

NATQ Series

Surface Mount Aluminum Electrolytic Capacitors



- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
 - EXTENDED LOAD LIFE AT HIGH TEMPERATURE (3K ~ 4K HOURS @ +125°C)
 - HIGH RIPPLE CURRENT RATINGS
 - LARGE CAN SIZE 16X17 & 18X22
 - MEETS THE REQUIREMENTS OF AEC-Q200*
- *Contact NIC for supporting test data



CHARACTERISTICS

| | | | |
|---|---|--|------|
| Rated Voltage Range | 25 ~ 35Vdc | | |
| Rated Capacitance Range | 1,300 ~ 3,300 μ F | | |
| Operating Temp. Range | -40°C ~ +125°C | | |
| Capacitance Tolerance | \pm 20% (M) | | |
| Max. Leakage Current After 2 Minutes @ 20°C | 25V ~ 35V | | |
| Working and Surge Voltage Ratings | W.V. (Vdc) | 25 | 35 |
| | S.V. (Vdc) | 32 | 44 |
| Tan δ @ 120Hz/+20°C | | 0.18 | 0.16 |
| | When capacitance exceeds 1,000 μ F add 0.02 for every 1,000 μ F | | |
| Impedance Ratio @ 120Hz | Z -25°C/Z +20°C | 2 | 2 |
| | Z -40°C/Z +20°C | 4 | 3 |
| Load Life Test @ +125°C and Rated Voltage | Case Size & Hours | ϕ 16mm 3,000 hours, ϕ 18mm 4,000 hours | |
| | Capacitance Change | Within \pm 35% of initial measured value | |
| | Tan δ and ESR | Less than 300% of specified max. value | |
| | Leakage Current | Less than specified max. value | |

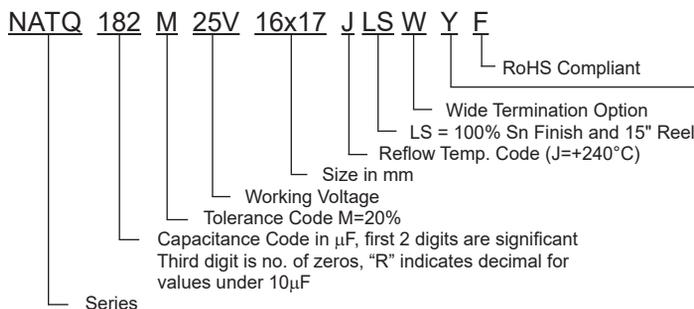
STANDARD PRODUCTS AND CASE SIZES D ϕ x L (mm)

| PART NUMBER | Cap. (μ F) | Working Voltage | Case Size (D X L) mm | Max. ESR (m Ω) AT 100KHz/+20°C | Tan δ | Max. Ripple Current (mA rms) @ 100KHz/+105°C | Load Life Hours @ +105°C |
|-----------------------|-----------------|-----------------|----------------------|--|--------------|--|--------------------------|
| NATQ182M25V16X17JLSYF | 1800 | 25 | 16X17 | 47 | 0.18 | 2400 | 3000 |
| NATQ332M25V18X22JLSYF | 3300 | | 18X22 | 32 | 0.22 | 3250 | 4000 |
| NATQ132M35V16X17JLSYF | 1300 | 35 | 16X17 | 47 | 0.16 | 2400 | 3000 |
| NATQ242M35V18X22JLSYF | 2400 | | 18X22 | 32 | 0.18 | 3250 | 4000 |

RIPPLE CURRENT FREQUENCY CORRECTION FACTORS

| 100Hz \leq F < 1KHz | 1KHz \leq F < 10KHz | 10KHz \leq F < 100KHz | 100KHz \leq F < 500KHz |
|-----------------------|-----------------------|-------------------------|--------------------------|
| 0.75 | 0.90 | 0.95 | 1.00 |

PART NUMBER SYSTEM



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

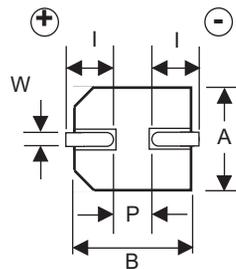
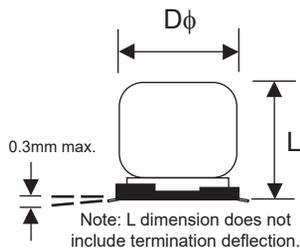
NATQ Series

Surface Mount Aluminum Electrolytic Capacitors

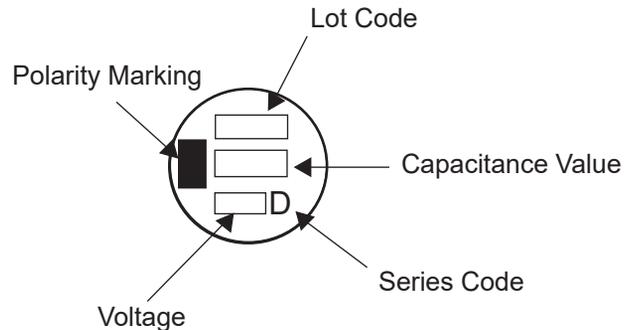


DIMENSIONS (mm)

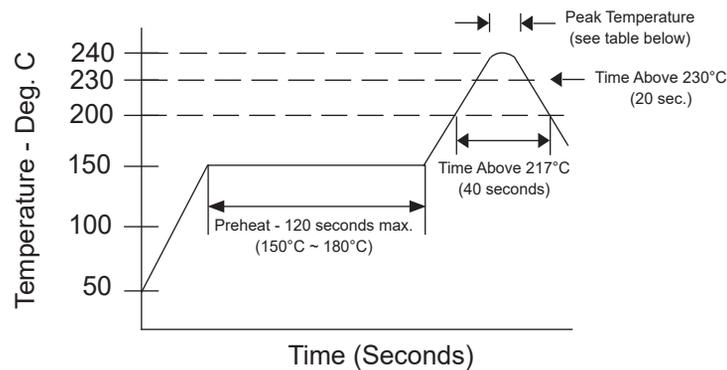
| Case Size | D ϕ \pm 0.5 | L max. | A, B \pm 0.2 | W | (l) ref. | (P) ref. |
|-----------|--------------------|--------|----------------|-----------|----------|----------|
| 16X17 | 16.0 | 17.0 | 16.3 | 1.2 ~ 1.7 | 5.1 | 7.0 |
| 18X22 | 18.0 | 22.0 | 19.0 | 1.2 ~ 1.7 | 2.5 | 2.2 |



Part Marking



RECOMMENDED REFLOW SOLDERING PROFILE*



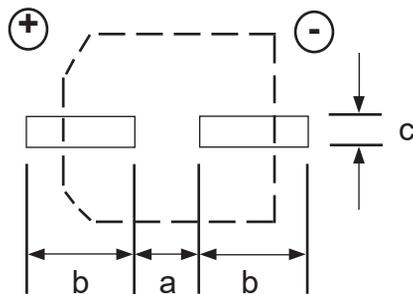
PEAK TEMPERATURE AND DURATION

| Diameter | Time above 200°C | Time above 217°C | Time above 230°C | Peak Temperature | Number of reflow passes allowed |
|-------------------------|------------------|------------------|------------------|------------------|---------------------------------|
| ϕ 16 & ϕ 18mm | 50 sec. max. | 40 sec. max. | 20 sec. max. | 240°C | 2* |

*Two reflow passes are permissible with a cool down to room temperature required between the first and second pass.

STANDARD TERMINATION LAND PATTERN DIM. (mm)

| Case Dia. | A | B | C |
|-----------|-----|-----|-----|
| ϕ 16 | 6.6 | 6.5 | 5.0 |
| ϕ 18 | 6.6 | 7.7 | 5.0 |



PRECAUTIONS

Please review the notes on correct use, safety and precautions found at <https://www.niccomp.com/wp-content/uploads/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

NATQ Series

Surface Mount Aluminum Electrolytic Capacitors

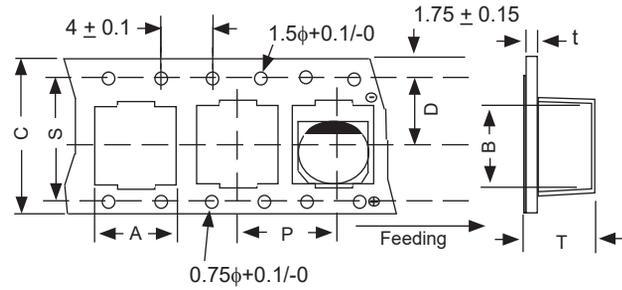


TAPING SPECIFICATIONS (mm)

- 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 DIMENSIONS (mm)

| 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 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 16X17 | 17.5 | 17.5 | 44.0 | 20.2 | 28.0 | 17.3 | 0.6 | 40.4 |
| 18X22 | 19.5 | 19.5 | 44.0 | 20.2 | 32.0 | 22.5 | 0.6 | 40.4 |



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

Dimensions (mm)

| Case Size | Tape Width | A | B | C | D | E |
|--------------|------------|--------------|-------------|-------------|-------------|-------------|
| 16X17, 18X22 | 46.0 | φ380 ±2.0 | φ50 min. | φ13 ±0.5 | φ21 min. | 2.0 ±0.5 |

| Case Size | Qty per Reel |
|-----------|--------------|
| | 15" (380mm) |
| 16X17 | 200 |
| 18X22 | 125 |

