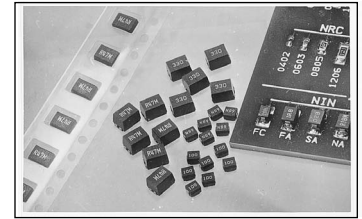


### FEATURES

- EIA SIZES A (1210), B (1812), AND C (1008)
- EXCELLENT HIGH Q AND HIGH SRF CHARACTERISTICS
- BOTH FLOW AND REFLOW SOLDERING APPLICABLE
- HIGH INDUCTANCE AVAILABLE IN SMALL SIZE
- EMBOSSED PLASTIC TAPE PACKAGE FOR AUTOMATIC PICK-PLACE



### AVAILABLE TYPE AND SPECIFICATIONS

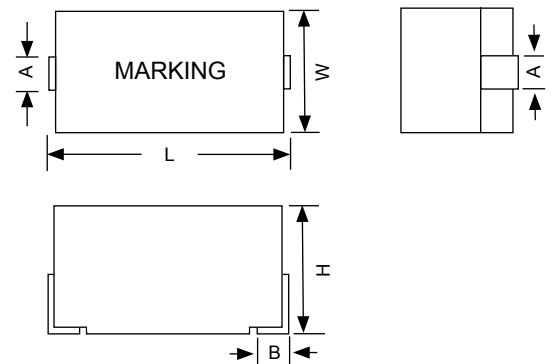
| Specifications                                                                              | Case Size                                         |                    |                    |
|---------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------|--------------------|
|                                                                                             | NIN-xC (1008)                                     | NIN-xA (1210)      | NIN-xB (1812)      |
| NIN-Fx (Standard) Inductance Range                                                          | 0.01 ~ 100 $\mu$ H                                | 0.01 ~ 470 $\mu$ H | 0.1 ~ 1000 $\mu$ H |
| NIN-Px (High Current) Inductance Range                                                      | 1.0 ~ 33 $\mu$ H                                  | 1.0 ~ 330 $\mu$ H  | 1.0 ~ 680 $\mu$ H  |
| Inductance Tolerances                                                                       | $\pm 20\%$ (M), $\pm 10\%$ (K), $\pm 5\%$ (J)     |                    |                    |
| Operating Temperature Range                                                                 | -40°C ~ +105°C (Includes Self Heating)            |                    |                    |
| Insulation Resistance                                                                       | 1,000 MegOhm Min. (@ 100Vdc, Termination to Case) |                    |                    |
| Withstanding Voltage                                                                        | 250Vdc for 1 minute (Termination to Case)         |                    |                    |
| Q Factor, Self Resonant Frequency, DC Resistance, Rated DC Current and Inductance Tolerance | See Individual Product Listings                   |                    |                    |

Note 1: NIN-N Family option are no longer recommended for new designs. View announcement for more information

Note 2: Extended values, tolerances, and enhanced versions are available please contact NIC for more details.

### DIMENSIONS (mm)

| EIA Size | Size Code | Dim. L        | Dim. W        | Dim. H        | Dim. A        | Dim. B   |
|----------|-----------|---------------|---------------|---------------|---------------|----------|
| 1008     | C         | 2.5 $\pm$ 0.2 | 2.0 $\pm$ 0.2 | 1.8 $\pm$ 0.2 | 1.4 $\pm$ 0.1 | 0.4 typ. |
| 1210     | A         | 3.2 $\pm$ 0.4 | 2.5 $\pm$ 0.2 | 2.2 $\pm$ 0.2 | 1.9 $\pm$ 0.1 | 0.4 typ. |
| 1812     | B         | 4.5 $\pm$ 0.4 | 3.2 $\pm$ 0.2 | 3.2 $\pm$ 0.2 | 1.2 $\pm$ 0.2 | 1.0 typ. |



### PART MARKING

| Case Size        | Value Marking | Tolerance Marking | Example |
|------------------|---------------|-------------------|---------|
| NIN-FC & PC 1008 | No            | No                | N/A     |
| NIN-FA 1210      | Yes           | Yes               | 3R3J    |
| NIN-PA 1210      | Yes           | No                | 470     |
| NIN-FB & PB      | Yes           | No                | 270     |

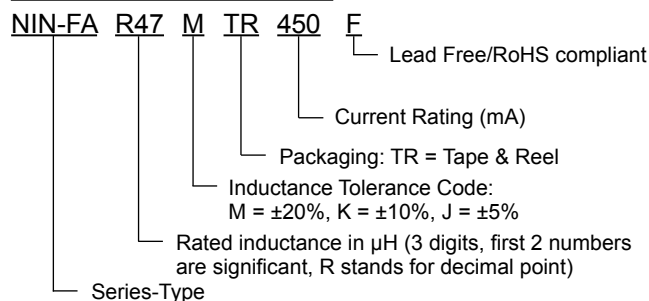
(1) 3 digits system in  $\mu$ H

(2) R indicates decimal point in  $\mu$ H

Ex: 2R7 = 2.7 $\mu$ H  
Ex: R18 = .18 $\mu$ H = 180nH

(3) N indicates nanohenries (0.001  $\mu$ H), Ex: 10N = 0.01  $\mu$ H = 10nH

### PART NUMBER SYSTEM\*



\*Part Number System updated to reflect new format and PCN. Older part number availability are subject to EOL/PCN. Please view announcement for more information. Please view [archived datasheet](#) for original part number specifications

## ENVIRONMENTAL CHARACTERISTICS

| Test                       | Specification                                                                           | Test Method & Condition                                   |
|----------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Solderability              | 90% Min. Coverage                                                                       | After 3 Sec. Dip in +230°C Solder Pot (Post Flux)         |
| Humidity                   | (1) No Evidence of Damage                                                               | After 500 Hrs at +60°C and 90~95% RH                      |
| Soldering Effect           | (2) Inductance Shall Be Within $\pm 5\%$ of Initial Value                               | After 5 Sec. at +260°C (5 min. 120°C Pre-Heat)            |
| Low Frequency Vibration    | (3) Q Factor Shall Be Within $\pm 10\%$ of Initial Value                                | After 2 Hrs per Axis, 10 ~ 55Hz, 1.5mm Amplitude          |
| Thermal Shock              |                                                                                         | After 100 Cycles (-40°C ~ +85°C) 30 Min. Each             |
| Low Temperature Storage    |                                                                                         | After 500 Hrs at -25°C                                    |
| High Temperature Load Life | (1) No Evidence of Damage<br>(2) Inductance Shall Be Within $\pm 10\%$ of Initial Value | After 500 Hrs. at +85°C with Rated DC Current             |
| Humidity Load Life         | (3) Q Factor Shall Be Within $\pm 10\%$ of Initial Value                                | After 500 Hrs at +60°C with 90~95% RH at Rated DC Current |

### Applicable Guidelines:

#### 1. Recommended soldering conditions :

Flow (wave): 250°C for 5 sec. max. (preheating of 120°C for 5 minutes.)

Reflow: 250°C for 10 sec. max., total time above 230°C is 40 sec. max. (preheating 150°C ~ 180°C/120 sec. max.)

#### 2. Avoid placing inductor over any metal pattern on the PCB, which may create mutual inductance problems.

#### 3. For mounting, it is suggested to secure chip inductor by means of epoxy adhesive curable by ultraviolet.

#### 4. Ultrasonic cleaning is not recommended. If it is necessary, the cleaning conditions must be examined so as not to create mechanical damage by unexpected resonant vibration. Please contact our engineering department.

#### 5. An excessive mechanical force may effect the electrical and magnetic properties of chip inductors. Make sure not to use any stress greater than 2Kg when component is placed.

### NIN-FC Series

### C SIZE (1008)

### Standard Type

| NIC P/N          | 'L' Inductance (μH) | Tolerance (std) | 'Q' Factor (min.) | L & Q Test Frequency | SRF MHz (min.) | DC Resistance (ohms) Max. | Rated DC Current (mA) Max. |
|------------------|---------------------|-----------------|-------------------|----------------------|----------------|---------------------------|----------------------------|
| NIN-FC10NJTR530F | 0.01                | 5%              | 15                | 100                  | 2150           | 0.26                      | 530                        |
| NIN-FC12NJTR500F | 0.012               | 5%              | 15                | 100                  | 2050           | 0.27                      | 500                        |
| NIN-FC15NJTR480F | 0.015               | 5%              | 15                | 100                  | 2000           | 0.29                      | 480                        |
| NIN-FC18NJTR450F | 0.018               | 5%              | 15                | 100                  | 1850           | 0.31                      | 450                        |
| NIN-FC22NJTR420F | 0.022               | 5%              | 15                | 100                  | 1650           | 0.37                      | 420                        |
| NIN-FC27NJTR410F | 0.027               | 5%              | 15                | 100                  | 1550           | 0.40                      | 410                        |
| NIN-FC33NJTR400F | 0.033               | 5%              | 20                | 100                  | 1450           | 0.42                      | 400                        |
| NIN-FC39NJTR380F | 0.039               | 5%              | 20                | 100                  | 1350           | 0.45                      | 380                        |
| NIN-FC47NJTR360F | 0.047               | 5%              | 20                | 100                  | 1200           | 0.5                       | 360                        |
| NIN-FC56NJTR340F | 0.056               | 5%              | 20                | 100                  | 1100           | 0.6                       | 340                        |
| NIN-FC68NJTR320F | 0.068               | 5%              | 20                | 100                  | 1050           | 0.65                      | 320                        |
| NIN-FC82NJTR300F | 0.082               | 5%              | 20                | 100                  | 900            | 0.75                      | 300                        |
| NIN-FCR10JTR280F | 0.1                 | 5%              | 20                | 100                  | 800            | 0.80                      | 280                        |
| NIN-FCR12JTR550F | 0.12                | 5%              | 30                | 25.2                 | 700            | 0.30                      | 550                        |
| NIN-FCR15JTR500F | 0.15                | 5%              | 30                | 25.2                 | 550            | 0.35                      | 500                        |
| NIN-FCR18JTR460F | 0.18                | 5%              | 30                | 25.2                 | 500            | 0.40                      | 460                        |
| NIN-FCR22JTR430F | 0.22                | 5%              | 30                | 25.2                 | 450            | 0.50                      | 430                        |
| NIN-FCR27JTR420F | 0.27                | 5%              | 30                | 25.2                 | 425            | 0.55                      | 420                        |
| NIN-FCR33JTR400F | 0.33                | 5%              | 30                | 25.2                 | 400            | 0.60                      | 400                        |
| NIN-FCR39JTR375F | 0.39                | 5%              | 30                | 25.2                 | 375            | 0.65                      | 375                        |
| NIN-FCR47JTR350F | 0.47                | 5%              | 30                | 25.2                 | 350            | 0.68                      | 350                        |
| NIN-FCR56JTR325F | 0.56                | 5%              | 30                | 25.2                 | 325            | 0.75                      | 325                        |
| NIN-FCR68JTR300F | 0.68                | 5%              | 30                | 25.2                 | 300            | 0.85                      | 300                        |
| NIN-FCR82JTR260F | 0.82                | 5%              | 30                | 25.2                 | 260            | 1.0                       | 260                        |
| NIN-FC1R0JTR245F | 1.0                 | 5%              | 30                | 7.96                 | 245            | 1.1                       | 245                        |
| NIN-FC1R2JTR230F | 1.2                 | 5%              | 30                | 7.96                 | 230            | 1.2                       | 230                        |
| NIN-FC1R5JTR220F | 1.5                 | 5%              | 30                | 7.96                 | 182            | 1.3                       | 220                        |
| NIN-FC1R8JTR210F | 1.8                 | 5%              | 30                | 7.96                 | 135            | 1.45                      | 210                        |
| NIN-FC2R2JTR200F | 2.2                 | 5%              | 30                | 7.96                 | 105            | 1.55                      | 200                        |
| NIN-FC2R7JTR195F | 2.7                 | 5%              | 30                | 7.96                 | 70             | 1.7                       | 195                        |
| NIN-FC3R3JTR185F | 3.3                 | 5%              | 30                | 7.96                 | 55             | 1.9                       | 185                        |
| NIN-FC3R9JTR180F | 3.9                 | 5%              | 30                | 7.96                 | 48             | 2.1                       | 180                        |
| NIN-FC4R7JTR175F | 4.7                 | 5%              | 30                | 7.96                 | 43             | 2.3                       | 175                        |
| NIN-FC5R6JTR170F | 5.6                 | 5%              | 25                | 7.96                 | 42             | 2.5                       | 170                        |
| NIN-FC6R8JTR165F | 6.8                 | 5%              | 25                | 7.96                 | 39             | 2.7                       | 165                        |
| NIN-FC8R2JTR160F | 8.2                 | 5%              | 25                | 7.96                 | 36             | 3.05                      | 160                        |
| NIN-FC100JTR155F | 10                  | 5%              | 25                | 2.52                 | 33             | 3.5                       | 155                        |
| NIN-FC120JTR150F | 12                  | 5%              | 25                | 2.52                 | 30             | 3.8                       | 150                        |
| NIN-FC150JTR140F | 15                  | 5%              | 25                | 2.52                 | 26             | 4.4                       | 140                        |
| NIN-FC180JTR130F | 18                  | 5%              | 25                | 2.52                 | 24             | 4.8                       | 130                        |
| NIN-FC220JTR125F | 22                  | 5%              | 25                | 2.52                 | 22             | 5.5                       | 125                        |
| NIN-FC270JTR115F | 27                  | 5%              | 25                | 2.52                 | 21             | 6.3                       | 115                        |
| NIN-FC330JTR110F | 33                  | 5%              | 25                | 2.52                 | 20             | 7.1                       | 110                        |
| NIN-FC390JTR90F  | 39                  | 5%              | 20                | 2.52                 | 18             | 9.5                       | 90                         |
| NIN-FC470JTR80F  | 47                  | 5%              | 20                | 2.52                 | 17             | 11.1                      | 80                         |
| NIN-FC560JTR75F  | 56                  | 5%              | 20                | 2.52                 | 16             | 12.1                      | 75                         |
| NIN-FC680JTR70F  | 68                  | 5%              | 20                | 2.52                 | 15             | 16.6                      | 70                         |
| NIN-FC820JTR66F  | 82                  | 5%              | 20                | 2.52                 | 13             | 19                        | 66                         |
| NIN-FC101JTR60F  | 100                 | 5%              | 15                | 0.796                | 12             | 21                        | 60                         |

\*Part Number System updated to reflect new format and PCN. Older part number availability are subject to EOL/PCN . Please view announcement for more information. Please view [archived datasheet](#) for original part number specifications



### NIN-FA Series

### A SIZE (1210)

### Standard Type

| NIC<br>P/N       | 'L'<br>Inductance<br>( $\mu$ H) | Tolerance | 'Q'<br>Factor<br>(min.) | L & Q<br>Test<br>Frequency | SRF<br>MHz<br>(min.) | DC<br>Resistance<br>(ohms) Max. | Rated<br>DC Current<br>(mA) Max. |
|------------------|---------------------------------|-----------|-------------------------|----------------------------|----------------------|---------------------------------|----------------------------------|
|                  |                                 | (std)     |                         |                            |                      |                                 |                                  |
| NIN-FA10NJTR450F | 0.01                            | 5%        | 15                      | 100                        | 2500                 | 0.13                            | 450                              |
| NIN-FA12NJTR450F | 0.012                           | 5%        | 17                      | 100                        | 2300                 | 0.14                            | 450                              |
| NIN-FA15NJTR450F | 0.015                           | 5%        | 19                      | 100                        | 2100                 | 0.16                            | 450                              |
| NIN-FA18NJTR450F | 0.018                           | 5%        | 21                      | 100                        | 1900                 | 0.18                            | 450                              |
| NIN-FA22NJTR450F | 0.022                           | 5%        | 23                      | 100                        | 1700                 | 0.20                            | 450                              |
| NIN-FA27NJTR450F | 0.027                           | 5%        | 23                      | 100                        | 1500                 | 0.22                            | 450                              |
| NIN-FA33NJTR450F | 0.033                           | 5%        | 25                      | 100                        | 1400                 | 0.24                            | 450                              |
| NIN-FA39NJTR450F | 0.039                           | 5%        | 25                      | 100                        | 1300                 | 0.27                            | 450                              |
| NIN-FA47NJTR450F | 0.047                           | 5%        | 26                      | 100                        | 1200                 | 0.30                            | 450                              |
| NIN-FA56NJTR450F | 0.056                           | 5%        | 26                      | 100                        | 1100                 | 0.33                            | 450                              |
| NIN-FA68NJTR450F | 0.068                           | 5%        | 27                      | 100                        | 1000                 | 0.36                            | 450                              |
| NIN-FA82NJTR450F | 0.082                           | 5%        | 27                      | 100                        | 900                  | 0.40                            | 450                              |
| NIN-FAR10JTR450F | 0.1                             | 5%        | 28                      | 100                        | 700                  | 0.44                            | 450                              |
| NIN-FAR12JTR450F | 0.12                            | 5%        | 30                      | 25.2                       | 500                  | 0.22                            | 450                              |
| NIN-FAR15JTR450F | 0.15                            | 5%        | 30                      | 25.2                       | 450                  | 0.25                            | 450                              |
| NIN-FAR18JTR450F | 0.18                            | 5%        | 30                      | 25.2                       | 400                  | 0.28                            | 450                              |
| NIN-FAR22JTR450F | 0.22                            | 5%        | 30                      | 25.2                       | 350                  | 0.32                            | 450                              |
| NIN-FAR27JTR450F | 0.27                            | 5%        | 30                      | 25.2                       | 320                  | 0.36                            | 450                              |
| NIN-FAR33JTR450F | 0.33                            | 5%        | 30                      | 25.2                       | 300                  | 0.40                            | 450                              |
| NIN-FAR39JTR450F | 0.39                            | 5%        | 30                      | 25.2                       | 250                  | 0.45                            | 450                              |
| NIN-FAR47JTR450F | 0.47                            | 5%        | 30                      | 25.2                       | 220                  | 0.50                            | 450                              |
| NIN-FAR56JTR450F | 0.56                            | 5%        | 30                      | 25.2                       | 180                  | 0.55                            | 450                              |
| NIN-FAR68JTR450F | 0.68                            | 5%        | 30                      | 25.2                       | 160                  | 0.60                            | 450                              |
| NIN-FAR82JTR450F | 0.82                            | 5%        | 30                      | 25.2                       | 140                  | 0.65                            | 450                              |
| NIN-FA1R0JTR400F | 1.0                             | 5%        | 30                      | 7.96                       | 120                  | 0.70                            | 400                              |
| NIN-FA1R2JTR390F | 1.2                             | 5%        | 30                      | 7.96                       | 100                  | 0.75                            | 390                              |
| NIN-FA1R5JTR370F | 1.5                             | 5%        | 30                      | 7.96                       | 85                   | 0.85                            | 370                              |
| NIN-FA1R8JTR350F | 1.8                             | 5%        | 30                      | 7.96                       | 80                   | 0.90                            | 350                              |
| NIN-FA2R2JTR320F | 2.2                             | 5%        | 30                      | 7.96                       | 75                   | 1.0                             | 320                              |
| NIN-FA2R7JTR290F | 2.7                             | 5%        | 30                      | 7.96                       | 70                   | 1.1                             | 290                              |
| NIN-FA3R3JTR260F | 3.3                             | 5%        | 30                      | 7.96                       | 60                   | 1.2                             | 260                              |
| NIN-FA3R9JTR250F | 3.9                             | 5%        | 30                      | 7.96                       | 55                   | 1.3                             | 250                              |
| NIN-FA4R7JTR220F | 4.7                             | 5%        | 30                      | 7.96                       | 50                   | 1.5                             | 220                              |
| NIN-FA5R6JTR200F | 5.6                             | 5%        | 30                      | 7.96                       | 45                   | 1.6                             | 200                              |
| NIN-FA6R8JTR180F | 6.8                             | 5%        | 30                      | 7.96                       | 40                   | 1.8                             | 180                              |
| NIN-FA8R2JTR170F | 8.2                             | 5%        | 30                      | 7.96                       | 35                   | 2.0                             | 170                              |
| NIN-FA100JTR150F | 10                              | 5%        | 30                      | 2.52                       | 30                   | 2.1                             | 150                              |
| NIN-FA120JTR140F | 12                              | 5%        | 30                      | 2.52                       | 20                   | 2.5                             | 140                              |
| NIN-FA150JTR130F | 15                              | 5%        | 30                      | 2.52                       | 20                   | 2.8                             | 130                              |
| NIN-FA180JTR120F | 18                              | 5%        | 30                      | 2.52                       | 20                   | 3.3                             | 120                              |

\*Part Number System updated to reflect new format and PCN. Older part number availability are subject to EOL/PCN. Please view announcement for more information. Please view [archived datasheet](#) for original part number specifications

### NIN-FA Series (CONT)

### A SIZE (1210)

### Standard Type

| NIC<br>P/N       | 'L'<br>Inductance<br>( $\mu$ H) | Tolerance | 'Q'<br>Factor<br>(min.) | L & Q<br>Test<br>Frequency | SRF<br>MHz<br>(min.) | DC<br>Resistance<br>(ohms) Max. | Rated<br>DC Current<br>(mA) Max. |
|------------------|---------------------------------|-----------|-------------------------|----------------------------|----------------------|---------------------------------|----------------------------------|
|                  |                                 | (std)     |                         |                            |                      |                                 |                                  |
| NIN-FA220JTR110F | 22                              | 5%        | 30                      | 2.52                       | 20                   | 3.7                             | 110                              |
| NIN-FA270JTR80F  | 27                              | 5%        | 30                      | 2.52                       | 20                   | 5.0                             | 80                               |
| NIN-FA330JTR70F  | 33                              | 5%        | 30                      | 2.52                       | 17                   | 5.6                             | 70                               |
| NIN-FA390JTR65F  | 39                              | 5%        | 30                      | 2.52                       | 16                   | 6.4                             | 65                               |
| NIN-FA470JTR60F  | 47                              | 5%        | 30                      | 2.52                       | 15                   | 7.0                             | 60                               |
| NIN-FA560JTR55F  | 56                              | 5%        | 30                      | 2.52                       | 13                   | 8.0                             | 55                               |
| NIN-FA680JTR50F  | 68                              | 5%        | 30                      | 2.52                       | 12                   | 9.0                             | 50                               |
| NIN-FA820JTR45F  | 82                              | 5%        | 30                      | 2.52                       | 11                   | 10                              | 45                               |
| NIN-FA101JTR40F  | 100                             | 5%        | 20                      | 0.796                      | 10                   | 10                              | 40                               |
| NIN-FA121JTR70F  | 120                             | 5%        | 20                      | 0.796                      | 10                   | 11                              | 70                               |
| NIN-FA151JTR65F  | 150                             | 5%        | 20                      | 0.796                      | 8                    | 15                              | 65                               |
| NIN-FA181JTR60F  | 180                             | 5%        | 20                      | 0.796                      | 7                    | 17                              | 60                               |
| NIN-FA221JTR50F  | 220                             | 5%        | 20                      | 0.796                      | 7                    | 21                              | 50                               |
| NIN-FA271JTR45F  | 270                             | 5%        | 20                      | 0.796                      | 6                    | 28                              | 45                               |
| NIN-FA331JTR40F  | 330                             | 5%        | 20                      | 0.796                      | 5                    | 34                              | 40                               |
| NIN-FA391JTR35F  | 390                             | 5%        | 20                      | 0.796                      | 5                    | 36                              | 35                               |
| NIN-FA471JTR25F  | 470                             | 5%        | 20                      | 0.796                      | 4                    | 40                              | 25                               |

\*Part Number System updated to reflect new format and [PCN](#). Older part number availability are subject to EOL/PCN . Please view announcement for more information. Please view [archived datasheet](#) for original part number specifications

## NIN-FB Series

## B SIZE (1812)

## Standard Type

| NIC<br>P/N       | 'L'<br>Inductance<br>( $\mu$ H) | Tolerance  | 'Q'<br>Factor<br>(min.) | L & Q<br>Test<br>Frequency | SRF<br>MHz<br>(min.) | DC<br>Resistance<br>(ohms) Max. | Rated<br>DC Current<br>(mA) Max. |
|------------------|---------------------------------|------------|-------------------------|----------------------------|----------------------|---------------------------------|----------------------------------|
|                  |                                 | (Std, Opt) |                         |                            |                      |                                 |                                  |
| NIN-FBR10xTR800F | 0.1                             | 20%, 10%   | 35                      | 25.2                       | 300                  | 0.18                            | 800                              |
| NIN-FBR12xTR770F | 0.12                            | 20%, 10%   | 35                      | 25.2                       | 280                  | 0.20                            | 770                              |
| NIN-FBR15xTR730F | 0.15                            | 20%, 10%   | 35                      | 25.2                       | 250                  | 0.22                            | 730                              |
| NIN-FBR18xTR700F | 0.18                            | 20%, 10%   | 35                      | 25.2                       | 220                  | 0.24                            | 700                              |
| NIN-FBR22xTR665F | 0.22                            | 20%, 10%   | 40                      | 25.2                       | 200                  | 0.25                            | 665                              |
| NIN-FBR27xTR635F | 0.27                            | 20%, 10%   | 40                      | 25.2                       | 180                  | 0.26                            | 635                              |
| NIN-FBR33xTR605F | 0.33                            | 20%, 10%   | 40                      | 25.2                       | 165                  | 0.28                            | 605                              |
| NIN-FBR39xTR575F | 0.39                            | 20%, 10%   | 40                      | 25.2                       | 150                  | 0.30                            | 575                              |
| NIN-FBR47xTR545F | 0.47                            | 20%, 10%   | 40                      | 25.2                       | 145                  | 0.32                            | 545                              |
| NIN-FBR56xTR520F | 0.56                            | 20%, 10%   | 40                      | 25.2                       | 140                  | 0.36                            | 520                              |
| NIN-FBR68xTR500F | 0.68                            | 20%, 10%   | 40                      | 25.2                       | 135                  | 0.40                            | 500                              |
| NIN-FBR82xTR475F | 0.82                            | 20%, 10%   | 40                      | 25.2                       | 130                  | 0.45                            | 475                              |
| NIN-FB1R0xTR450F | 1.0                             | 20%, 10%   | 50                      | 7.96                       | 100                  | 0.50                            | 450                              |
| NIN-FB1R2xTR430F | 1.2                             | 20%, 10%   | 50                      | 7.96                       | 80                   | 0.55                            | 430                              |
| NIN-FB1R5xTR410F | 1.5                             | 20%, 10%   | 50                      | 7.96                       | 70                   | 0.60                            | 410                              |
| NIN-FB1R8xTR390F | 1.8                             | 20%, 10%   | 50                      | 7.96                       | 60                   | 0.65                            | 390                              |
| NIN-FB2R2xTR380F | 2.2                             | 20%, 10%   | 50                      | 7.96                       | 55                   | 0.70                            | 380                              |
| NIN-FB2R7xTR370F | 2.7                             | 20%, 10%   | 50                      | 7.96                       | 50                   | 0.75                            | 370                              |
| NIN-FB3R3xTR355F | 3.3                             | 20%, 10%   | 50                      | 7.96                       | 45                   | 0.80                            | 355                              |
| NIN-FB3R9xTR330F | 3.9                             | 20%, 10%   | 50                      | 7.96                       | 40                   | 0.90                            | 330                              |
| NIN-FB4R7xTR315F | 4.7                             | 20%, 10%   | 50                      | 7.96                       | 35                   | 1.0                             | 315                              |
| NIN-FB5R6xTR300F | 5.6                             | 20%, 10%   | 50                      | 7.96                       | 33                   | 1.1                             | 300                              |
| NIN-FB6R8xTR285F | 6.8                             | 20%, 10%   | 50                      | 7.96                       | 27                   | 1.2                             | 285                              |
| NIN-FB8R2xTR270F | 8.2                             | 20%, 10%   | 50                      | 7.96                       | 25                   | 1.4                             | 270                              |
| NIN-FB100xTR250F | 10                              | 10%, 5%    | 50                      | 2.52                       | 20                   | 1.6                             | 250                              |
| NIN-FB120xTR225F | 12                              | 10%, 5%    | 50                      | 2.52                       | 18                   | 2.0                             | 225                              |
| NIN-FB150xTR200F | 15                              | 10%, 5%    | 50                      | 2.52                       | 17                   | 2.5                             | 200                              |
| NIN-FB180xTR190F | 18                              | 10%, 5%    | 50                      | 2.52                       | 15                   | 2.8                             | 190                              |
| NIN-FB220xTR180F | 22                              | 10%, 5%    | 50                      | 2.52                       | 13                   | 3.2                             | 180                              |
| NIN-FB270xTR170F | 27                              | 10%, 5%    | 50                      | 2.52                       | 12                   | 3.6                             | 170                              |
| NIN-FB330xTR160F | 33                              | 10%, 5%    | 50                      | 2.52                       | 11                   | 4.0                             | 160                              |
| NIN-FB390xTR150F | 39                              | 10%, 5%    | 50                      | 2.52                       | 10                   | 4.5                             | 150                              |
| NIN-FB470xTR140F | 47                              | 10%, 5%    | 50                      | 2.52                       | 10                   | 5.0                             | 140                              |
| NIN-FB560xTR135F | 56                              | 10%, 5%    | 50                      | 2.52                       | 9                    | 5.5                             | 135                              |
| NIN-FB680xTR130F | 68                              | 10%, 5%    | 50                      | 2.52                       | 9                    | 6.0                             | 130                              |
| NIN-FB820xTR120F | 82                              | 10%, 5%    | 50                      | 2.52                       | 8                    | 7.0                             | 120                              |
| NIN-FB101xTR110F | 100                             | 10%, 5%    | 40                      | 0.796                      | 8                    | 8.0                             | 110                              |
| NIN-FB121xTR110F | 120                             | 10%, 5%    | 40                      | 0.796                      | 6                    | 8.0                             | 110                              |
| NIN-FB151xTR105F | 150                             | 10%, 5%    | 40                      | 0.796                      | 5                    | 9.0                             | 105                              |
| NIN-FB181xTR102F | 180                             | 10%, 5%    | 40                      | 0.796                      | 5                    | 9.5                             | 102                              |
| NIN-FB221xTR100F | 220                             | 10%, 5%    | 40                      | 0.796                      | 4                    | 10                              | 100                              |
| NIN-FB271xTR92F  | 270                             | 10%, 5%    | 40                      | 0.796                      | 4                    | 12                              | 92                               |
| NIN-FB331xTR85F  | 330                             | 10%, 5%    | 40                      | 0.796                      | 3.5                  | 14                              | 85                               |
| NIN-FB391xTR80F  | 390                             | 10%, 5%    | 40                      | 0.796                      | 3                    | 19                              | 80                               |
| NIN-FB471xTR62F  | 470                             | 10%, 5%    | 40                      | 0.796                      | 3                    | 26                              | 62                               |
| NIN-FB561xTR50F  | 560                             | 10%, 5%    | 30                      | 0.796                      | 3                    | 30                              | 50                               |
| NIN-FB681xTR50F  | 680                             | 10%, 5%    | 30                      | 0.796                      | 3                    | 30                              | 50                               |
| NIN-FB821xTR30F  | 820                             | 10%, 5%    | 30                      | 0.796                      | 2.5                  | 35                              | 30                               |
| NIN-FB102xTR30F  | 1000                            | 10%, 5%    | 20                      | 0.252                      | 2.5                  | 40                              | 30                               |

\*Part Number System updated to reflect new format and PCN. Older part number availability are subject to EOL/PCN. Please view announcement for more information. Please view [archived datasheet](#) for original part number specifications



### NIN-PC Series C SIZE (1008) High Current Type

| NIC P/N          | 'L' Inductance (μH) | Tolerance | 'Q' Factor (min.) | L & Q Test Frequency | SRF MHz (min.) | DC Resistance (ohms) Max. | Rated DC Current (mA) Max. |
|------------------|---------------------|-----------|-------------------|----------------------|----------------|---------------------------|----------------------------|
|                  |                     | (std)     |                   |                      |                |                           |                            |
| NIN-PC1R0MTR475F | 1.0                 | 20        | 20                | 7.96                 | 200            | 0.34                      | 475                        |
| NIN-PC1R5MTR435F | 1.5                 | 20        | 20                | 7.96                 | 165            | 0.42                      | 435                        |
| NIN-PC2R2MTR390F | 2.2                 | 20        | 20                | 7.96                 | 95             | 0.50                      | 390                        |
| NIN-PC3R3MTR340F | 3.3                 | 20        | 20                | 7.96                 | 55             | 0.65                      | 340                        |
| NIN-PC4R7MTR285F | 4.7                 | 20        | 20                | 7.96                 | 43             | 0.80                      | 285                        |
| NIN-PC6R8MTR275F | 6.8                 | 20        | 20                | 7.96                 | 39             | 1.0                       | 275                        |
| NIN-PC100KTR210F | 10                  | 10        | 30                | 2.52                 | 32             | 1.69                      | 210                        |
| NIN-PC150KTR175F | 15                  | 10        | 30                | 2.52                 | 21             | 2.2                       | 175                        |
| NIN-PC220KTR160F | 22                  | 10        | 30                | 2.52                 | 18             | 2.8                       | 160                        |
| NIN-PC330KTR120F | 33                  | 10        | 30                | 2.52                 | 16             | 4.2                       | 120                        |

\*Part Number System updated to reflect new format and [PCN](#). Older part number availability are subject to EOL/PCN . Please view announcement for more information. Please view [archived datasheet](#) for original part number specifications

### NIN-PA Series A SIZE (1210) High Current Type

| NIC P/N           | 'L' Inductance (μH) | Tolerance | 'Q' Factor (min.) | L & Q Test Frequency | SRF MHz (min.) | DC Resistance (ohms) Max. | Rated DC Current (mA) Max. |
|-------------------|---------------------|-----------|-------------------|----------------------|----------------|---------------------------|----------------------------|
|                   |                     | (std)     |                   |                      |                |                           |                            |
| NIN-PA1R0MTR1000F | 1.0                 | 20        | 10                | 7.96                 | 100            | 0.06                      | 1000                       |
| NIN-PA1R5MTR830F  | 1.5                 | 20        | 10                | 7.96                 | 80             | 0.11                      | 830                        |
| NIN-PA2R2MTR770F  | 2.2                 | 20        | 10                | 7.96                 | 68             | 0.13                      | 770                        |
| NIN-PA3R3MTR690F  | 3.3                 | 20        | 10                | 7.96                 | 54             | 0.16                      | 690                        |
| NIN-PA4R7MTR620F  | 4.7                 | 20        | 15                | 7.96                 | 46             | 0.2                       | 620                        |
| NIN-PA6R8MTR530F  | 6.8                 | 20        | 15                | 7.96                 | 38             | 0.27                      | 530                        |
| NIN-PA100KTR450F  | 10                  | 10        | 15                | 2.52                 | 30             | 0.36                      | 450                        |
| NIN-PA150KTR370F  | 15                  | 10        | 15                | 2.52                 | 26             | 0.56                      | 370                        |
| NIN-PA220KTR300F  | 22                  | 10        | 15                | 2.52                 | 21             | 0.77                      | 300                        |
| NIN-PA330KTR240F  | 33                  | 10        | 15                | 2.52                 | 17             | 1.1                       | 240                        |
| NIN-PA470KTR180F  | 47                  | 10        | 15                | 2.52                 | 14             | 1.64                      | 180                        |
| NIN-PA680KTR140F  | 68                  | 10        | 15                | 2.52                 | 12             | 2.8                       | 140                        |
| NIN-PA101KTR120F  | 100                 | 10        | 15                | 0.796                | 10             | 3.7                       | 120                        |
| NIN-PA151KTR100F  | 150                 | 10        | 20                | 0.796                | 8              | 6.1                       | 100                        |
| NIN-PA221KTR80F   | 220                 | 10        | 20                | 0.796                | 7              | 8.4                       | 80                         |
| NIN-PA331KTR70F   | 330                 | 10        | 20                | 0.796                | 6              | 12.3                      | 70                         |

\*Part Number System updated to reflect new format and [PCN](#). Older part number availability are subject to EOL/PCN . Please view announcement for more information. Please view [archived datasheet](#) for original part number specifications

### NIN-PB Series

### B SIZE (1812)

### High Current Type

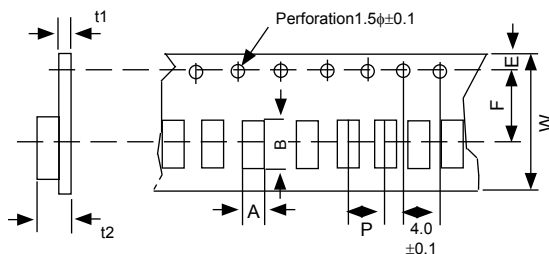
| NIC<br>P/N        | 'L'<br>Inductance<br>( $\mu$ H) | Tolerance | 'Q'<br>Factor<br>(min.) | L & Q<br>Test<br>Frequency | SRF<br>MHz<br>(min.) | DC<br>Resistance<br>(ohms) Max. | Rated<br>DC Current<br>(mA) Max. |
|-------------------|---------------------------------|-----------|-------------------------|----------------------------|----------------------|---------------------------------|----------------------------------|
|                   |                                 | (std)     |                         |                            |                      |                                 |                                  |
| NIN-PB1R0KTR1050F | 1.0                             | 10        | 10                      | 7.96                       | 200                  | 0.11                            | 1050                             |
| NIN-PB1R2KTR1000F | 1.2                             | 10        | 10                      | 7.96                       | 160                  | 0.12                            | 1000                             |
| NIN-PB1R5KTR950F  | 1.5                             | 10        | 10                      | 7.96                       | 130                  | 0.15                            | 950                              |
| NIN-PB1R8KTR900F  | 1.8                             | 10        | 10                      | 7.96                       | 100                  | 0.16                            | 900                              |
| NIN-PB2R2KTR850F  | 2.2                             | 10        | 10                      | 7.96                       | 80                   | 0.18                            | 850                              |
| NIN-PB2R7KTR800F  | 2.7                             | 10        | 10                      | 7.96                       | 60                   | 0.20                            | 800                              |
| NIN-PB3R3KTR750F  | 3.3                             | 10        | 10                      | 7.96                       | 45                   | 0.22                            | 750                              |
| NIN-PB3R9KTR700F  | 3.9                             | 10        | 10                      | 7.96                       | 40                   | 0.24                            | 700                              |
| NIN-PB4R7KTR650F  | 4.7                             | 10        | 10                      | 7.96                       | 35                   | 0.27                            | 650                              |
| NIN-PB5R6KTR650F  | 5.6                             | 10        | 10                      | 7.96                       | 30                   | 0.30                            | 650                              |
| NIN-PB6R8KTR600F  | 6.8                             | 10        | 10                      | 7.96                       | 28                   | 0.35                            | 600                              |
| NIN-PB8R2KTR600F  | 8.2                             | 10        | 10                      | 7.96                       | 25                   | 0.40                            | 600                              |
| NIN-PB100KTR550F  | 10                              | 10        | 10                      | 2.52                       | 22                   | 0.50                            | 550                              |
| NIN-PB120KTR500F  | 12                              | 10        | 10                      | 2.52                       | 21                   | 0.60                            | 500                              |
| NIN-PB150KTR450F  | 15                              | 10        | 10                      | 2.52                       | 20                   | 0.70                            | 450                              |
| NIN-PB180KTR400F  | 18                              | 10        | 10                      | 2.52                       | 19                   | 0.80                            | 400                              |
| NIN-PB220KTR370F  | 22                              | 10        | 10                      | 2.52                       | 18                   | 0.90                            | 370                              |
| NIN-PB270KTR330F  | 27                              | 10        | 10                      | 2.52                       | 16                   | 1.2                             | 330                              |
| NIN-PB330KTR300F  | 33                              | 10        | 10                      | 2.52                       | 14                   | 1.4                             | 300                              |
| NIN-PB390KTR280F  | 39                              | 10        | 10                      | 2.52                       | 12                   | 1.6                             | 280                              |
| NIN-PB470KTR260F  | 47                              | 10        | 10                      | 2.52                       | 11.5                 | 1.9                             | 260                              |
| NIN-PB560KTR240F  | 56                              | 10        | 10                      | 2.52                       | 11                   | 2.2                             | 240                              |
| NIN-PB680KTR220F  | 68                              | 10        | 10                      | 2.52                       | 10                   | 2.6                             | 220                              |
| NIN-PB820KTR200F  | 82                              | 10        | 10                      | 2.52                       | 9                    | 3.5                             | 200                              |
| NIN-PB101KTR180F  | 100                             | 10        | 20                      | 0.796                      | 8                    | 4.0                             | 180                              |
| NIN-PB121KTR160F  | 120                             | 10        | 20                      | 0.796                      | 7.5                  | 4.5                             | 160                              |
| NIN-PB151KTR140F  | 150                             | 10        | 20                      | 0.796                      | 7                    | 6.5                             | 140                              |
| NIN-PB181KTR120F  | 180                             | 10        | 20                      | 0.796                      | 6.5                  | 7.5                             | 120                              |
| NIN-PB221KTR120F  | 220                             | 10        | 20                      | 0.796                      | 5.5                  | 9.0                             | 120                              |
| NIN-PB271KTR100F  | 270                             | 10        | 20                      | 0.796                      | 5                    | 11                              | 100                              |
| NIN-PB331KTR90F   | 330                             | 10        | 20                      | 0.796                      | 4                    | 13                              | 90                               |
| NIN-PB391KTR85F   | 390                             | 10        | 20                      | 0.796                      | 3                    | 14                              | 85                               |
| NIN-PB471KTR75F   | 470                             | 10        | 20                      | 0.796                      | 3                    | 16                              | 75                               |
| NIN-PB561KTR70F   | 560                             | 10        | 20                      | 0.796                      | 3                    | 18                              | 70                               |
| NIN-PB681KTR65F   | 680                             | 10        | 20                      | 0.796                      | 2.5                  | 22.8                            | 65                               |

\*Part Number System updated to reflect new format and PCN. Older part number availability are subject to EOL/PCN. Please view announcement for more information. Please view [archived datasheet](#) for original part number specifications



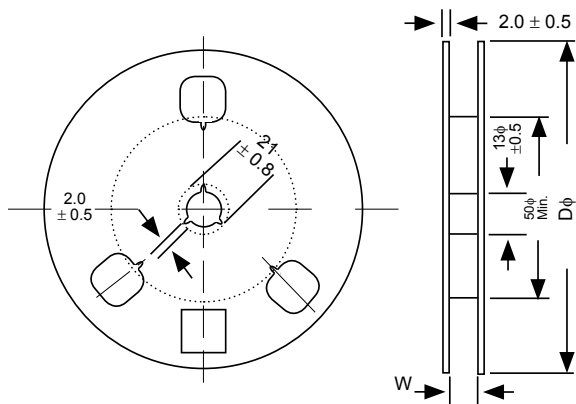
### CARRIER TAPE DIMENSIONS (mm)

| Case Code | Type  | Size | W $\pm 0.3$ | A $\pm 0.2$ | B $\pm 0.2$ | P $\pm 0.1$ | E $\pm 0.1$ | F $\pm 0.1$ | t1  | t2   |
|-----------|-------|------|-------------|-------------|-------------|-------------|-------------|-------------|-----|------|
| C         | FC/PC | 1008 | 8.0         | 2.4         | 2.9         | 4.0         | 1.75        | 3.5         | 0.3 | 2.1  |
| A         | FA/PA | 1210 | 8.0         | 2.8         | 3.6         | 4.0         | 1.75        | 3.5         | 0.3 | 2.3  |
| B         | FB/PB | 1812 | 12.0        | 3.7         | 4.9         | 8.0         | 1.75        | 5.5         | 0.6 | 3.50 |

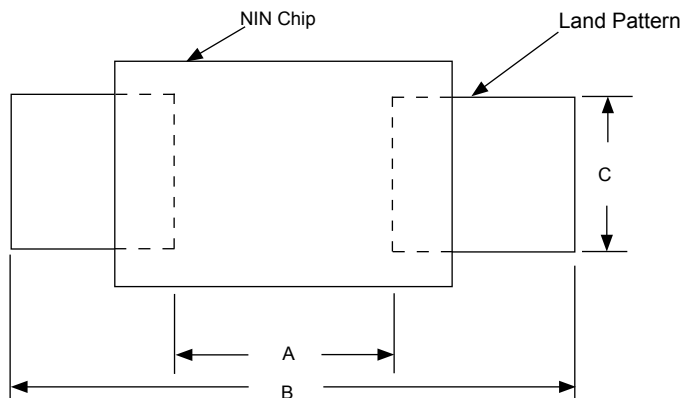


### DIMENSIONS (mm)

| Case Code | Type  | Size | D $\phi \pm 2.0$ | W $\pm 1.5$ | Qty/Reel |
|-----------|-------|------|------------------|-------------|----------|
| C         | FC/PC | 1008 | 180              | 9.0         | 2000 pcs |
| A         | FA/PA | 1210 | 180              | 9.0         | 2000 pcs |
| B         | FB/PB | 1812 | 180              | 13.0        | 500 pcs  |



### RECOMMENDED LAND PATTERNS FOR FLOW AND REFLOW SOLDERING



### DIMENSIONS (mm)

| Case Code | Type  | Size | A       | B       | C       |
|-----------|-------|------|---------|---------|---------|
| C         | FC/PC | 1008 | 1.4~1.5 | 3.5~4.0 | 1.2~1.6 |
| A         | FA/PA | 1210 | 1.6~2.0 | 4.0~4.6 | 1.9~2.4 |
| B         | FB/PB | 1812 | 2.0~2.6 | 5.0~6.0 | 1.4~2.4 |