900         | 392  | -                     | -       | -       | 18x22   | -       | -       | -       | -       | -       |  |
| 4700         | 472  | -                     | 16x17   | 18x17.5 | -       | -       | -       | -       | -       | -       |  |
| 5600         | 562  | -                     | -       | 18x22   | -       | -       | -       | -       | -       | -       |  |
| 6800         | 682  | 16x17                 | 18x17.5 | -       | -       | -       | -       | -       | -       | -       |  |
| 8200         | 822  | 18x17.5               | 18x22   | -       | -       | -       | -       | -       | -       | -       |  |
| 10000        | 103  | 18x17.5               | -       | -       | -       | -       | -       | -       | -       | -       |  |
| 12000        | 123  | 18x22                 | -       | -       | -       | -       | -       | -       | -       | -       |  |



NIC COMPONENTS CORP. [www.niccomp.com](http://www.niccomp.com) | [www.lowESR.com](http://www.lowESR.com) | [www.RFpassives.com](http://www.RFpassives.com) | [www.SMTmagnetics.com](http://www.SMTmagnetics.com)

SPECIFICATIONS ARE SUBJECT TO CHANGE

# Surface Mount Aluminum Electrolytic Capacitors NAZT Series

## STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

| NIC Part Number         | Cap.<br>( $\mu$ F) | W.V.<br>(Vdc) | Dissipation Factor<br>(Tan $\delta$ ) | Max. Impedance ( $\Omega$ )<br>100KHz, +20°C | Max. Ripple Current (mA rms)<br>+105°C, 100KHz | Load Life Hours<br>@ +105°C |
|-------------------------|--------------------|---------------|---------------------------------------|----------------------------------------------|------------------------------------------------|-----------------------------|
| NAZT270M6.3V4X6.3N_F    | 27                 | 6.3           | 0.26                                  | 1.45                                         | 90                                             | 2,000                       |
| NAZT330M6.3V5X6.3N_F    | 33                 |               | 0.26                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT470M6.3V5X6.3N_F    | 47                 |               | 0.26                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT560M6.3V5X6.3N_F    | 56                 |               | 0.26                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT680M6.3V6.3X6.3N_F  | 68                 |               | 0.26                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT101M6.3V5X6.3N_F    | 100                |               | 0.26                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT101M6.3V6.3X6.3N_F  | 100                |               | 0.26                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT151M6.3V6.3X6.3N_F  | 150                |               | 0.26                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT221M6.3V6.3X6.3N_F  | 220                |               | 0.26                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT331M6.3V6.3X8N_F    | 330                |               | 0.26                                  | 0.30                                         | 300                                            | 2,000                       |
| NAZT471M6.3V8X10.5N_F   | 470                |               | 0.28                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT681M6.3V8X10.5N_F   | 680                |               | 0.28                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT681M6.3V10X8JBF     | 680                |               | 0.28                                  | 0.17                                         | 600                                            | 2,000                       |
| NAZT102M6.3V8X10.5N_F   | 1000               |               | 0.28                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT152M6.3V10X10.5L_F  | 1500               |               | 0.28                                  | 0.09                                         | 850                                            | 5,000                       |
| NAZT222M6.3V12.5X14KLBF | 2200               |               | 0.30                                  | 0.066                                        | 1100                                           | 5,000                       |
| NAZT682M6.3V16X17JLSF   | 6800               |               | 0.38                                  | 0.035                                        | 1800                                           | 5,000                       |
| NAZT822M6.3V18X17.5JLSF | 8200               |               | 0.42                                  | 0.033                                        | 2060                                           | 5,000                       |
| NAZT103M6.3V18X17.5JLSF | 10000              |               | 0.46                                  | 0.033                                        | 2060                                           | 5,000                       |
| NAZT123M6.3V18X22JLSF   | 12000              |               | 0.50                                  | 0.028                                        | 2260                                           | 5,000                       |
| NAZT220M10V4X6.3N_F     | 22                 | 10            | 0.20                                  | 1.45                                         | 90                                             | 2,000                       |
| NAZT270M10V5X6.3N_F     | 27                 |               | 0.20                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT330M10V5X6.3N_F     | 33                 |               | 0.20                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT470M10V6.3X6.3N_F   | 47                 |               | 0.20                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT560M10V6.3X6.3N_F   | 56                 |               | 0.20                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT680M10V6.3X6.3N_F   | 68                 |               | 0.20                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT101M10V6.3X6.3N_F   | 100                |               | 0.20                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT151M10V6.3X6.3N_F   | 150                |               | 0.20                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT221M10V6.3X8N_F     | 220                |               | 0.20                                  | 0.30                                         | 300                                            | 2,000                       |
| NAZT331M10V8X10.5N_F    | 330                |               | 0.24                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT471M10V8X10.5N_F    | 470                |               | 0.24                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT471M10V10X8J_F      | 470                |               | 0.24                                  | 0.17                                         | 600                                            | 2,000                       |
| NAZT681M10V10X10.5L_F   | 680                |               | 0.24                                  | 0.09                                         | 850                                            | 5,000                       |
| NAZT102M10V10X10.5L_F   | 1000               |               | 0.24                                  | 0.09                                         | 850                                            | 5,000                       |
| NAZT152M10V10X14LLBF    | 1500               |               | 0.24                                  | 0.07                                         | 950                                            | 5,000                       |
| NAZT152M10V12.5X14KLBF  | 1500               |               | 0.24                                  | 0.066                                        | 1100                                           | 5,000                       |
| NAZT222M10V12.5X14KLBF  | 2200               |               | 0.26                                  | 0.066                                        | 1100                                           | 5,000                       |
| NAZT472M10V16X17JLSF    | 4700               |               | 0.30                                  | 0.035                                        | 1800                                           | 5,000                       |
| NAZT682M10V18X17.5JLSF  | 6800               |               | 0.34                                  | 0.033                                        | 2060                                           | 5,000                       |
| NAZT822M10V18X22JLSF    | 8200               |               | 0.38                                  | 0.028                                        | 2260                                           | 5,000                       |
| NAZT150M16V4X6.3N_F     | 15                 | 16            | 0.16                                  | 1.45                                         | 90                                             | 2,000                       |
| NAZT220M16V5X6.3N_F     | 22                 |               | 0.16                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT270M16V5X6.3N_F     | 27                 |               | 0.16                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT330M16V6.3X6.3N_F   | 33                 |               | 0.16                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT470M16V6.3X6.3N_F   | 47                 |               | 0.16                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT560M16V6.3X6.3N_F   | 56                 |               | 0.16                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT680M16V6.3X6.3N_F   | 68                 |               | 0.16                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT101M16V6.3X6.3N_F   | 100                |               | 0.16                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT151M16V6.3X8N_F     | 150                |               | 0.16                                  | 0.30                                         | 300                                            | 2,000                       |
| NAZT221M16V6.3X8N_F     | 220                |               | 0.16                                  | 0.30                                         | 300                                            | 2,000                       |
| NAZT331M16V8X10.5N_F    | 330                |               | 0.22                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT331M16V10X8J_F      | 330                |               | 0.22                                  | 0.17                                         | 600                                            | 2,000                       |
| NAZT471M16V8X10.5N_F    | 470                |               | 0.22                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT681M16V10X10.5L_F   | 680                |               | 0.22                                  | 0.09                                         | 850                                            | 5,000                       |
| NAZT102M16V10X14LLBF    | 1000               |               | 0.22                                  | 0.07                                         | 950                                            | 5,000                       |
| NAZT102M16V12.5X14KLBF  | 1000               |               | 0.22                                  | 0.066                                        | 1100                                           | 5,000                       |
| NAZT152M16V12.5X14KLBF  | 1500               |               | 0.22                                  | 0.06                                         | 1100                                           | 5,000                       |
| NAZT332M16V16X17JLSF    | 3300               |               | 0.26                                  | 0.035                                        | 1800                                           | 5,000                       |
| NAZT472M16V18X17.5JLSF  | 4700               |               | 0.28                                  | 0.033                                        | 2060                                           | 5,000                       |
| NAZT562M16V18X22JLSF    | 5600               |               | 0.30                                  | 0.028                                        | 2260                                           | 5,000                       |

Part Number Suffix Where \_ : Preferred (15" reel) = LB, Legacy (13" reel) = B (check with NIC for availability)

\*For Automotive Equipment see part number system



# Surface Mount Aluminum Electrolytic Capacitors NAZT Series

## STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

| NIC Part Number        | Cap.<br>( $\mu$ F) | W.V.<br>(Vdc) | Dissipation Factor<br>(Tan $\delta$ ) | Max. Impedance ( $\Omega$ )<br>100KHz, +20°C | Max. Ripple Current (mA rms)<br>+105°C, 100KHz | Load Life Hours<br>@ +105°C |
|------------------------|--------------------|---------------|---------------------------------------|----------------------------------------------|------------------------------------------------|-----------------------------|
| NAZT100M25V4X6.3N_F    | 10                 | 25            | 0.14                                  | 1.45                                         | 90                                             | 2,000                       |
| NAZT150M25V5X6.3N_F    | 15                 |               | 0.14                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT220M25V5X6.3N_F    | 22                 |               | 0.14                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT270M25V6.3X6.3N_F  | 27                 |               | 0.14                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT330M25V6.3X6.3N_F  | 33                 |               | 0.14                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT470M25V6.3X6.3N_F  | 47                 |               | 0.14                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT560M25V6.3X6.3N_F  | 56                 |               | 0.14                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT680M25V6.3X6.3N_F  | 68                 |               | 0.14                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT101M25V6.3X8N_F    | 100                |               | 0.14                                  | 0.30                                         | 300                                            | 2,000                       |
| NAZT151M25V8X10.5N_F   | 150                |               | 0.16                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT221M25V8X10.5N_F   | 220                |               | 0.16                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT221M25V10X8J_F     | 220                |               | 0.16                                  | 0.17                                         | 600                                            | 2,000                       |
| NAZT331M25V8X10.5N_F   | 330                |               | 0.16                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT471M25V10X10.5L_F  | 470                |               | 0.16                                  | 0.09                                         | 850                                            | 5,000                       |
| NAZT681M25V10X14LLBF   | 680                |               | 0.16                                  | 0.07                                         | 950                                            | 5,000                       |
| NAZT681M25V12.5X14KLBF | 680                |               | 0.16                                  | 0.066                                        | 1100                                           | 5,000                       |
| NAZT102M25V12.5X14KLBF | 1000               |               | 0.16                                  | 0.066                                        | 1100                                           | 5,000                       |
| NAZT152M25V16X17JLSF   | 1500               |               | 0.16                                  | 0.035                                        | 1800                                           | 5,000                       |
| NAZT222M25V16X17JLSF   | 2200               |               | 0.18                                  | 0.035                                        | 1800                                           | 5,000                       |
| NAZT332M25V18X17.5JLSF | 3300               |               | 0.20                                  | 0.033                                        | 2060                                           | 5,000                       |
| NAZT392M25V18X22JLSF   | 3900               |               | 0.20                                  | 0.028                                        | 2260                                           | 5,000                       |
| NAZT4R7M35V4X6.3N_F    | 4.7                | 35            | 0.12                                  | 1.45                                         | 90                                             | 2,000                       |
| NAZT100M35V5X6.3N_F    | 10                 |               | 0.12                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT150M35V5X6.3N_F    | 15                 |               | 0.12                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT220M35V5X6.3N_F    | 22                 |               | 0.12                                  | 0.70                                         | 170                                            | 2,000                       |
| NAZT270M35V6.3X6.3N_F  | 27                 |               | 0.12                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT330M35V6.3X6.3N_F  | 33                 |               | 0.12                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT470M35V6.3X6.3N_F  | 47                 |               | 0.12                                  | 0.39                                         | 250                                            | 2,000                       |
| NAZT560M35V6.3X8N_F    | 56                 |               | 0.12                                  | 0.30                                         | 300                                            | 2,000                       |
| NAZT680M35V6.3X8N_F    | 68                 |               | 0.12                                  | 0.30                                         | 300                                            | 2,000                       |
| NAZT101M35V6.3X8N_F    | 100                |               | 0.12                                  | 0.30                                         | 300                                            | 2,000                       |
| NAZT101M35V8X10.5N_F   | 100                |               | 0.14                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT151M35V8X10.5N_F   | 150                |               | 0.14                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT151M35V10X8J_F     | 150                |               | 0.14                                  | 0.17                                         | 600                                            | 2,000                       |
| NAZT221M35V8X10.5N_F   | 220                |               | 0.14                                  | 0.17                                         | 600                                            | 5,000                       |
| NAZT331M35V10X10.5L_F  | 330                |               | 0.14                                  | 0.09                                         | 850                                            | 5,000                       |
| NAZT471M35V10X14LLBF   | 470                |               | 0.14                                  | 0.07                                         | 950                                            | 5,000                       |
| NAZT471M35V12.5X14KLBF | 470                |               | 0.14                                  | 0.066                                        | 1100                                           | 5,000                       |
| NAZT681M35V12.5X14KLBF | 680                |               | 0.14                                  | 0.066                                        | 1100                                           | 5,000                       |
| NAZT102M35V16X17JLSF   | 1000               |               | 0.14                                  | 0.035                                        | 1800                                           | 5,000                       |
| NAZT152M35V16X17JLSF   | 1500               |               | 0.14                                  | 0.035                                        | 1800                                           | 5,000                       |
| NAZT222M35V18X17.5JLSF | 2200               |               | 0.16                                  | 0.033                                        | 2060                                           | 5,000                       |
| NAZT272M35V18X22JLSF   | 2700               |               | 0.16                                  | 0.028                                        | 2260                                           | 5,000                       |
| NAZT4R7M50V4X6.3N_F    | 4.7                | 50            | 0.12                                  | 2.90                                         | 60                                             | 2,000                       |
| NAZT100M50V6.3X6.3N_F  | 10                 |               | 0.12                                  | 0.88                                         | 165                                            | 2,000                       |
| NAZT150M50V6.3X6.3N_F  | 15                 |               | 0.12                                  | 0.88                                         | 165                                            | 2,000                       |
| NAZT220M50V6.3X6.3N_F  | 22                 |               | 0.12                                  | 0.88                                         | 165                                            | 2,000                       |
| NAZT270M50V6.3X8N_F    | 27                 |               | 0.12                                  | 0.68                                         | 195                                            | 2,000                       |
| NAZT330M50V6.3X8N_F    | 33                 |               | 0.12                                  | 0.68                                         | 195                                            | 2,000                       |
| NAZT470M50V6.3X8N_F    | 47                 |               | 0.12                                  | 0.68                                         | 195                                            | 2,000                       |
| NAZT560M50V8X10.5N_F   | 56                 |               | 0.14                                  | 0.34                                         | 350                                            | 5,000                       |
| NAZT680M50V8X10.5N_F   | 68                 |               | 0.14                                  | 0.34                                         | 350                                            | 5,000                       |
| NAZT101M50V8X10.5N_F   | 100                |               | 0.14                                  | 0.34                                         | 350                                            | 5,000                       |
| NAZT101M50V10X8J_F     | 100                |               | 0.14                                  | 0.34                                         | 330                                            | 2,000                       |
| NAZT151M50V10X10.5L_F  | 150                |               | 0.14                                  | 0.18                                         | 670                                            | 5,000                       |
| NAZT221M50V10X10.5L_F  | 220                |               | 0.14                                  | 0.18                                         | 670                                            | 5,000                       |
| NAZT331M50V12.5X14KLBF | 330                |               | 0.14                                  | 0.12                                         | 900                                            | 5,000                       |
| NAZT471M50V16X17JLSF   | 470                |               | 0.14                                  | 0.073                                        | 1610                                           | 5,000                       |
| NAZT681M50V16X17JLSF   | 680                |               | 0.14                                  | 0.073                                        | 1610                                           | 5,000                       |
| NAZT102M50V16X17JLSF   | 1000               |               | 0.14                                  | 0.073                                        | 1610                                           | 5,000                       |
| NAZT122M50V18X17.5JLSF | 1200               |               | 0.14                                  | 0.068                                        | 1900                                           | 5,000                       |
| NAZT152M50V18X22JLSF   | 1500               |               | 0.14                                  | 0.042                                        | 2180                                           | 5,000                       |



Part Number Suffix Where \_ : Preferred (15" reel) = LB, Legacy (13" reel) = B (check with NIC for availability)

\*For Automotive Equipment see part number system

NIC COMPONENTS CORP. [www.niccomp.com](http://www.niccomp.com) | [www.lowESR.com](http://www.lowESR.com) | [www.RFpassives.com](http://www.RFpassives.com) | [www.SMTmagnetics.com](http://www.SMTmagnetics.com)

SPECIFICATIONS ARE SUBJECT TO CHANGE

# Surface Mount Aluminum Electrolytic Capacitors NAZT Series

## STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

| NIC Part Number         | Cap. (μF) | W.V. (Vdc) | Dissipation Factor (Tan δ) | Max. Impedance (Ω) 100KHz, +20°C | Max. Ripple Current (mA rms) +105°C, 100KHz | Load Life Hours @ +105°C |
|-------------------------|-----------|------------|----------------------------|----------------------------------|---------------------------------------------|--------------------------|
| NAZT100M63V6.3X6.3L_F   | 10        | 63         | 0.08                       | 1.50                             | 80                                          | 2,000                    |
| NAZT220M63V6.3X8L_F     | 22        |            | 0.08                       | 1.20                             | 120                                         | 2,000                    |
| NAZT470M63V10X8J_F      | 47        |            | 0.08                       | 0.70                             | 200                                         | 2,000                    |
| NAZT101M63V12.5X14JLBF  | 100       |            | 0.08                       | 0.16                             | 800                                         | 5,000                    |
| NAZT151M63V12.5X14JLBF  | 150       |            | 0.08                       | 0.16                             | 800                                         | 5,000                    |
| NAZT221M63V12.5X14JLBF  | 220       |            | 0.08                       | 0.16                             | 800                                         | 5,000                    |
| NAZT331M63V16X17HLSF    | 330       |            | 0.08                       | 0.082                            | 1410                                        | 5,000                    |
| NAZT471M63V16X17HLSF    | 470       |            | 0.08                       | 0.082                            | 1410                                        | 5,000                    |
| NAZT681M63V18X17.5HLSF  | 680       |            | 0.08                       | 0.080                            | 1690                                        | 5,000                    |
| NAZT102M63V18X22HLSF    | 1000      |            | 0.08                       | 0.055                            | 1960                                        | 5,000                    |
| NAZT470M80V10X10.5J_F   | 47        | 80         | 0.08                       | 0.65                             | 200                                         | 5,000                    |
| NAZT101M80V12.5X14HLBF  | 100       |            | 0.08                       | 0.32                             | 500                                         | 5,000                    |
| NAZT151M80V12.5X14HLBF  | 150       |            | 0.08                       | 0.32                             | 500                                         | 5,000                    |
| NAZT331M80V16X17HLSF    | 330       |            | 0.08                       | 0.17                             | 793                                         | 5,000                    |
| NAZT471M80V18X17.5HLSF  | 470       |            | 0.08                       | 0.153                            | 917                                         | 5,000                    |
| NAZT330M100V10X10.5J_F  | 33        | 100        | 0.07                       | 0.65                             | 200                                         | 5,000                    |
| NAZT470M100V12.5X14HLBF | 47        |            | 0.07                       | 0.32                             | 500                                         | 5,000                    |
| NAZT680M100V12.5X14HLBF | 68        |            | 0.07                       | 0.32                             | 500                                         | 5,000                    |
| NAZT101M100V16X17HLSF   | 100       |            | 0.07                       | 0.17                             | 793                                         | 5,000                    |
| NAZT151M100V16X17HLSF   | 150       |            | 0.07                       | 0.17                             | 793                                         | 5,000                    |
| NAZT221M100V18X17.5HLSF | 220       |            | 0.07                       | 0.153                            | 917                                         | 5,000                    |
| NAZT331M100V18X22HLSF   | 330       |            | 0.07                       | 0.083                            | 1230                                        | 5,000                    |

Part Number Suffix Where \_ : Preferred (15" reel) = LB, Legacy (13" reel) = B (check with NIC for availability)

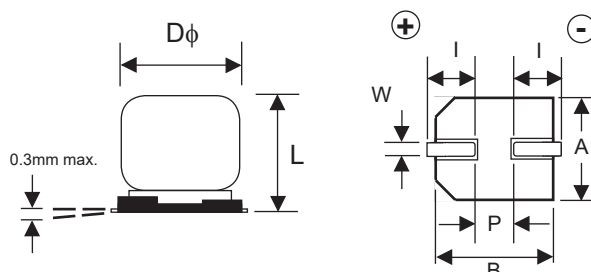
\*For Automotive Equipment see part number system

## RIPPLE CURRENT FREQUENCY CORRECTION FACTORS

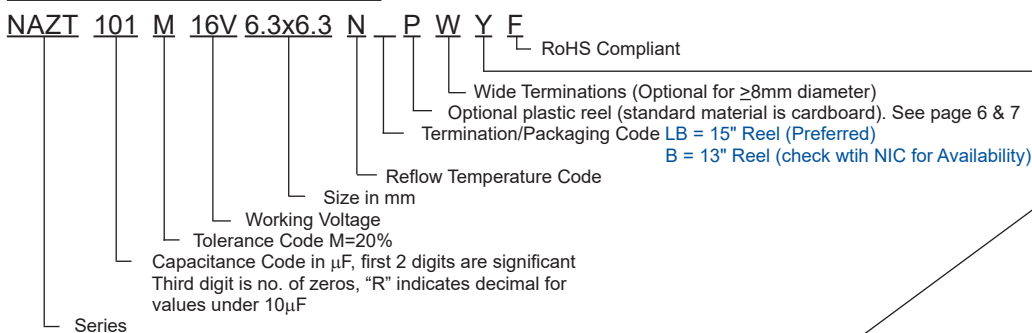
| Frequency    | 100≤F<1KHz | 1K≤F<10KHz | 10K≤F<100KHz | 100KHz≤F |
|--------------|------------|------------|--------------|----------|
| C≤33μF       | 0.35       | 0.70       | 0.90         | 1.00     |
| 33μF<C≤150μF | 0.40       | 0.85       | 0.92         | 1.00     |
| 150μF<C      | 0.60       | 0.85       | 0.95         | 1.00     |

## COMPONENT DIMENSIONS (mm)

| Case Size | φD±0.5 | L max. | A±0.2 | B±0.2 | I±0.3 | W       | P±0.3 |
|-----------|--------|--------|-------|-------|-------|---------|-------|
| 4x6.3     | 4.0    | 6.3    | 4.3   | 4.3   | 1.8   | 0.5~0.8 | 1.0   |
| 5x6.3     | 5.0    | 6.3    | 5.3   | 5.3   | 2.2   | 0.5~0.8 | 1.4   |
| 6.3x6.3   | 6.3    | 6.3    | 6.6   | 6.6   | 2.5   | 0.5~0.8 | 2.2   |
| 6.3x8     | 6.3    | 8.0    | 6.6   | 6.6   | 2.5   | 0.5~0.8 | 2.2   |
| 8x10.5    | 8.0    | 10.5   | 8.3   | 8.3   | 2.9   | 0.7~1.1 | 3.2   |
| 10x8      | 10.0   | 8.0    | 10.3  | 10.3  | 3.2   | 0.7~1.4 | 4.6   |
| 10x10.5   | 10.0   | 10.5   | 10.3  | 10.3  | 3.2   | 0.7~1.4 | 4.6   |
| 10x14     | 10.0   | 14     | 10.3  | 10.3  | 3.2   | 0.7~1.4 | 4.6   |
| 12.5x14   | 12.5   | 14.0   | 12.8  | 12.8  | 4.5   | 1.0~1.4 | 4.6   |
| 16x17     | 16.0   | 17.0   | 16.3  | 16.3  | 5.2   | 1.7~2.1 | 7.0   |
| 18x17.5   | 18     | 17.5   | 19.0  | 19.0  | 6.5   | 1.7~2.1 | 7.0   |
| 18x22     | 18     | 22.0   | 19.0  | 19.0  | 6.5   | 1.7~2.1 | 7.0   |



## PART NUMBER SYSTEM



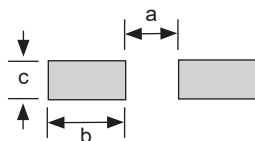
Optional: Suitable for automotive equipment, sourced to special production and inspection at TS-16949 certified production site



### STANDARD TERMINAL

#### LAND PATTERN DIMENSIONS (mm)

| Case Size                | a   | b   | c   |
|--------------------------|-----|-----|-----|
| 4x6.3                    | 1.0 | 2.6 | 1.8 |
| 5x6.3                    | 1.4 | 3.0 | 1.8 |
| 6x3x6.3<br>6.3x8         | 2.1 | 3.5 | 1.8 |
| 8x10.5                   | 2.8 | 4.1 | 2.1 |
| 10x8<br>10x10.5<br>10x14 | 4.3 | 4.4 | 2.5 |
| 12.5x14                  | 4.3 | 5.8 | 2.5 |
| 16x17                    | 6.6 | 6.5 | 5.0 |
| 18x17.5                  | 6.6 | 7.7 | 5.0 |
| 18x22                    | 6.6 | 7.7 | 5.0 |

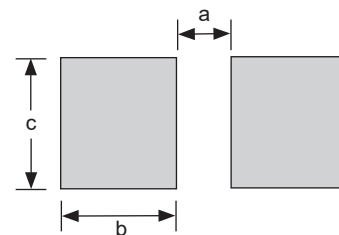
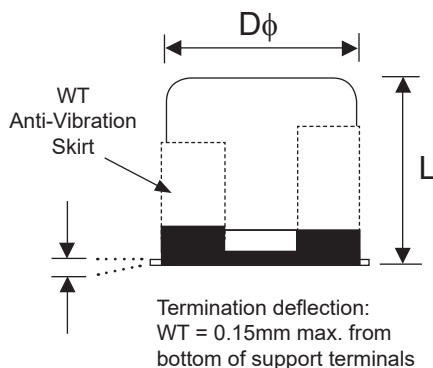
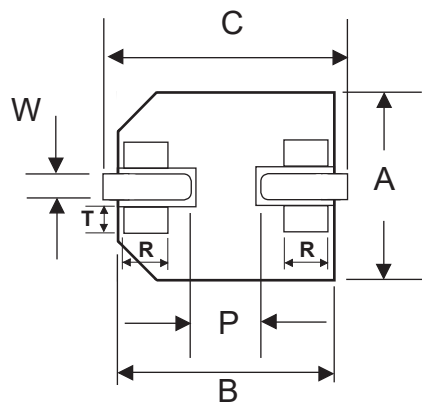


#### WIDE TERMINATION (WT) DIM. (mm)

| Case Size | Dφ ±0.5 | L              | A, B       | C ±0.2 | P ±0.2 | W                     | R | T |
|-----------|---------|----------------|------------|--------|--------|-----------------------|---|---|
| 8x10.5WT  | 8.0     | 10.5 ± 0.5     | 8.3 ± 0.2  | 9.0    | 3.2    | 0.7 ~ 1.0 (0.7) (1.3) |   |   |
| 10x10.5WT | 10.0    | 10.5 ± 0.5     | 10.3 ± 0.2 | 11.0   | 4.6    | 1.0 ~ 1.4 (0.7) (1.3) |   |   |
| 10x14WT   | 10.0    | 14.0 +0.5/-1.5 | 10.3 ± 0.2 | 11.0   | 4.6    | 1.0 ~ 1.4 (0.7) (1.3) |   |   |
| 12.5x14WT | 12.5    | 14.0 +0.5/-1.5 | 13.5 ± 0.2 | 14.2   | 4.6    | 1.0 ~ 1.4 (2.2) (2.4) |   |   |
| 16x17WT   | 16.0    | 17.0 +0.5/-1.5 | 17.0 ± 0.2 | 18.0   | 7.0    | 1.8 ~ 2.1 (3.0) (2.0) |   |   |
| 18x17.5WT | 18.0    | 17.5 +0/-2.0   | 19.0 ± 0.2 | 20.0   | 7.0    | 1.7 ~ 2.1 (3.0) (2.0) |   |   |
| 18x22WT   | 18.0    | 22.0 +0/-2.0   | 19.0 ± 0.2 | 20.0   | 7.0    | 1.7 ~ 2.1 (3.0) (2.0) |   |   |

#### WT LAND PATTERN DIM. (mm)

| Case Size | a   | b   | c   |
|-----------|-----|-----|-----|
| 8x10.5WT  | 2.5 | 4.5 | 4.7 |
| 10x10.5WT | 3.8 | 4.8 | 4.7 |
| 10x14WT   | 3.8 | 4.8 | 4.7 |
| 12.5x14WT | 3.8 | 6.1 | 6.9 |
| 16x17WT   | 5.0 | 8.0 | 9.5 |
| 18x17.5WT | 5.0 | 8.6 | 9.5 |
| 18x22WT   | 5.0 | 8.6 | 9.5 |



Review & Compare Reflow Soldering Heat Limits  
V-chip SMT Aluminum Electrolytic Capacitors  
[www.niccomp.com/RSI](http://www.niccomp.com/RSI)

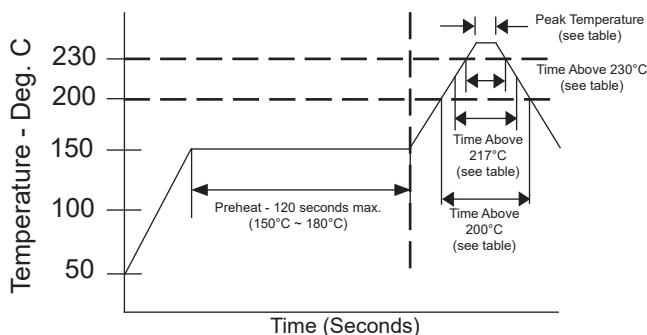


# Surface Mount Aluminum Electrolytic Capacitors NAZT Series

## REFLOW TEMPERATURES AND DURATIONS

| Voltage   | Diameter           | Time above 200°C | Time above 217°C | Time above 230°C | Peak Temperature 5 seconds |
|-----------|--------------------|------------------|------------------|------------------|----------------------------|
| 6.3 ~ 50V | 4 ~ 8mm $\phi$     | 80 sec. max.     | 70 sec. max.     | 40 sec. max.     | 260°C                      |
|           | 10x8               | 50 sec. max.     | 40 sec. max.     | 20 sec. max.     | 240°C                      |
|           | 10mm $\phi$        | 70 sec. max.     | 60 sec. max.     | 40 sec. max.     | 250°C                      |
|           | 12.5mm $\phi$      | 60 sec. max.     | 50 sec. max.     | 30 sec. max.     | 245°C                      |
|           | 16 ~ 18mm $\phi$   | 50 sec. max.     | 40 sec. max.     | 20 sec. max.     | 240°C                      |
| 63V       | 6.3mm $\phi$       | 70 sec. max.     | 60 sec. max.     | 40 sec. max.     | 250°C                      |
|           | 10 ~ 12.5mm $\phi$ | 50 sec. max.     | 40 sec. max.     | 20 sec. max.     | 240°C                      |
|           | 16 ~ 18mm $\phi$   | 50 sec. max.     | 40 sec. max.     | 15 sec. max.     | 235°C                      |
| 80V, 100V | 10mm $\phi$        | 50 sec. max.     | 40 sec. max.     | 20 sec. max.     | 240°C                      |
|           | 12.5mm $\phi$      | 50 sec. max.     | 40 sec. max.     | 20 sec. max.     | 235°C                      |
|           | 16 ~ 18mm $\phi$   | 45 sec. max.     | 30 sec. max.     | 10 sec. max.     | 235°C                      |

Capacitors can withstand two times reflow at the above conditions.  
Second reflow shall be at least one hour after natural cool to room temperature.



## PEAK REFLOW TEMPERATURE CODES

| Code | Peak Reflow Temperature |
|------|-------------------------|
| N    | 260°C                   |
| L    | 250°C                   |
| K    | 245°C                   |
| J    | 240°C                   |
| H    | 235°C                   |

## TERMINATION FINISH & PACKAGING OPTIONS CODES

| Code | Finish & Reel Size        |
|------|---------------------------|
| B    | Sn-Bi Finish & 13" Reel   |
| LB   | Sn-Bi Finish & 15" Reel   |
| S    | 100% Sn Finish & 13" Reel |
| LS   | 100% Sn Finish & 15" Reel |

Note: 16mm & 18mm diameter parts are only available with Sn finish.

## PRECAUTIONS

Please review the notes on correct use, safety and precautions found at <https://www.niccomp.com/resource/files/aluminum/AlumApplInfoCautions.pdf>  
If in doubt or uncertainty, please review your specific application - process details with  
NIC's technical support personnel: [tpmg@niccomp.com](mailto:tpmg@niccomp.com)



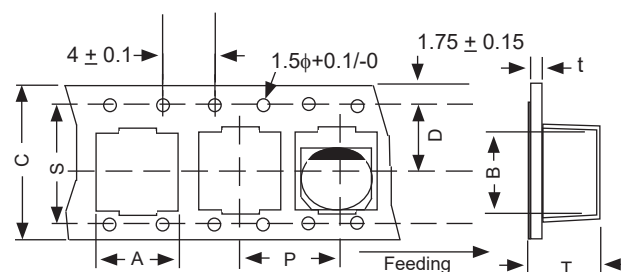
# Surface Mount Aluminum Electrolytic Capacitors NAZT Series

| WT (Wide Terminations) Anti-Vibration Test |                                                                                        |
|--------------------------------------------|----------------------------------------------------------------------------------------|
| Test Method                                | Direction: X, Y, Z axis                                                                |
|                                            | Frequency & Duration: 5 to 2000Hz reciprocation for 20 minutes, 2 hours each direction |
|                                            | Peak to Peak Amplitude: 5mm                                                            |
|                                            | Peak Acceleration: 30G                                                                 |
|                                            | Sweep Type: Log                                                                        |
| Δ Capacitance                              | Within ± 10% of initial value                                                          |
| Tangent of Loss                            | ≤ Specified value                                                                      |
| Leakage Current                            | ≤ Specified value                                                                      |

## TAPING SPECIFICATIONS (mm)

- Both Leader and Trailer tape: Minimum 10 empty carrier tape pockets.
- Connection: Maximum 3 connections (slices) per reel.

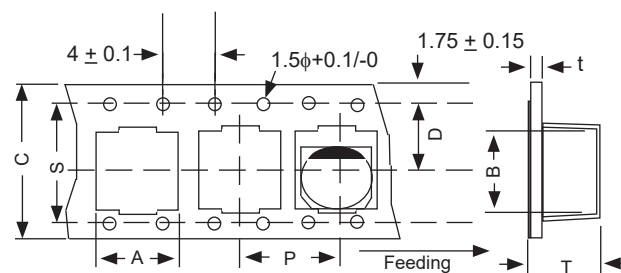
| Case Size | A<br>±0.2 | B<br>±0.2 | C<br>±0.3 | D<br>±0.1 | P<br>±0.1 | T<br>±0.2 | t<br>max. | S<br>±0.1 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 4x6.3     | 4.7       | 4.7       | 12.0      | 5.5       | 8.0       | 6.4       | 0.6       | -         |
| 5x6.3     | 5.7       | 5.7       | 12.0      | 5.5       | 12.0      | 6.4       | 0.6       | -         |
| 6.3x6.3   | 7.0       | 7.0       | 16.0      | 7.5       | 12.0      | 6.5       | 0.6       | -         |
| 6.3x8     | 7.0       | 7.0       | 16.0      | 7.5       | 12.0      | 8.2       | 0.6       | -         |
| 8x10.5    | 8.7       | 8.7       | 24.0      | 11.5      | 16.0      | 11.1      | 0.6       | -         |
| 10x8      | 10.7      | 10.7      | 24.0      | 11.5      | 16.0      | 8.3       | 0.6       | -         |
| 10x10.5   | 10.7      | 10.7      | 24.0      | 11.5      | 16.0      | 11.2      | 0.6       | -         |
| 10x14     | 10.7      | 10.7      | 24.0      | 11.5      | 16.0      | 14.6      | 0.6       | -         |
| 12.5x14   | 13.2      | 13.2      | 32.0      | 14.2      | 24.0      | 14.3      | 0.6       | 28.4      |
| 16x17     | 17.5      | 17.5      | 44.0      | 20.2      | 28.0      | 17.3      | 0.6       | 40.4      |
| 18x17     | 19.5      | 19.5      | 44.0      | 20.2      | 32.0      | 17.8      | 0.6       | 40.4      |
| 18x22     | 19.5      | 19.5      | 44.0      | 20.2      | 32.0      | 22.5      | 0.6       | 40.4      |



## WT TAPING SPECIFICATIONS (mm)

- Both Leader and Trailer tape: Minimum 10 empty carrier tape pockets.
- Connection: Maximum 3 connections (slices) per reel.

| Case Size | A<br>±0.2 | B<br>±0.2 | C<br>±0.3 | D<br>±0.1 | P<br>±0.1 | T<br>±0.2 | t<br>max. | S<br>±0.1 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8x10.5    | 8.7       | 8.7       | 24.0      | 11.5      | 16.0      | 11.1      | 0.6       | -         |
| 10x8      | 10.7      | 10.7      | 24.0      | 11.5      | 16.0      | 8.3       | 0.6       | -         |
| 10x10.5   | 10.7      | 10.7      | 24.0      | 11.5      | 16.0      | 11.2      | 0.6       | -         |
| 10x14     | 10.7      | 10.7      | 24.0      | 11.5      | 16.0      | 14.6      | 0.6       | -         |
| 12.5x14   | 13.9      | 13.9      | 32.0      | 14.2      | 24.0      | 14.7      | 0.6       | 28.4      |
| 16x17     | 17.5      | 17.5      | 44.0      | 20.2      | 28.0      | 17.8      | 0.6       | 40.4      |
| 18x17     | 19.5      | 19.5      | 44.0      | 20.2      | 32.0      | 17.8      | 0.6       | 40.4      |
| 18x22     | 19.5      | 19.5      | 44.0      | 20.2      | 32.0      | 22.5      | 0.6       | 40.4      |

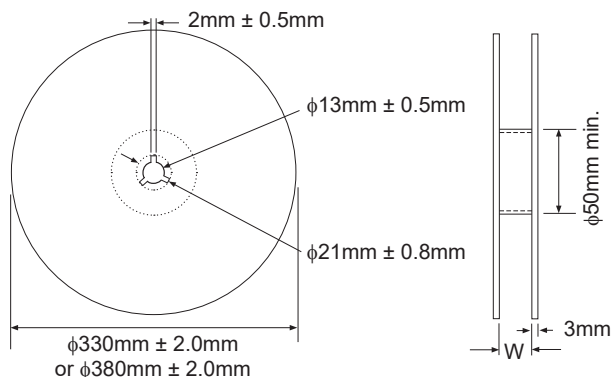


## B suffix 330mm (13") CARDBOARD REEL

## LB suffix 380mm (15") CARDBOARD REEL

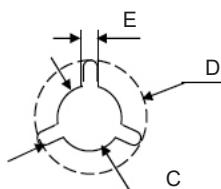
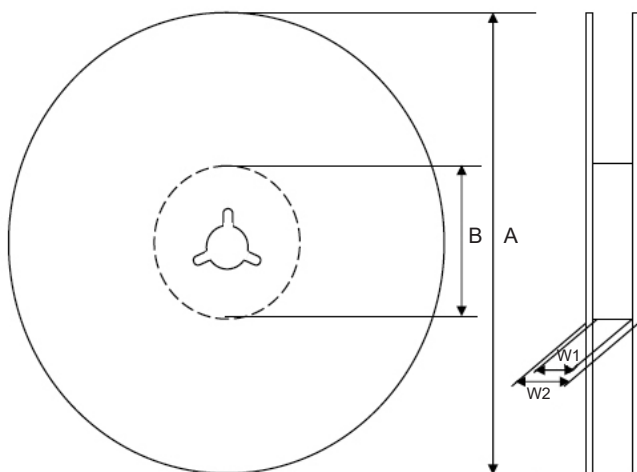
(See page 7 for plastic reel dimensions)

| Case Size | W<br>±1.0 | Qty per Reel |             |
|-----------|-----------|--------------|-------------|
|           |           | 13" (330mm)  | 15" (380mm) |
| 4x6.3     | 14        | 1200         | 2000        |
| 5x6.3     | 14        | 800          | 1000        |
| 6.3x6.3   | 18        | 800          | 1000        |
| 6.3x8     | 18        | 500          | 900         |
| 8x10.5    | 26        | 300          | 500         |
| 10x8      | 26        | 400          | 500         |
| 10x10.5   | 26        | 300          | 500         |
| 10x14     | 26        | -            | 400         |
| 12.5x14   | 34        | -            | 250         |
| 16x17     | 46        | -            | 200         |
| 18x17     | 46        | -            | 175         |
| 18x22     | 46        | -            | 125         |



# Surface Mount Aluminum Electrolytic Capacitors NAZT Series

## Optional V-Chip 13" (330mm) Plastic Reels (BP suffix)



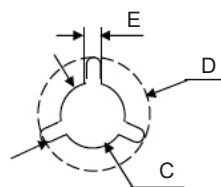
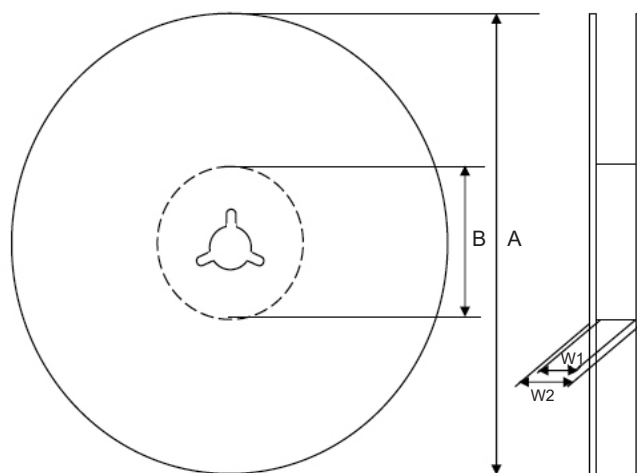
### Dimensions (mm)

| Case Size                    | Tape Width | W1          | W2          |
|------------------------------|------------|-------------|-------------|
| 4x6.3, 5X6.3                 | 12.0       | 12.4 ~ 14.4 | 15.5 ~ 20.0 |
| 6.3x6.3, 6.3x8               | 16.0       | 16.4 ~ 18.4 | 19.5 ~ 24.0 |
| 8x10.5, 10x8, 10x10.5, 10x14 | 24.0       | 24.4 ~ 26.4 | 27.5 ~ 32.0 |

| Case Size                    | Tape Width | A                  | B                  | C                 | D                 | E             |
|------------------------------|------------|--------------------|--------------------|-------------------|-------------------|---------------|
| 4x6.3, 5X6.3                 | 12.0       | $\phi 330 \pm 2.0$ | $\phi 50 \sim 105$ | $\phi 13 \pm 0.5$ | $\phi 21 \pm 1.0$ | $2.0 \pm 0.5$ |
| 6.3x6.3, 6.3x8               | 16.0       |                    |                    |                   |                   |               |
| 8x10.5, 10x8, 10x10.5, 10x14 | 24.0       |                    |                    |                   |                   |               |

| Color         |
|---------------|
| Black or Blue |

## Optional V-Chip 15" (380mm) Plastic Reels (LBP suffix)



### Dimensions (mm)

| Case Size                    | Tape Width | W1          | W2          |
|------------------------------|------------|-------------|-------------|
| 4x6.3, 5X6.3                 | 12.0       | 12.5 ~ 14.0 | 15.5 ~ 20.0 |
| 6.3x6.3, 6.3x8               | 16.0       | 16.5 ~ 18.0 | 19.5 ~ 24.0 |
| 8x10.5, 10x8, 10x10.5, 10x14 | 24.0       | 24.5 ~ 26.0 | 27.5 ~ 32.0 |
| 12.5x14                      | 32.0       | 33.0 ~ 34.0 | 36.5 ~ 38.5 |
| 16x17, 18x17, 18x22          | 44.0       | 45.0 ~ 46.0 | 48.5 ~ 50.5 |

| Case Size                    | Tape Width | A                | B                  | C                 | D                 | E             |
|------------------------------|------------|------------------|--------------------|-------------------|-------------------|---------------|
| 4x6.3, 5X6.3                 | 12.0       | $\phi 380 \pm 2$ | $\phi 80 \sim 105$ | $\phi 13 \pm 0.5$ | $\phi 21 \pm 1.0$ | $2.0 \pm 0.5$ |
| 6.3x6.3, 6.3x8               | 16.0       |                  |                    |                   |                   |               |
| 8x10.5, 10x8, 10x10.5, 10x14 | 24.0       |                  |                    |                   |                   |               |
| 12.5x14                      | 32.0       |                  |                    |                   |                   |               |
| 16x17, 18x17, 18x22          | 44.0       |                  |                    |                   |                   |               |

| Color         |
|---------------|
| Black or Blue |

| Case Size | Qty per Reel |             |
|-----------|--------------|-------------|
|           | 13" (330mm)  | 15" (380mm) |
| 4x6.3     | 1200         | 2000        |
| 5x6.3     | 800          | 1000        |
| 6.3x6.3   | 800          | 1000        |
| 6.3x8     | 500          | 900         |
| 8x10.5    | 300          | 500         |
| 10x8      | 400          | 500         |
| 10x10.5   | 300          | 500         |
| 10x14     | -            | 400         |
| 12.5x14   | -            | 250         |
| 16x17     | -            | 200         |
| 18x17     | -            | 175         |
| 18x22     | -            | 125         |

