

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***

SAC Alloy Compatible
230°C ~ 260°C



*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 After 2 Minutes @ 20°C | 0.01CV or 3µA whichever is greater | | | | | | | | | |
| Tan δ @ 120Hz/20°C | W.V. (Vdc) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 |
| | S.V. (Vdc) | 8.0 | 13 | 20 | 32 | 44 | 63 | 79 | 100 | 125 |
| | 4 ~ 6.3mm diameter | 0.26 | 0.20 | 0.16 | 0.14 | 0.12 | 0.12 | 0.08 | - | - |
| | 8 ~ 18mm diameter | 0.28 | 0.24 | 0.22 | 0.16 | 0.14 | 0.14 | 0.08 | 0.08 | 0.07 |
| Low Temperature Stability Impedance Ratio @ 120Hz | W.V. (Vdc) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 |
| | Z-40°C/Z+20°C | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| | Z-55°C/Z+20°C | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Load Life Test @ 105°C 4 ~ 6mm Dia. 2,000 hours 10x8mm Case Size 2,000 hours 8 ~ 18mm Dia. 5,000 hours | Capacitance Change | Within ±30% of initial measured value | | | | | | | | |
| | Tan δ | Less than ±300% of the specified maximum value | | | | | | | | |
| | Leakage Current | Less than the specified maximum value | | | | | | | | |

RoHS Compliant

includes all homogeneous materials

*See Part Number System for Details

LOW ESR COMPONENT
LIQUID ELECTROLYTE
For Performance Data see www.LowESR.com

STANDARD VALUES AND CASE SIZES (mm)

| Cap. (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 | 6.3x8 | - | - |
| 27 | 270 | 4x6.3 | 5x6.3 | 5x6.3 | 6.3x6.3 | 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 |
| | | 8x10.5 | | | | 10x8 | | | | |
| 150 | 151 | 6.3x6.3 | 6.3x6.3 | 6.3x8 | 8x10.5 | 8x10.5 | 10x10.5 | 12.5x14 | 12.5x14 | 16x17 |
| | | | | | | 10x8 | | | | |
| 220 | 221 | 6.3x6.3 | 6.3x8 | 6.3x8 | 8x10.5 | 8x10.5 | 10x10.5 | 12.5x14 | - | 18x17.5 |
| | | | | | 10x8 | | | | | |
| 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 | - |
| | | 10x8 | | | | | | | | |
| 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 | - | - |
| | | | | 12.5x14 | | | | | | |
| 1200 | 122 | - | - | - | - | - | 18x17.5 | - | - | - |
| 1500 | 152 | 10x10.5 | 10x14 | 12.5x14 | 16x17 | 16x17 | 18x22 | - | - | - |
| | | | 12.5x14 | | | | | | | |
| 2200 | 222 | 12.5x14 | 12.5x14 | - | 16x17 | 18x17.5 | - | - | - | - |
| 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 | - | - | - | - | - | - | - | - |



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 |
|-------------------------|-----------|------------|----------------------------|----------------------------------|---|--------------------------|
| 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. (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 |
|------------------------|-----------|------------|----------------------------|-------------------------------------|--|-----------------------------|
| 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



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)

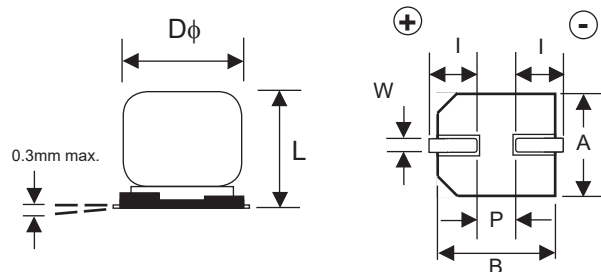
*For Automotive Equipment see part number system

RIPPLE CURRENT FREQUENCY CORRECTION FACTORS

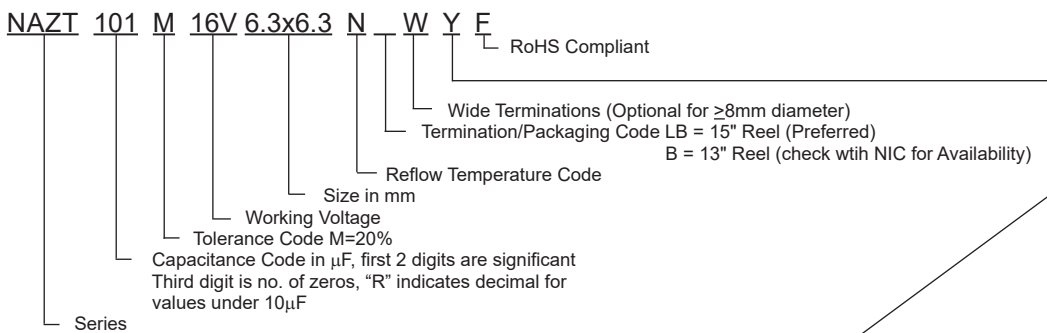
| Frequency | 100≤F<1KHz | 1K≤F<10KHz | 10K≤F<100KHz | 100KHz≤F |
|--------------|------------|------------|--------------|----------|
| C≤33μF | 0.35 | 0.70 | 0.90 | 1.00 |
| 33μF<C≤150μF | 0.40 | 0.85 | 0.92 | 1.00 |
| 150μF<C | 0.60 | 0.85 | 0.95 | 1.00 |

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

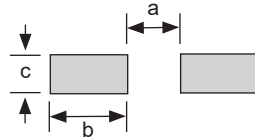


Optional: Suitable for automotive equipment, sourced to special production and inspection at IATF-16949 certified production site



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 6.3x8 | 2.1 | 3.5 | 1.8 |
| 8x10.5 | 2.8 | 4.1 | 2.1 |
| 10x8 10x10.5 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 |

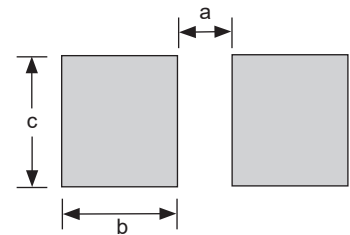
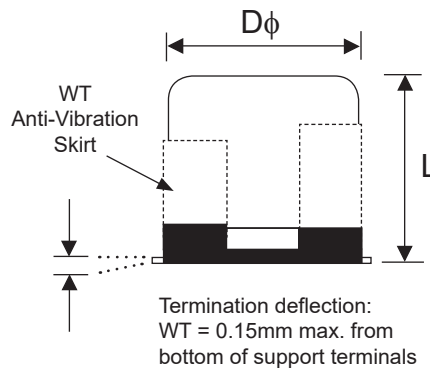
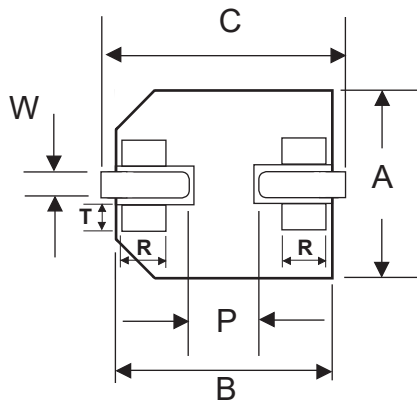


WIDE TERMINATION (WT) DIM. (mm)

| Case Size | D ϕ \pm 0.5 | L | A, B | C \pm 0.2 | P \pm 0.2 | W | R | T |
|-----------|--------------------|----------------|----------------|-------------|-------------|-----------|-------|-------|
| 8x10.5WT | 8.0 | 10.5 \pm 0.5 | 8.3 \pm 0.2 | 9.0 | 3.2 | 0.7 ~ 1.0 | (0.7) | (1.3) |
| 10x10.5WT | 10.0 | 10.5 \pm 0.5 | 10.3 \pm 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 \pm 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 \pm 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 \pm 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 \pm 0.2 | 20.0 | 7.0 | 1.7 ~ 2.1 | (3.0) | (2.0) |
| 18x22WT | 18.0 | 22.0 +0/-2.0 | 19.0 \pm 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/RSL



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 ϕ | 80 sec. max. | 70 sec. max. | 40 sec. max. | 260°C |
| | 10x8 | 50 sec. max. | 40 sec. max. | 20 sec. max. | 240°C |
| | 10mm ϕ | 70 sec. max. | 60 sec. max. | 40 sec. max. | 250°C |
| | 12.5mm ϕ | 60 sec. max. | 50 sec. max. | 30 sec. max. | 245°C |
| | 16 ~ 18mm ϕ | 50 sec. max. | 40 sec. max. | 20 sec. max. | 240°C |
| | Optional: 1 Time Reflow only 16 ~ 18mm ϕ | 100 sec. max. | 80 sec. max. | 30 sec. max. | 245°C |
| 63V | 6.3mm ϕ | 70 sec. max. | 60 sec. max. | 40 sec. max. | 250°C |
| | 10 ~ 12.5mm ϕ | 50 sec. max. | 40 sec. max. | 20 sec. max. | 240°C |
| | 16 ~ 18mm ϕ | 50 sec. max. | 40 sec. max. | 15 sec. max. | 235°C |
| 80V, 100V | 10mm ϕ | 50 sec. max. | 40 sec. max. | 20 sec. max. | 240°C |
| | 12.5mm ϕ | 50 sec. max. | 40 sec. max. | 20 sec. max. | 235°C |
| | 16 ~ 18mm ϕ | 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.

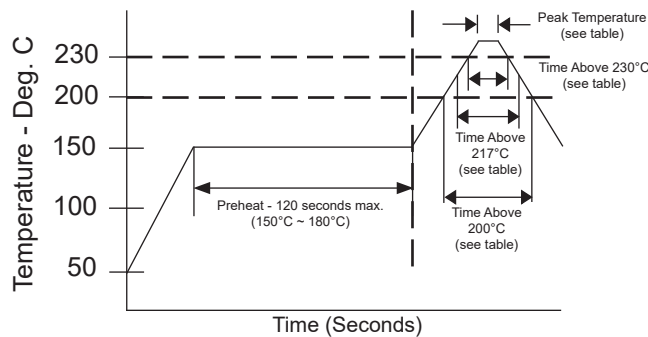
PEAK REFLOW TEMPERATURE CODES

| 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



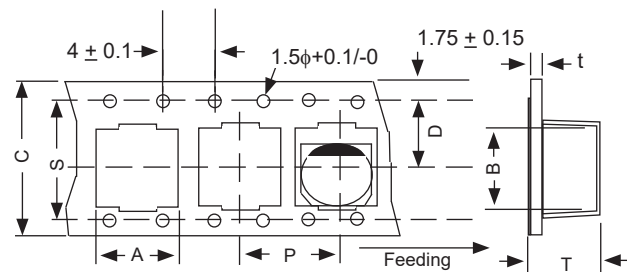
Surface Mount Aluminum Electrolytic Capacitors NAZT Series

| 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.

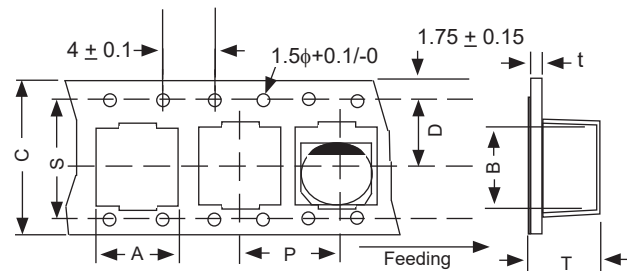
| Case Size | A ±0.2 | B ±0.2 | C ±0.3 | D ±0.1 | P ±0.1 | T ±0.2 | t max. | S ±0.1 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 4x6.3 | 4.7 | 4.7 | 12.0 | 5.5 | 8.0 | 6.4 | 0.6 | - |
| 5x6.3 | 5.7 | 5.7 | 12.0 | 5.5 | 12.0 | 6.4 | 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)

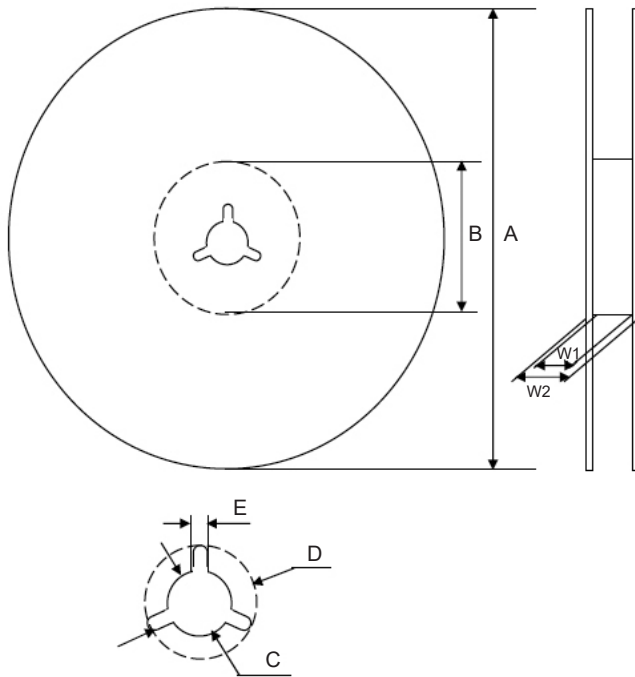
- Both Leader and Trailer tape: Minimum 10 empty carrier tape pockets.
- Connection: Maximum 3 connections (slices) per reel.

| Case Size | A ±0.2 | B ±0.2 | C ±0.3 | D ±0.1 | P ±0.1 | T ±0.2 | t max. | S ±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 |



Surface Mount Aluminum Electrolytic Capacitors NAZT Series

Preferred V-Chip 15" (380mm) Reels (LB suffix)



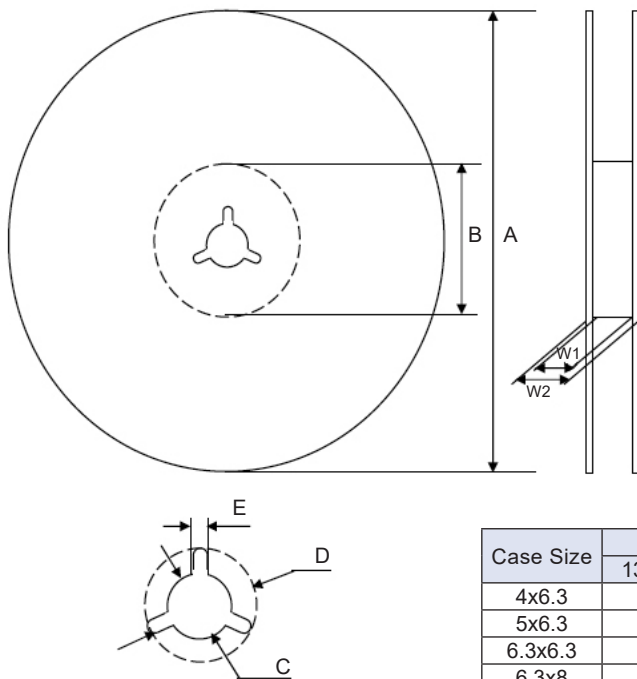
Dimensions (mm)

| 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 ± 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 |

Optional V-Chip 13" (330mm) Reels (B 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 ± 0.5 |
| 6.3x6.3, 6.3x8 | 16.0 | | | | | |
| 8x10.5, 10x8, 10x10.5, 10x14 | 24.0 | | | | | |

| 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 |



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