**Issue Date:** November 29th, 2023

**Subject**: NSPRH End of Life Notification
**Notification Type**: End of Life

**Effected NIC Products**: NSPRH Series

**Effective Date**: November 29th, 2023
**Last Order Date**: May 29th, 2024 for established customers with existing business
**Last Ship Date**: August 29th, 2024 for established customers with existing business

**Description:** Due to no market demand NIC has discontinued production of the NSPRH series. For a complete list of part numbers in Excel: Click here

| Discontinued Part Number | Capacitance | Voltage | Case Size |
|---|---|---|---|
| NSPRH121M16V6.3X7.2YF | 120 | 16 | 6.3X7.2 |
| NSPRH271M16V8X9.5YF | 270 | 16 | 8X9.5 |
| NSPRH471M16V10X9.5YF | 470 | 16 | 10X9.5 |
| NSPRH561M16V10X11.5YF | 560 | 16 | 10X11.5 |
| NSPRH680M25V6.3X7.2YF | 68 | 25 | 6.3X7.2 |
| NSPRH151M25V8X9.5YF | 150 | 25 | 8X9.5 |
| NSPRH271M25V10X9.5YF | 270 | 25 | 10X9.5 |
| NSPRH331M25V10X11.5YF | 330 | 25 | 10X11.5 |
| NSPRH470M35V6.3X7.2YF | 47 | 35 | 6.3X7.2 |
| NSPRH101M35V8X9.5YF | 100 | 35 | 8X9.5 |
| NSPRH151M35V10X9.5YF | 150 | 35 | 10X9.5 |
| NSPRH221M35V10X11.5YF | 220 | 35 | 10X11.5 |
| NSPRH270M40V6.3X7.2YF | 27 | 40 | 6.3X7.2 |
| NSPRH560M40V8X9.5YF | 56 | 40 | 8X9.5 |
| NSPRH101M40V10X9.5YF | 100 | 40 | 10X9.5 |
| NSPRH121M40V10X11.5YF | 120 | 40 | 10X11.5 |
| NSPRH150M50V6.3X7.2YF | 15 | 50 | 6.3X7.2 |
| NSPRH330M50V8X9.5YF | 33 | 50 | 8X9.5 |
| NSPRH560M50V10X9.5YF | 56 | 50 | 10X9.5 |
| NSPRH820M50V10X11.5YF | 82 | 50 | 10X11.5 |
| NSPRH100M63V6.3X7.2YF | 10 | 63 | 6.3X7.2 |
| NSPRH220M63V8X9.5YF | 22 | 63 | 8X9.5 |
| NSPRH330M63V10X9.5YF | 33 | 63 | 10X9.5 |
| NSPRH330M63V8X9.5YF | 33 | 63 | 8X9.5 |
| NSPRH470M63V10X9.5YF | 47 | 63 | 10X9.5 |
| NSPRH560M63V10X11.5YF | 56 | 63 | 10X11.5 |
| NSPRH120M80V10X9.5YF | 12 | 80 | 10X9.5 |
| NSPRH150M80V10X9.5YF | 15 | 80 | 10X9.5 |
| NSPRH180M80V10X11.5YF | 18 | 80 | 10X11.5 |

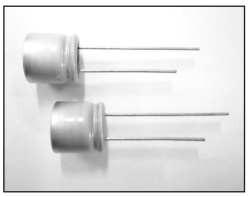
| Discontinued Part Number | Capacitance | Voltage | Case Size |
|---|---|---|---|
| NSPRH100M100V10X9.5YF | 10 | 100 | 10X9.5 |
| NSPRH120M100V10X9.5YF | 12 | 100 | 10X9.5 |
| NSPRH150M100V10X11.5YF | 15 | 100 | 10X11.5 |

Prepared by NIC Components TPMG, tpmg@niccomp.com

# Hybrid Aluminum Electrolytic Capacitors

NSPRH Series

HIGH TEMPERATURE, EXTENDED LOAD LIFE, RADIAL LEADS, POLARIZED



**FEATURES**

- IMPROVED ENDURANCE AT HIGH TEMPERATURE (up to 10,000HRS @ 105°C)
- HIGH RIPPLE CURRENT RATINGS
- REDUCED SIZES
- MEETS THE REQUIREMENTS OF AEC-Q200*

*Contact NIC for supporting test data

***NEW***
***Long Life &***
***High Ripple Current***

**CHARACTERISTICS**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Rated Voltage Range | | 16 ~ 100VDC | | | | | | | |
| Capacitance Range | | 10 ~ 560µF | | | | | | | |
| Operating Temperature Range | | -55°C ~ +105°C | | | | | | | |
| Capacitance Tolerance | | ±20% (M) | | | | | | | |
| Maximum Leakage Current After 2 minutes | | 0.05CV or 100µA whichever is greater | | | | | | | |
| Max. Tan δ at 120Hz/20°C | W.V. (Vdc) | 16 | 25 | 35 | 40 | 50 | 63 | 80 | 100 |
| | S.V. (Vdc) | 20 | 32 | 44 | 50 | 63 | 79 | 100 | 125 |
| | Tan δ | 0.16 | | | | | | | |
| Low Temperature Stability Impedance Ratio @ 120Hz | Z-55°C/Z+20°C | 1.0 ~ 2.5 | | | | | | | |
| | Z+105°C/Z+20°C | 0.6 ~ 1.0 | | | | | | | |
| Load Life Test @ 105°C | 16V | φ6.3: 3,000 hours, φ8mm ~ 10mm: 7,000 hours | | | | | | | |
| | 25V ~ 100V | φ6.3: 5,000 hours, φ8mm ~ 10mm: 10,000 hours | | | | | | | |
| | Δ Capacitance | Within ±30% of initial measured value | | | | | | | |
| | Δ Tan δ | Less than 200% of specified value | | | | | | | |
| | Δ LC | Less than specified value | | | | | | | |
| | Δ ESR | Less than 200% of specified value | | | | | | | |

## PART NUMBER SYSTEM

NSPRH 101 M 35V 8X9.5 TB Y F

- F — RoHS Compliant
- Y — Suitable for automotive equipment, sourced to special production and inspection at IATF-16949 certified production site.
- TB — TBST (6.3mm & 8mm) or TB (10mm) Tape & Box Packaging (see page 3 & 4)
- 8X9.5 — Case Size (DφxL)
- 35V — Working Voltage (Vdc)
- M — Tolerance Code (M=20%)
- 101 — Capacitance Code: First 2 characters significant, third character is multiplier
- NSPRH — Series

**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**

## STANDARD PRODUCT AND CASE SIZE TABLE DϕxL (mm)

| Part Number | Cap. (µF) | W.V. (Vdc) | Dissipation Factor +20°C/120Hz | Leakage Current (µA) after 2 minutes | Ripple Current Rating (mA) +105°C/100KHz | Max. ESR (mΩ) +20°C/100KHz | Load Life Hours @+105°C |
|---|---|---|---|---|---|---|---|
| NSPRH121M16V6.3X7.2YF | 120 | 16 | 0.16 | 100.0 | 1500 | 40 | 3,000 |
| NSPRH271M16V8x9.5YF | 270 | | 0.16 | 216.0 | 2000 | 26 | 7,000 |
| NSPRH471M16V10X9.5YF | 470 | | 0.16 | 376.0 | 2600 | 21 | 7,000 |
| NSPRH561M16V10X11.5YF | 560 | | 0.16 | 448.0 | 3000 | 15 | 7,000 |
| NSPRH680M25V6.3X7.2YF | 68 | 25 | 0.16 | 100.0 | 1400 | 45 | 5,000 |
| NSPRH151M25V8x9.5YF | 150 | | 0.16 | 187.5 | 1900 | 27 | 10,000 |
| NSPRH271M25V10X9.5YF | 270 | | 0.16 | 337.5 | 2530 | 22 | 10,000 |
| NSPRH331M25V10X11.5YF | 330 | | 0.16 | 412.5 | 2900 | 16 | 10,000 |
| NSPRH470M35V6.3X7.2YF | 47 | 35 | 0.16 | 100.0 | 1300 | 60 | 5,000 |
| NSPRH101M35V8X9.5YF | 100 | | 0.16 | 175.0 | 1800 | 30 | 10,000 |
| NSPRH151M35V10x9.5YF | 150 | | 0.16 | 262.5 | 2470 | 23 | 10,000 |
| NSPRH221M35V10X11.5YF | 220 | | 0.16 | 385.0 | 2830 | 17 | 10,000 |
| NSPRH270M40V6.3X7.2YF | 27 | 40 | 0.16 | 100.0 | 1250 | 70 | 5,000 |
| NSPRH560M40V8X9.5YF | 56 | | 0.16 | 112.0 | 1750 | 32 | 10,000 |
| NSPRH101M40V10X9.5YF | 100 | | 0.16 | 200.0 | 2400 | 24 | 10,000 |
| NSPRH121M40V10X11.5YF | 120 | | 0.16 | 240.0 | 2750 | 18 | 10,000 |
| NSPRH150M50V6.3X7.2YF | 15 | 50 | 0.16 | 100.0 | 1200 | 80 | 5,000 |
| NSPRH330M50V8X9.5YF | 33 | | 0.16 | 100.0 | 1670 | 35 | 10,000 |
| NSPRH560M50V10X9.5YF | 56 | | 0.16 | 140.0 | 2320 | 25 | 10,000 |
| NSPRH820M50V10X11.5YF | 82 | | 0.16 | 205.0 | 2650 | 19 | 10,000 |
| NSPRH100M63V6.3X7.2YF | 10 | 63 | 0.16 | 100.0 | 1060 | 100 | 5,000 |
| NSPRH220M63V8X9.5YF | 22 | | 0.16 | 100.0 | 1560 | 40 | 10,000 |
| NSPRH330M63V8X9.5YF | 33 | | 0.16 | 104.0 | 1560 | 40 | 10,000 |
| NSPRH330M63V10X9.5YF | 33 | | 0.16 | 104.0 | 2100 | 30 | 10,000 |
| NSPRH470M63V10X9.5YF | 47 | | 0.16 | 148.1 | 2100 | 30 | 10,000 |
| NSPRH560M63V10X11.5YF | 56 | | 0.16 | 176.4 | 2400 | 22 | 10,000 |
| NSPRH120M80V10X9.5YF | 12 | 80 | 0.16 | 100.0 | 1600 | 70 | 10,000 |
| NSPRH150M80V10X9.5YF | 15 | | 0.16 | 100.0 | 1600 | 70 | 10,000 |
| NSPRH180M80V10X11.5YF | 18 | | 0.16 | 100.0 | 1830 | 50 | 10,000 |
| NSPRH100M100V10X9.5YF | 10 | 100 | 0.16 | 100.0 | 1450 | 80 | 10,000 |
| NSPRH120M100V10X9.5YF | 12 | | 0.16 | 100.0 | 1450 | 80 | 10,000 |
| NSPRH150M100V10X11.5YF | 15 | | 0.16 | 100.0 | 1660 | 60 | 10,000 |

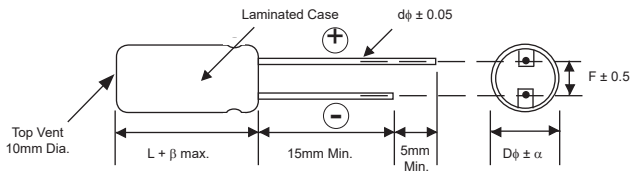
## RIPPLE CURRENT FREQUENCY CORRECTION FACTORS

| Frequency (Hz) | 100 | 1K | 10K | ≥100K |
|---|---|---|---|---|
| 10µF ~ 33µF | 0.05 | 0.32 | 0.67 | 1.00 |
| 47µF ~ 560µF | 0.10 | 0.35 | 0.70 | 1.00 |

## LEAD SPACING AND DIAMETER (mm)

| Case Dia. (Dϕ) | 6.3 | 8 | 10 |
|---|---|---|---|
| Lead Dia. (dϕ) | 0.45 | 0.6 | 0.7 |
| Lead Spacing (F) | 2.5 | 3.5 | 5.0 |
| Dim. α | 0.5 | | |
| Dim. B | 1.5 | | |

## DIMENSIONS (mm)



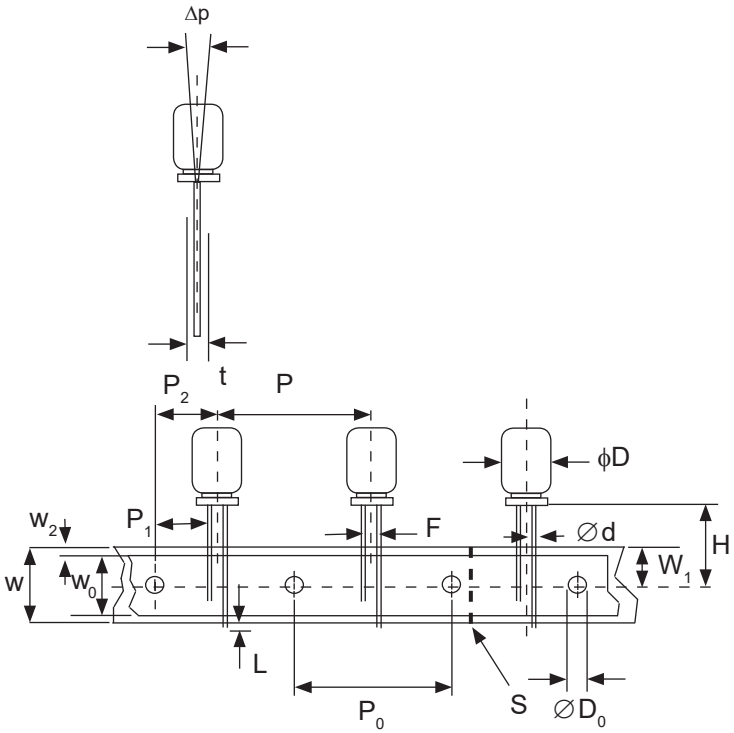

## MARKING

## RADIAL TAPING SPECIFICATIONS FOR 6.3mm and 8.0mm DIAMETER NSRPH PARTS
## PART NUMBER SUFFIX "TBST"

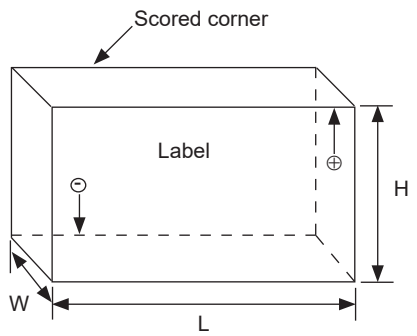
**TAPING DIMENSIONS (mm)**

| Case Size | 6.3x7.2 | 8x9.5 |
|---|---|---|
| dϕ ±0.05 | 0.45 | 0.60 |
| H ±0.75 | 17.5 | 20.0 |
| F +0.8/-0.2 | 2.5 | 3.5 |
| P ± 1.0 | 12.7 | 12.7 |
| $P_0$ ± 0.2 | 12.7 | 12.7 |
| $P_1$ ± 0.5 | 5.1 | 4.6 |
| $P_2$ ± 1.0 | 6.35 | 6.35 |
| W ± 0.5 | 18.0 | 18.0 |
| $W_0$ min. | 11.5 | 11.5 |
| $W_1$ ± 0.5 | 9.0 | 9.0 |
| $W_2$ | 0 ~ 2.5 | 0 ~ 2.5 |
| L max. | 1.0 | 1.0 |
| $D_0$ ϕ ± 0.2 | 4.0 | 4.0 |
| Δp max. | 1.0 (off alignment of body) | 1.0 (off alignment of body) |
| t ± 0.2 | 0.7 (not including lead) | 0.7 (not including lead) |

**NOTE:** Anode (+) lead feeds off first.




Ammo Box Dimensions (mm)




Ammo Box (Tape & Box) TBST

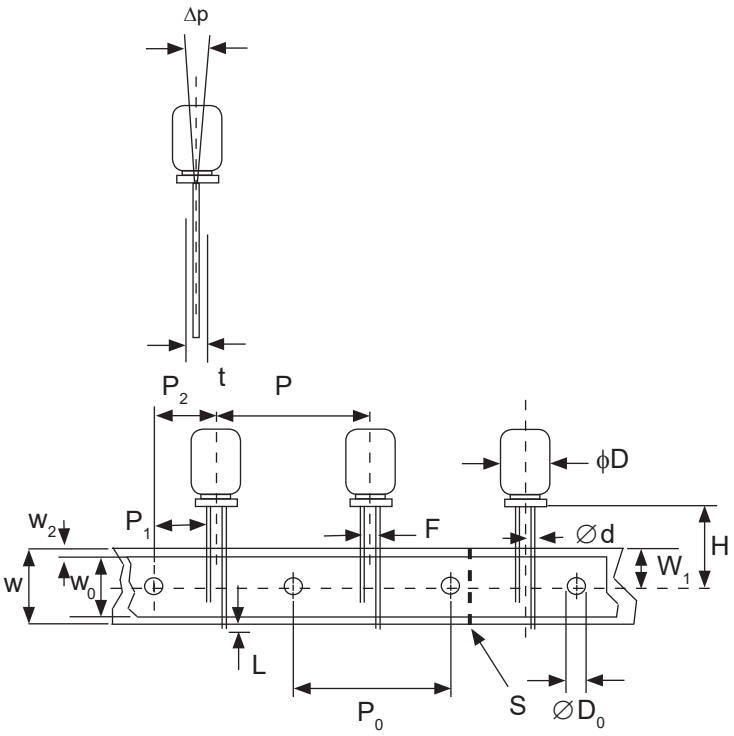
Size of box and component quantity

| Case Size | Q'ty per Box (pcs) | Dim. L | Dim. H | Dim. W |
|---|---|---|---|---|
| ϕ6.3x7.2 | 2,000 | 331 | 280 | 43 |
| ϕ8x9.5 | 1,000 | 331 | 240 | 51 |

## RADIAL TAPING SPECIFICATIONS FOR 10X9.5mm DIAMETER NSRPH PARTS
## PART NUMBER SUFFIX "TB"

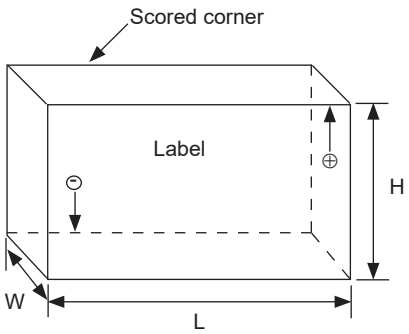
**TAPING DIMENSIONS (mm)**

| Case Dia. (Dϕ) | 10.0 |
|---|---|
| dϕ ±0.05 | 0.7 |
| H ±1.5/-0.5 | 18.5 |
| F ± 0.5 | 5.0 |
| P ± 1.0 | 12.7 |
| $P_0$ ± 0.2 | 12.7 |
| $P_1$ ± 0.5 | 3.85 |
| $P_2$ ± 1.0 | 6.35 |
| W ± 0.5 | 18.0 |
| $W_0$ min. | 11.5 |
| $W_1$ ± 0.5 | 9.0 |
| $W_2$ | 0 ~ 2.5 |
| L max. | 1.0 |
| $D_0$ ϕ ± 0.2 | 4.0 |
| Δp max. | 1.0 (off alignment of body) |
| t ± 0.2 | 0.7 (not including lead) |




**NOTE:** Anode (+) lead feeds off first.

Ammo Box Dimensions (mm)




Ammo Box (Tape & Box) TB

Size of box and component quantity

| Case Size | Q'ty per Box (pcs) | Dim. L | Dim. H | Dim. W |
|---|---|---|---|---|
| ϕ10X9.5, 11.5 | 500 | 331 | 180 | 50 |