

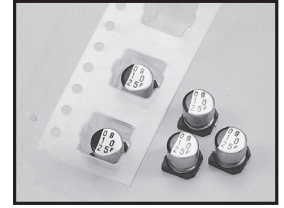
NACS Series

General Purpose Surface Mount Aluminum Electrolytic Capacitors



FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION
- LOW PROFILE, 5.5mm MAXIMUM HEIGHT
- SPACE AND COST SAVINGS
- DESIGNED FOR REFLOW SOLDERING



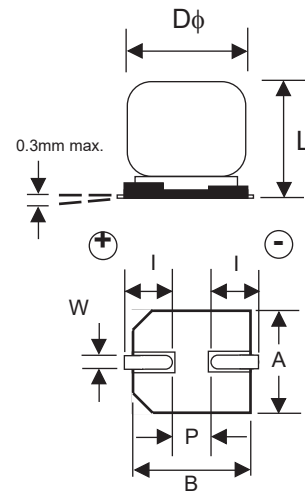
CHARACTERISTICS

| | | | | | | | |
|--|---|--|------|------|------|------|------|
| Rated Voltage Rating | 6.3 ~ 50Vdc** | | | | | | |
| Rated Capacitance Range | 4.7 ~ 220 μ F | | | | | | |
| Operating Temperature Range | -40° ~ +85°C | | | | | | |
| Capacitance Tolerance | \pm 20%(M) | | | | | | |
| Max. Leakage Current After 2 Minutes at 20°C | 0.01CV or 3 μ A, whichever is greater | | | | | | |
| Surge Voltage & Max. Tan δ | W.V. (Vdc) | 6.3 | 10 | 16 | 25 | 35 | 50 |
| | S.V. (Vdc) | 8.0 | 13 | 20 | 32 | 44 | 63 |
| | Tan δ @ 120Hz/20°C | 0.28 | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 |
| Low Temperature Stability (Impedance Ratio @ 120Hz) | W.V. (Vdc) | 6.3 | 10 | 16 | 25 | 35 | 50 |
| | Z-20°C/Z +20°C | 4 | 3 | 2 | 2 | 2 | 2 |
| | Z-40°C/Z +20°C | 10 | 8 | 6 | 4 | 4 | 4 |
| Load Life Test at Rated W.V. 85°C 2,000 Hours | Capacitance Change | Within \pm 25% of initial measured value | | | | | |
| | Tan δ | Less than 200% of specified value | | | | | |
| | Leakage Current | Less than specified value | | | | | |

** For higher voltages, 200V and 400V, see NACV series.

STANDARD PRODUCT AND CASE SIZE D ϕ xL (mm)

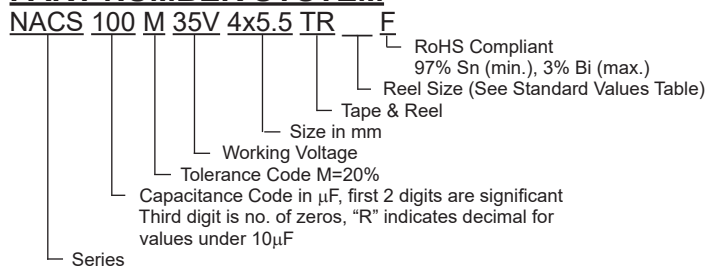
| Cap. (μ F) | Code | Working Voltage (Vdc) | | | | | |
|-----------------|------|-----------------------|---------|-------|---------|---------|---------|
| | | 6.3 | 10 | 16 | 25 | 35 | 50 |
| 4.7 | 4R7 | - | - | - | - | - | 4x5.5 |
| 10 | 100 | - | - | - | 4x5.5 | 4x5.5 | 5x5.5 |
| 22 | 220 | - | 4x5.5 | 4x5.5 | 5x5.5 | 5x5.5 | 6.3x5.5 |
| 33 | 330 | 4x5.5 | 4x5.5 | 5x5.5 | 5x5.5 | 6.3x5.5 | - |
| 47 | 470 | 4x5.5 | 5x5.5 | 5x5.5 | 6.3x5.5 | - | - |
| 56 | 560 | 5x5.5 | 5x5.5 | 5x5.5 | 6.3x5.5 | - | - |
| 100 | 101 | 5x5.5 | 5x5.5 | - | - | - | - |
| 150 | 151 | 6.3x5.5 | 6.3x5.5 | - | - | - | - |
| 220 | 221 | 6.3x5.5 | - | - | - | - | - |



DIMENSIONS (mm)

| Case Size | D ϕ \pm 0.5 | L max. | A/B \pm 0.2 | I \pm 0.2 | W | P \pm 0.2 |
|-----------|--------------------|--------|---------------|-------------|-----------|-------------|
| 4x5.5 | 4.0 | 5.5 | 4.3 | 1.8 | 0.5 ~ 0.8 | 1.0 |
| 5x5.5 | 5.0 | 5.5 | 5.3 | 2.1 | 0.5 ~ 0.8 | 1.4 |
| 6.3x5.5 | 6.3 | 5.5 | 6.6 | 2.5 | 0.5 ~ 0.8 | 2.2 |

PART NUMBER SYSTEM



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

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STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

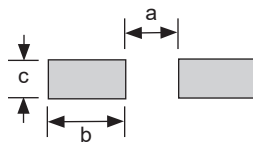
| NIC Part Number | Cap. (μF) | W.V. (Vdc) | Dissipation Factor (Tan δ) | Max. Ripple Current (mA) +85°C/120Hz | Max. ESR (Ω) +20°C/120Hz | Load Life Hours @ +85°C |
|--------------------------|-----------|------------|----------------------------|--------------------------------------|--------------------------|-------------------------|
| NACS330M6.3V4X5.5TR_F | 33 | 6.3 | 0.28 | 31 | 14.1 | 2,000 |
| NACS470M6.3V4X5.5TR_F | 47 | | 0.28 | 36 | 9.88 | 2,000 |
| NACS560M6.3V5X5.5TR13F | 56 | | 0.28 | 46 | 8.29 | 2,000 |
| NACS101M6.3V5X5.5TR13F | 100 | | 0.28 | 47 | 4.64 | 2,000 |
| NACS151M6.3V6.3X5.5TR13F | 150 | | 0.28 | 71 | 3.10 | 2,000 |
| NACS221M6.3V6.3X5.5TR13F | 220 | | 0.28 | 74 | 2.11 | 2,000 |
| NACS220M10V4X5.5TR_F | 22 | 10 | 0.24 | 28 | 18.1 | 2,000 |
| NACS330M10V4X5.5TR_F | 33 | | 0.24 | 32 | 12.6 | 2,000 |
| NACS470M10V5X5.5TR13F | 47 | | 0.24 | 43 | 8.47 | 2,000 |
| NACS560M10V5X5.5TR13F | 56 | | 0.24 | 46 | 7.11 | 2,000 |
| NACS101M10V5X5.5TR13F | 100 | | 0.24 | 50 | 3.98 | 2,000 |
| NACS151M10V6.3X5.5TR13F | 150 | | 0.24 | 76 | 2.66 | 2,000 |
| NACS220M16V4X5.5TR_F | 22 | 16 | 0.20 | 28 | 15.1 | 2,000 |
| NACS330M16V5X5.5TR13F | 33 | | 0.20 | 40 | 10.1 | 2,000 |
| NACS470M16V5X5.5TR13F | 47 | | 0.20 | 44 | 7.06 | 2,000 |
| NACS560M16V5X5.5TR13F | 56 | | 0.20 | 48 | 5.92 | 2,000 |
| NACS100M25V4X5.5TR_F | 10 | 25 | 0.16 | 20 | 26.5 | 2,000 |
| NACS220M25V5X5.5TR13F | 22 | | 0.16 | 35 | 12.1 | 2,000 |
| NACS330M25V5X5.5TR13F | 33 | | 0.16 | 42 | 8.04 | 2,000 |
| NACS470M25V6.3X5.5TR13F | 47 | | 0.16 | 65 | 5.65 | 2,000 |
| NACS560M25V6.3X5.5TR13F | 56 | | 0.16 | 68 | 4.74 | 2,000 |
| NACS100M35V4X5.5TR_F | 10 | | 35 | 0.14 | 20 | 23.2 |
| NACS220M35V5X5.5TR13F | 22 | 0.14 | | 36 | 10.6 | 2,000 |
| NACS330M35V6.3X5.5TR13F | 33 | 0.14 | | 65 | 7.04 | 2,000 |
| NACS4R7M50V4X5.5TR_F | 4.7 | 50 | 0.12 | 18 | 42.3 | 2,000 |
| NACS100M50V5X5.5TR13F | 10 | | 0.12 | 27 | 19.9 | 2,000 |
| NACS220M50V6.3X5.5TR13F | 22 | | 0.12 | 40 | 9.05 | 2,000 |

RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

| Frequency Hz | 50 ≤ f < 100 | 100 ≤ f < 1K | 1K ≤ f < 10K | f ≥ 10K |
|-------------------|--------------|--------------|--------------|---------|
| Correction Factor | 0.8 | 1.0 | 1.3 | 1.5 |

RECOMMENDED LAND PATTERN DIMENSIONS (mm)

| Case Size | a | b | c |
|-----------|-----|-----|-----|
| 4 φ | 1.0 | 2.6 | 1.8 |
| 5 φ | 1.4 | 3.0 | 1.8 |
| 6.3 φ | 2.1 | 3.5 | 1.8 |



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CARRIER TAPE

| Case Size | A ±0.5 | B ±0.2 | C ±0.3 | D ±0.1 | P ±0.1 | T ±0.2 |
|-----------|--------|--------|--------|--------|--------|--------|
| 4 x 5.5 | 4.7 | 4.7 | 12.0 | 5.5 | 8.0 | 5.8 |
| 5 x 5.5 | 5.7 | 5.7 | 12.0 | 5.5 | 12.0 | 5.8 |
| 6.3 x 5.5 | 7.0 | 7.0 | 16.0 | 7.5 | 12.0 | 5.8 |

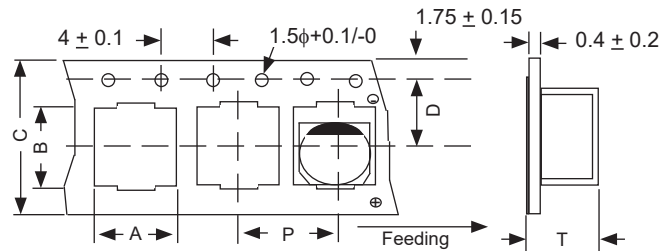
TR13 330mm (13") REEL TR15 380mm (15") REEL

| Case Size | W ±1.0 | Quantity Per Reel | |
|-----------|--------|-------------------|-----------|
| | | 13" Reel | 15" Reel |
| 4 x 5.5 | 14.0 | N/A | 2,000 pcs |
| 5 x 5.5 | 14.0 | 1,000 pcs | 1,000 pcs |
| 6.3 x 5.5 | 18.0 | 1,000 pcs | 1,000 pcs |

TAPING SPECIFICATIONS (mm)

- Both Leader and Trailer tape: Minimum 40mm (1.57") empty carrier tape pockets.
- Leader tape: Approximately 20cm of cover tape at leader.
- Connection: Maximum 3 connections (slices) per reel.

CARRIER



REEL

