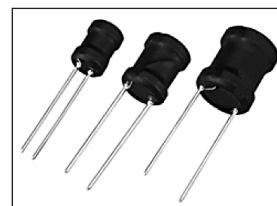


### FEATURES

- RADIAL LEADED POWER INDUCTOR
- WIRE WOUND CONSTRUCTION
- WIDE VALUE RANGE 1.0 $\mu$ H ~ 150,000 $\mu$ H
- AVAILABLE WITH HIGH TEMPERATURE SLEEVE
- NINE CASE SIZES (5.5X8mm ~ 14X16mm)

**RoHS  
Compliant**  
includes all homogeneous materials

\*See Part Number System for Details



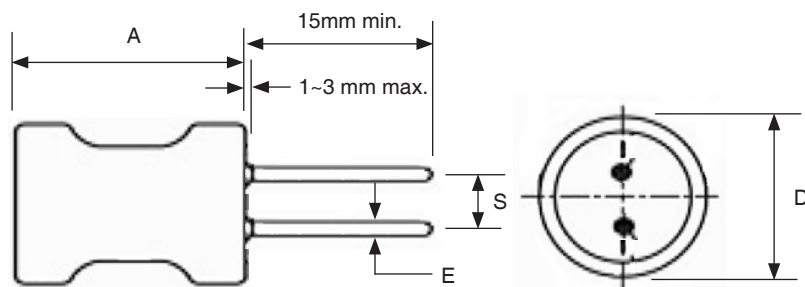
### CHARACTERISTICS

|                                                        |                             |  |                   |  |                      |  |                   |  |                 |  |
|--------------------------------------------------------|-----------------------------|--|-------------------|--|----------------------|--|-------------------|--|-----------------|--|
| Case Code                                              | NLI46C                      |  | NLI68C            |  | NLI77C               |  | NLI87C            |  |                 |  |
| Inductance Range                                       | 1.0μH ~ 25,000μH            |  | 3.3μH ~ 150,000μH |  | 1.0μH ~ 1,500μH      |  | 2.2μH ~ 1,500μH   |  |                 |  |
| Case Code                                              | NLI81C                      |  | NLI100C           |  | NLI102C              |  | NLI108C           |  | NLI123C         |  |
| Inductance Range (μH)                                  | 3.3μH ~ 100,000μH           |  | 3.3μH ~ 15,000μH  |  | 10,000μH ~ 100,000μH |  | 4.7μH ~ 100,000μH |  | 10μH ~ 10,000μH |  |
| Ambient Operating Temperature Range                    | -20°C ~ +85°C               |  |                   |  |                      |  |                   |  |                 |  |
| Maximum Component Temperature (Ambient + Self-Heating) | +105°C                      |  |                   |  |                      |  |                   |  |                 |  |
| Temperature Rise at Irms                               | +20°C                       |  |                   |  |                      |  |                   |  |                 |  |
| Inductance Change at Isat                              | -10%                        |  |                   |  |                      |  |                   |  |                 |  |
| Inductance Tolerance                                   | J (±5%), K (±10%), M (±20%) |  |                   |  |                      |  |                   |  |                 |  |

### DIMENSIONS (mm)

| Series  | A max. | S (Bulk)      | S (Tape & Box) | D max. | E $\pm$ 0.05 |
|---------|--------|---------------|----------------|--------|--------------|
| NLI46C  | 8.0    | 2.0 $\pm$ 0.5 | 5.0 $\pm$ 1.0* | 5.5    | 0.55         |
| NLI68C  | 11.0   | 2.5 $\pm$ 0.5 | 5.0 $\pm$ 1.0* | 7.5    | 0.65         |
| NLI77C  | 9.5    | 5.0 $\pm$ 1.0 | n/a            | 8.5    | 0.65         |
| NLI87C  | 9.5    | 5.0 $\pm$ 1.0 | 5.0 $\pm$ 1.0  | 10.0   | 0.65         |
| NLI81C  | 13.0   | 5.0 $\pm$ 1.0 | 5.0 $\pm$ 1.0  | 10.0   | 0.65         |
| NLI100C | 13.0   | 5.0 $\pm$ 1.0 | 5.0 $\pm$ 1.0  | 12.0   | 0.80         |
| NLI102C | 15.0   | 6.0 $\pm$ 1.0 | 5.0 $\pm$ 1.0* | 12.0   | 0.80         |
| NLI108C | 21.0   | 6.0 $\pm$ 1.0 | n/a            | 12.0   | 0.80         |
| NLI123C | 16.0   | 7.5 $\pm$ 1.0 | n/a            | 14.0   | 0.80         |

\*These parts on tape & box packaging have crimped leads.



### PART NUMBER SYSTEM

NLI 46 C 4R7 K U TB F

- NLI: Series
- 46: Size Code (see table for details)
- C: Construction Code (see drawing for details)
- 4R7: Inductance Code ( $\mu$ H): 1st two digits are significant, 3rd digit is multiplier for values from 10 $\mu$ H and up.
- K: Inductance Tolerance Code: J =  $\pm$ 5%, K =  $\pm$ 10%, M =  $\pm$ 20%
- U: Optional Black UL +125°C Sleeve (blank for no sleeving)
- TB: Optional Packaging Tape & Box (blank for bulk packaging)
- F: RoHS Compliant



| NPI46C STANDARD VALUES (H = 8.0mm x D = 5.5mm) |                                 |                          |        |         |                   |                          |              |
|------------------------------------------------|---------------------------------|--------------------------|--------|---------|-------------------|--------------------------|--------------|
| Part Number                                    | Inductance<br>( $\mu$ H) @ 1KHz | Inductance<br>Tolerance* | Q min. | Q Freq. | SRF<br>(MHz) min. | DCR<br>( $\Omega$ ) max. | DC I<br>(mA) |
| NLI46C1R0M__F                                  | 1.0                             | $\pm 20\%$               | 100    | 7.96MHz | 120               | 0.035                    | 2000         |
| NLI46C1R2M__F                                  | 1.2                             | $\pm 20\%$               | 100    | 7.96MHz | 120               | 0.058                    | 1950         |
| NLI46C1R5M__F                                  | 1.5                             | $\pm 20\%$               | 100    | 7.96MHz | 120               | 0.075                    | 1900         |
| NLI46C1R8M__F                                  | 1.8                             | $\pm 20\%$               | 100    | 7.96MHz | 120               | 0.110                    | 1800         |
| NLI46C2R2M__F                                  | 2.2                             | $\pm 20\%$               | 100    | 7.96MHz | 100               | 0.120                    | 1750         |
| NLI46C2R7M__F                                  | 2.7                             | $\pm 20\%$               | 100    | 7.96MHz | 80                | 0.125                    | 1680         |
| NLI46C3R3M__F                                  | 3.3                             | $\pm 20\%$               | 100    | 7.96MHz | 75                | 0.130                    | 1500         |
| NLI46C3R9K__F                                  | 3.9                             | $\pm 10\%$               | 100    | 7.96MHz | 70                | 0.135                    | 1450         |
| NLI46C4R7K__F                                  | 4.7                             | $\pm 10\%$               | 100    | 7.96MHz | 50                | 0.140                    | 1320         |
| NLI46C5R6K__F                                  | 5.6                             | $\pm 10\%$               | 100    | 7.96MHz | 45                | 0.145                    | 1230         |
| NLI46C6R8K__F                                  | 6.8                             | $\pm 10\%$               | 100    | 7.96MHz | 30                | 0.150                    | 1150         |
| NLI46C8R2K__F                                  | 8.2                             | $\pm 10\%$               | 100    | 7.96MHz | 22                | 0.160                    | 1100         |
| NLI46C100K__F                                  | 10                              | $\pm 10\%$               | 80     | 2.52MHz | 20                | 0.230                    | 1000         |
| NLI46C120K__F                                  | 12                              | $\pm 10\%$               | 80     | 2.52MHz | 17                | 0.240                    | 970          |
| NLI46C150K__F                                  | 15                              | $\pm 10\%$               | 80     | 2.52MHz | 16                | 0.250                    | 920          |
| NLI46C180K__F                                  | 18                              | $\pm 10\%$               | 80     | 2.52MHz | 12                | 0.330                    | 860          |
| NLI46C220K__F                                  | 22                              | $\pm 10\%$               | 80     | 2.52MHz | 10                | 0.450                    | 800          |
| NLI46C270K__F                                  | 27                              | $\pm 10\%$               | 80     | 2.52MHz | 9.5               | 0.50                     | 710          |
| NLI46C330K__F                                  | 33                              | $\pm 10\%$               | 80     | 2.52MHz | 8.7               | 0.70                     | 660          |
| NLI46C390K__F                                  | 39                              | $\pm 10\%$               | 70     | 2.52MHz | 8.2               | 0.74                     | 600          |
| NLI46C470K__F                                  | 47                              | $\pm 10\%$               | 70     | 2.52MHz | 7.8               | 0.76                     | 550          |
| NLI46C560K__F                                  | 56                              | $\pm 10\%$               | 50     | 2.52MHz | 7.6               | 0.80                     | 500          |
| NLI46C680K__F                                  | 68                              | $\pm 10\%$               | 50     | 2.52MHz | 6.8               | 0.90                     | 470          |
| NLI46C820K__F                                  | 82                              | $\pm 10\%$               | 50     | 2.52MHz | 6.0               | 0.95                     | 430          |
| NLI46C101K__F                                  | 100                             | $\pm 10\%$               | 45     | 796KHz  | 6.0               | 1.0                      | 400          |
| NLI46C121K__F                                  | 120                             | $\pm 10\%$               | 45     | 796KHz  | 5.5               | 1.1                      | 370          |
| NLI46C151K__F                                  | 150                             | $\pm 10\%$               | 65     | 796KHz  | 4.2               | 1.3                      | 350          |
| NLI46C181K__F                                  | 180                             | $\pm 10\%$               | 65     | 796KHz  | 3.6               | 1.5                      | 320          |
| NLI46C221K__F                                  | 220                             | $\pm 10\%$               | 65     | 796KHz  | 2.8               | 1.8                      | 300          |
| NLI46C271K__F                                  | 270                             | $\pm 10\%$               | 50     | 796KHz  | 2.4               | 1.9                      | 275          |
| NLI46C331K__F                                  | 330                             | $\pm 10\%$               | 50     | 796KHz  | 2.2               | 2.2                      | 250          |
| NLI46C391K__F                                  | 390                             | $\pm 10\%$               | 50     | 796KHz  | 2.0               | 2.7                      | 220          |
| NLI46C471K__F                                  | 470                             | $\pm 10\%$               | 50     | 796KHz  | 1.7               | 3.6                      | 200          |
| NLI46C561K__F                                  | 560                             | $\pm 10\%$               | 50     | 796KHz  | 1.5               | 4.2                      | 190          |
| NLI46C681K__F                                  | 680                             | $\pm 10\%$               | 50     | 796KHz  | 1.3               | 4.6                      | 170          |
| NLI46C821K__F                                  | 820                             | $\pm 10\%$               | 50     | 796KHz  | 1.1               | 5.7                      | 155          |
| NLI46C102K__F                                  | 1,000                           | $\pm 10\%$               | 90     | 252KHz  | 1.0               | 6.7                      | 150          |
| NLI46C122K__F                                  | 1,200                           | $\pm 10\%$               | 90     | 252KHz  | 0.9               | 8.2                      | 140          |
| NLI46C152K__F                                  | 1,500                           | $\pm 10\%$               | 80     | 252KHz  | 0.8               | 13                       | 120          |
| NLI46C182K__F                                  | 1,800                           | $\pm 10\%$               | 80     | 252KHz  | 0.8               | 15                       | 110          |
| NLI46C222K__F                                  | 2,200                           | $\pm 10\%$               | 80     | 252KHz  | 0.8               | 17                       | 100          |
| NLI46C272K__F                                  | 2,700                           | $\pm 10\%$               | 80     | 252KHz  | 0.8               | 19                       | 90           |
| NLI46C332K__F                                  | 3,300                           | $\pm 10\%$               | 70     | 252KHz  | 0.7               | 26                       | 83           |
| NLI46C392K__F                                  | 3,900                           | $\pm 10\%$               | 70     | 252KHz  | 0.65              | 30                       | 76           |

DC I maximum +20°C temperature rise,  $\Delta L$  -10% max.

\* Contact NIC for other tolerance options.

| NPI46C STANDARD VALUES (H = 8.0mm x D = 5.5mm) |                                 |                          |        |         |                          |              |
|------------------------------------------------|---------------------------------|--------------------------|--------|---------|--------------------------|--------------|
| Part Number                                    | Inductance<br>( $\mu$ H) @ 1KHz | Inductance<br>Tolerance* | Q min. | Q Freq. | DCR<br>( $\Omega$ ) max. | DC I<br>(mA) |
| NLI46C472K__F                                  | 4,700                           | $\pm 10\%$               | 65     | 252KHz  | 45                       | 70           |
| NLI46C562K__F                                  | 5,600                           | $\pm 10\%$               | 65     | 252KHz  | 48                       | 62           |
| NLI46C682K__F                                  | 6,800                           | $\pm 10\%$               | 65     | 252KHz  | 56                       | 56           |
| NLI46C822K__F                                  | 8,200                           | $\pm 10\%$               | 65     | 252KHz  | 62                       | 52           |
| NLI46C103K__F                                  | 10,000                          | $\pm 10\%$               | 45     | 79.6KHz | 72                       | 47           |
| NLI46C153K__F                                  | 15,000                          | $\pm 10\%$               | 45     | 79.6KHz | 120                      | 35           |
| NLI46C223K__F                                  | 22,000                          | $\pm 10\%$               | 45     | 79.6KHz | 160                      | 24           |
| NLI46C253K__F                                  | 25,000                          | $\pm 10\%$               | 45     | 79.6KHz | 180                      | 20           |

DC I maximum +20°C temperature rise,  $\Delta L$  -10% max.

\* Contact NIC for other tolerance options.

| NPI68C STANDARD VALUES (H = 11.0mm x D = 7.5mm) |                                 |                          |        |         |                          |              |
|-------------------------------------------------|---------------------------------|--------------------------|--------|---------|--------------------------|--------------|
| Part Number                                     | Inductance<br>( $\mu$ H) @ 1KHz | Inductance<br>Tolerance* | Q min. | Q Freq. | DCR<br>( $\Omega$ ) max. | DC I<br>(mA) |
| NLI68C3R3K__F                                   | 3.3                             | $\pm 10\%$               | 20     | 7.96MHz | 0.016                    | 3500         |
| NLI68C4R7K__F                                   | 4.7                             | $\pm 10\%$               | 20     | 7.96MHz | 0.020                    | 3000         |
| NLI68C6R8K__F                                   | 6.8                             | $\pm 10\%$               | 20     | 7.96MHz | 0.022                    | 2500         |
| NLI68C100K__F                                   | 10                              | $\pm 10\%$               | 30     | 2.52MHz | 0.039                    | 2000         |
| NLI68C150K__F                                   | 15                              | $\pm 10\%$               | 30     | 2.52MHz | 0.045                    | 1700         |
| NLI68C220K__F                                   | 22                              | $\pm 10\%$               | 30     | 2.52MHz | 0.062                    | 1400         |
| NLI68C330K__F                                   | 33                              | $\pm 10\%$               | 30     | 2.52MHz | 0.10                     | 1100         |
| NLI68C470K__F                                   | 47                              | $\pm 10\%$               | 30     | 2.52MHz | 0.15                     | 950          |
| NLI68C680K__F                                   | 68                              | $\pm 10\%$               | 30     | 2.52MHz | 0.22                     | 800          |
| NLI68C101K__F                                   | 100                             | $\pm 10\%$               | 20     | 796KHz  | 0.35                     | 650          |
| NLI68C151K__F                                   | 150                             | $\pm 10\%$               | 20     | 796KHz  | 0.43                     | 540          |
| NLI68C221K__F                                   | 220                             | $\pm 10\%$               | 20     | 796KHz  | 0.90                     | 440          |
| NLI68C331K__F                                   | 330                             | $\pm 10\%$               | 20     | 796KHz  | 1.5                      | 360          |
| NLI68C471K__F                                   | 470                             | $\pm 10\%$               | 20     | 796KHz  | 1.8                      | 300          |
| NLI68C681K__F                                   | 680                             | $\pm 10\%$               | 20     | 796KHz  | 2.5                      | 250          |
| NLI68C102K__F                                   | 1,000                           | $\pm 10\%$               | 100    | 252KHz  | 3.2                      | 200          |
| NLI68C122K__F                                   | 1,200                           | $\pm 10\%$               | 70     | 252KHz  | 3.5                      | 180          |
| NLI68C152K__F                                   | 1,500                           | $\pm 10\%$               | 70     | 252KHz  | 4.5                      | 170          |
| NLI68C182K__F                                   | 1,800                           | $\pm 10\%$               | 70     | 252KHz  | 5.0                      | 155          |
| NLI68C222K__F                                   | 2,200                           | $\pm 10\%$               | 70     | 252KHz  | 6.8                      | 140          |
| NLI68C272K__F                                   | 2,700                           | $\pm 10\%$               | 70     | 252KHz  | 7.2                      | 125          |
| NLI68C332K__F                                   | 3,300                           | $\pm 10\%$               | 70     | 252KHz  | 10.5                     | 115          |
| NLI68C392K__F                                   | 3,900                           | $\pm 10\%$               | 70     | 252KHz  | 11.7                     | 105          |
| NLI68C472K__F                                   | 4,700                           | $\pm 10\%$               | 70     | 252KHz  | 13.6                     | 95           |
| NLI68C562K__F                                   | 5,600                           | $\pm 10\%$               | 70     | 252KHz  | 16.6                     | 85           |
| NLI68C682K__F                                   | 6,800                           | $\pm 10\%$               | 70     | 252KHz  | 19.6                     | 80           |
| NLI68C822K__F                                   | 8,200                           | $\pm 10\%$               | 70     | 252KHz  | 25.2                     | 70           |
| NLI68C103K__F                                   | 10,000                          | $\pm 10\%$               | 70     | 79.6KHz | 29.5                     | 65           |
| NLI68C123K__F                                   | 12,000                          | $\pm 10\%$               | 50     | 79.6KHz | 33.8                     | 60           |
| NLI68C153K__F                                   | 15,000                          | $\pm 10\%$               | 50     | 79.6KHz | 45.4                     | 55           |
| NLI68C183K__F                                   | 18,000                          | $\pm 10\%$               | 50     | 79.6KHz | 50.4                     | 50           |
| NLI68C223K__F                                   | 22,000                          | $\pm 10\%$               | 50     | 79.6KHz | 80.0                     | 45           |
| NLI68C303K__F                                   | 30,000                          | $\pm 10\%$               | 50     | 79.6KHz | 91.5                     | 40           |
| NLI68C333K__F                                   | 33,000                          | $\pm 10\%$               | 50     | 79.6KHz | 98.5                     | 35           |
| NLI68C393K__F                                   | 39,000                          | $\pm 10\%$               | 50     | 79.6KHz | 140                      | 32           |
| NLI68C473K__F                                   | 47,000                          | $\pm 10\%$               | 50     | 79.6KHz | 160                      | 30           |
| NLI68C503K__F                                   | 50,000                          | $\pm 10\%$               | 50     | 79.6KHz | 170                      | 29           |
| NLI68C563K__F                                   | 56,000                          | $\pm 10\%$               | 50     | 79.6KHz | 250                      | 28           |
| NLI68C683K__F                                   | 68,000                          | $\pm 10\%$               | 50     | 79.6KHz | 282                      | 25           |
| NLI68C823K__F                                   | 82,000                          | $\pm 10\%$               | 50     | 79.6KHz | 312                      | 23           |
| NLI68C104K__F                                   | 100,000                         | $\pm 10\%$               | 30     | 25.2KHz | 380                      | 20           |
| NLI68C124K__F                                   | 120,000                         | $\pm 10\%$               | 30     | 25.2KHz | 430                      | 18           |
| NLI68C154K__F                                   | 150,000                         | $\pm 10\%$               | 30     | 25.2KHz | 520                      | 16           |

DC I maximum +20°C temperature rise,  $\Delta L$  -10% max.

\* Contact NIC for other tolerance options.



| NPI77C STANDARD VALUES (H = 9.5mm x D = 8.5mm) |                        |                       |        |         |                |              |           |           |
|------------------------------------------------|------------------------|-----------------------|--------|---------|----------------|--------------|-----------|-----------|
| Part Number                                    | Inductance (μH) @ 1KHz | Inductance Tolerance* | Q min. | Q Freq. | SRF (MHz) min. | DCR (Ω) max. | I sat (A) | I rms (A) |
| NLI77C1R0M__F                                  | 1.0                    | ±20%                  | 10     | 7.96MHz | 70             | 0.006        | 6.6       | 5.0       |
| NLI77C1R5M__F                                  | 1.5                    | ±20%                  | 10     | 7.96MHz | 56             | 0.008        | 5.4       | 4.3       |
| NLI77C2R2M__F                                  | 2.2                    | ±20%                  | 10     | 7.96MHz | 45             | 0.011        | 4.0       | 3.7       |
| NLI77C3R3M__F                                  | 3.3                    | ±20%                  | 10     | 7.96MHz | 36             | 0.018        | 3.6       | 2.9       |
| NLI77C4R7M__F                                  | 4.7                    | ±20%                  | 10     | 7.96MHz | 29             | 0.022        | 3.1       | 2.6       |
| NLI77C6R8M__F                                  | 6.8                    | ±20%                  | 10     | 7.96MHz | 24             | 0.028        | 2.5       | 2.3       |
| NLI77C100K__F                                  | 10                     | ±10%                  | 20     | 2.52MHz | 19             | 0.043        | 2.1       | 1.9       |
| NLI77C150K__F                                  | 15                     | ±10%                  | 20     | 2.52MHz | 15             | 0.056        | 1.7       | 1.6       |
| NLI77C220K__F                                  | 22                     | ±10%                  | 20     | 2.52MHz | 12             | 0.086        | 1.4       | 1.3       |
| NLI77C330K__F                                  | 33                     | ±10%                  | 20     | 2.52MHz | 9.4            | 0.14         | 1.1       | 1.0       |
| NLI77C470K__F                                  | 47                     | ±10%                  | 20     | 2.52MHz | 7.6            | 0.17         | 0.96      | 0.94      |
| NLI77C680K__F                                  | 68                     | ±10%                  | 20     | 2.52MHz | 6.2            | 0.28         | 0.79      | 0.73      |
| NLI77C101K__F                                  | 100                    | ±10%                  | 20     | 796KHz  | 5.0            | 0.33         | 0.66      | 0.67      |
| NLI77C151K__F                                  | 150                    | ±10%                  | 20     | 796KHz  | 4.0            | 0.56         | 0.53      | 0.52      |
| NLI77C221K__F                                  | 220                    | ±10%                  | 20     | 796KHz  | 3.2            | 0.72         | 0.44      | 0.46      |
| NLI77C331K__F                                  | 330                    | ±10%                  | 20     | 796KHz  | 2.5            | 1.1          | 0.36      | 0.37      |
| NLI77C471K__F                                  | 470                    | ±10%                  | 20     | 796KHz  | 2.0            | 1.7          | 0.30      | 0.30      |
| NLI77C681K__F                                  | 680                    | ±10%                  | 20     | 796KHz  | 1.7            | 2.3          | 0.25      | 0.26      |
| NLI77C102K__F                                  | 1,000                  | ±10%                  | 70     | 252KHz  | 1.3            | 4.3          | 0.20      | 0.19      |
| NLI77C152K__F                                  | 1,500                  | ±10%                  | 50     | 252KHz  | 1.3            | 5            | 0.17      | 0.16      |

I<sub>rm</sub> maximum +20°C temperature rise, I<sub>sat</sub> ΔL -10% max.

\* Contact NIC for other tolerance options.

| NPI87C STANDARD VALUES (H = 9.5mm x D = 10mm) |                        |                       |        |         |                |              |           |           |
|-----------------------------------------------|------------------------|-----------------------|--------|---------|----------------|--------------|-----------|-----------|
| Part Number                                   | Inductance (μH) @ 1KHz | Inductance Tolerance* | Q min. | Q Freq. | SRF (MHz) min. | DCR (Ω) max. | I sat (A) | I rms (A) |
| NLI87C2R2M__F                                 | 2.2                    | ±20%                  | 10     | 7.96MHz | 60             | 0.011        | 5.5       | 4.0       |
| NLI87C3R3M__F                                 | 3.3                    | ±20%                  | 10     | 7.96MHz | 38             | 0.013        | 3.8       | 3.4       |
| NLI87C4R7M__F                                 | 4.7                    | ±20%                  | 10     | 7.96MHz | 30             | 0.017        | 3.7       | 3.0       |
| NLI87C6R8M__F                                 | 6.8                    | ±20%                  | 10     | 7.96MHz | 24             | 0.023        | 2.8       | 2.6       |
| NLI87C100K__F                                 | 10                     | ±10%                  | 20     | 2.52MHz | 19             | 0.031        | 2.5       | 2.2       |
| NLI87C150K__F                                 | 15                     | ±10%                  | 20     | 2.52MHz | 15             | 0.042        | 2.0       | 1.9       |
| NLI87C220K__F                                 | 22                     | ±10%                  | 20     | 2.52MHz | 12             | 0.070        | 1.6       | 1.5       |
| NLI87C330K__F                                 | 33                     | ±10%                  | 20     | 2.52MHz | 10             | 0.092        | 1.3       | 1.2       |
| NLI87C470K__F                                 | 47                     | ±10%                  | 20     | 2.52MHz | 8.2            | 0.13         | 1.1       | 1.0       |
| NLI87C680K__F                                 | 68                     | ±10%                  | 20     | 2.52MHz | 6.6            | 0.16         | 0.91      | 0.97      |
| NLI87C101K__F                                 | 100                    | ±10%                  | 15     | 796KHz  | 5.4            | 0.23         | 0.75      | 0.81      |
| NLI87C151K__F                                 | 150                    | ±10%                  | 15     | 796KHz  | 4.3            | 0.40         | 0.61      | 0.61      |
| NLI87C221K__F                                 | 220                    | ±10%                  | 15     | 796KHz  | 3.5            | 0.53         | 0.50      | 0.53      |
| NLI87C331K__F                                 | 330                    | ±10%                  | 15     | 796KHz  | 2.8            | 0.78         | 0.41      | 0.44      |
| NLI87C471K__F                                 | 470                    | ±10%                  | 10     | 796KHz  | 2.3            | 1.0          | 0.34      | 0.39      |
| NLI87C681K__F                                 | 680                    | ±10%                  | 10     | 796KHz  | 1.9            | 1.5          | 0.28      | 0.32      |
| NLI87C102K__F                                 | 1,000                  | ±10%                  | 20     | 252KHz  | 1.5            | 2.2          | 0.23      | 0.26      |
| NLI87C152K__F                                 | 1,500                  | ±10%                  | 30     | 252KHz  | 1.2            | 3.5          | 0.18      | 0.21      |

I<sub>rm</sub> maximum +20°C temperature rise, I<sub>sat</sub> ΔL -10% max.

\* Contact NIC for other tolerance options.



| NPI81C STANDARD VALUES (H = 13mm x D = 10mm) |                                 |                          |        |         |                   |                          |              |
|----------------------------------------------|---------------------------------|--------------------------|--------|---------|-------------------|--------------------------|--------------|
| Part Number                                  | Inductance<br>( $\mu$ H) @ 1KHz | Inductance<br>Tolerance* | Q min. | Q Freq. | SRF<br>(MHz) min. | DCR<br>( $\Omega$ ) max. | DC I<br>(mA) |
| NLI81C3R3M__F                                | 3.3                             | $\pm 20\%$               | 30     | 7.96MHz | 65                | 0.012                    | 5000         |
| NLI81C3R9K__F                                | 3.9                             | $\pm 10\%$               | 30     | 7.96MHz | 55                | 0.014                    | 4600         |
| NLI81C4R7K__F                                | 4.7                             | $\pm 10\%$               | 30     | 7.96MHz | 45                | 0.016                    | 4300         |
| NLI81C5R6K__F                                | 5.6                             | $\pm 10\%$               | 30     | 7.96MHz | 38                | 0.02                     | 3900         |
| NLI81C6R8K__F                                | 6.8                             | $\pm 10\%$               | 30     | 7.96MHz | 27                | 0.022                    | 3700         |
| NLI81C8R2K__F                                | 8.2                             | $\pm 10\%$               | 30     | 7.96MHz | 21                | 0.024                    | 3500         |
| NLI81C100K__F                                | 10                              | $\pm 10\%$               | 50     | 2.52MHz | 17                | 0.025                    | 3200         |
| NLI81C120K__F                                | 12                              | $\pm 10\%$               | 50     | 2.52MHz | 15                | 0.027                    | 3000         |
| NLI81C150K__F                                | 15                              | $\pm 10\%$               | 50     | 2.52MHz | 13                | 0.033                    | 2800         |
| NLI81C180K__F                                | 18                              | $\pm 10\%$               | 50     | 2.52MHz | 12                | 0.039                    | 2600         |
| NLI81C220K__F                                | 22                              | $\pm 10\%$               | 50     | 2.52MHz | 11                | 0.047                    | 2400         |
| NLI81C270K__F                                | 27                              | $\pm 10\%$               | 50     | 2.52MHz | 10                | 0.052                    | 2100         |
| NLI81C330K__F                                | 33                              | $\pm 10\%$               | 50     | 2.52MHz | 8.5               | 0.075                    | 1900         |
| NLI81C390K__F                                | 39                              | $\pm 10\%$               | 40     | 2.52MHz | 7.7               | 0.082                    | 1700         |
| NLI81C470K__F                                | 47                              | $\pm 10\%$               | 40     | 2.52MHz | 6.7               | 0.10                     | 1500         |
| NLI81C560K__F                                | 56                              | $\pm 10\%$               | 40     | 2.52MHz | 6.4               | 0.15                     | 1300         |
| NLI81C680K__F                                | 68                              | $\pm 10\%$               | 30     | 2.52MHz | 5.8               | 0.18                     | 1200         |
| NLI81C820K__F                                | 82                              | $\pm 10\%$               | 30     | 2.52MHz | 5.2               | 0.20                     | 1100         |
| NLI81C101K__F                                | 100                             | $\pm 10\%$               | 30     | 796KHz  | 4.4               | 0.20                     | 900          |
| NLI81C121K__F                                | 120                             | $\pm 10\%$               | 30     | 796KHz  | 4.2               | 0.22                     | 800          |
| NLI81C151K__F                                | 150                             | $\pm 10\%$               | 30     | 796KHz  | 3.7               | 0.24                     | 720          |
| NLI81C181K__F                                | 180                             | $\pm 10\%$               | 30     | 796KHz  | 3.5               | 0.28                     | 650          |
| NLI81C221K__F                                | 220                             | $\pm 10\%$               | 20     | 796KHz  | 3.3               | 0.35                     | 600          |
| NLI81C271K__F                                | 270                             | $\pm 10\%$               | 20     | 796KHz  | 2.9               | 0.40                     | 550          |
| NLI81C331K__F                                | 330                             | $\pm 10\%$               | 20     | 796KHz  | 2.6               | 0.47                     | 500          |
| NLI81C391K__F                                | 390                             | $\pm 10\%$               | 20     | 796KHz  | 2.4               | 0.68                     | 460          |
| NLI81C471K__F                                | 470                             | $\pm 10\%$               | 20     | 796KHz  | 2.2               | 0.8                      | 420          |
| NLI81C561K__F                                | 560                             | $\pm 10\%$               | 20     | 796KHz  | 2.0               | 1.0                      | 380          |
| NLI81C681K__F                                | 680                             | $\pm 10\%$               | 20     | 796KHz  | 1.8               | 1.2                      | 350          |
| NLI81C821K__F                                | 820                             | $\pm 10\%$               | 20     | 796KHz  | 1.7               | 1.5                      | 310          |
| NLI81C102K__F                                | 1,000                           | $\pm 10\%$               | 40     | 252KHz  | 1.5               | 1.8                      | 280          |
| NLI81C122K__F                                | 1,200                           | $\pm 10\%$               | 40     | 252KHz  | 1.4               | 2.0                      | 250          |
| NLI81C152K__F                                | 1,500                           | $\pm 10\%$               | 40     | 252KHz  | 1.3               | 2.4                      | 230          |
| NLI81C182K__F                                | 1,800                           | $\pm 10\%$               | 40     | 252KHz  | 1.1               | 2.8                      | 210          |
| NLI81C222K__F                                | 2,200                           | $\pm 10\%$               | 40     | 252KHz  | 1.0               | 3.3                      | 190          |
| NLI81C272K__F                                | 2,700                           | $\pm 10\%$               | 40     | 252KHz  | 0.88              | 5.0                      | 170          |
| NLI81C332K__F                                | 3,300                           | $\pm 10\%$               | 40     | 252KHz  | 0.78              | 5.6                      | 150          |
| NLI81C392K__F                                | 3,900                           | $\pm 10\%$               | 40     | 252KHz  | 0.72              | 6.2                      | 140          |
| NLI81C472K__F                                | 4,700                           | $\pm 10\%$               | 40     | 252KHz  | 0.65              | 7.0                      | 130          |
| NLI81C562K__F                                | 5,600                           | $\pm 10\%$               | 40     | 252KHz  | 0.58              | 9.1                      | 120          |
| NLI81C682K__F                                | 6,800                           | $\pm 10\%$               | 40     | 252KHz  | 0.55              | 10                       | 110          |
| NLI81C822K__F                                | 8,200                           | $\pm 10\%$               | 20     | 252KHz  | 0.50              | 15                       | 100          |
| NLI81C103K__F                                | 10,000                          | $\pm 10\%$               | 20     | 79.6KHz | 0.42              | 24                       | 90           |
| NLI81C473K__F                                | 47,000                          | $\pm 10\%$               | 60     | 79.6KHz | 0.20              | 80                       | 40           |
| NLI81C104K__F                                | 100,000                         | $\pm 10\%$               | 20     | 79.6KHz | 0.14              | 180                      | 28           |

DC I maximum +20°C temperature rise,  $\Delta$ L -10% max.

\* Contact NIC for other tolerance options.



| NPI100C STANDARD VALUES (H = 13mm x D = 12mm) |                                 |                          |        |         |                   |                          |              |             |
|-----------------------------------------------|---------------------------------|--------------------------|--------|---------|-------------------|--------------------------|--------------|-------------|
| Part Number                                   | Inductance<br>( $\mu$ H) @ 1KHz | Inductance<br>Tolerance* | Q min. | Q Freq. | SRF<br>(MHz) min. | DCR<br>( $\Omega$ ) max. | I sat<br>(A) | Irms<br>(A) |
| NLI100C3R3M__F                                | 3.3                             | $\pm 20\%$               | 10     | 7.96MHz | 36                | 0.01                     | 8.8          | 5.9         |
| NLI100C4R7M__F                                | 4.7                             | $\pm 20\%$               | 10     | 7.96MHz | 28                | 0.015                    | 7.2          | 4.8         |
| NLI100C6R8M__F                                | 6.8                             | $\pm 20\%$               | 10     | 7.96MHz | 18                | 0.016                    | 6.1          | 4.6         |
| NLI100C100M__F                                | 10                              | $\pm 20\%$               | 20     | 2.52MHz | 16                | 0.025                    | 5.0          | 3.7         |
| NLI100C150M__F                                | 15                              | $\pm 20\%$               | 20     | 2.52MHz | 12                | 0.029                    | 4.2          | 3.4         |
| NLI100C220K__F                                | 22                              | $\pm 10\%$               | 20     | 2.52MHz | 9.5               | 0.04                     | 3.4          | 2.9         |
| NLI100C330K__F                                | 33                              | $\pm 10\%$               | 30     | 2.52MHz | 7.0               | 0.062                    | 2.8          | 2.3         |
| NLI100C470K__F                                | 47                              | $\pm 10\%$               | 30     | 2.52MHz | 5.8               | 0.075                    | 2.3          | 2.1         |
| NLI100C680K__F                                | 68                              | $\pm 10\%$               | 20     | 2.52MHz | 4.7               | 0.13                     | 1.9          | 1.6         |
| NLI100C101K__F                                | 100                             | $\pm 10\%$               | 20     | 796KHz  | 3.8               | 0.16                     | 1.6          | 1.4         |
| NLI100C151K__F                                | 150                             | $\pm 10\%$               | 20     | 796KHz  | 3.1               | 0.26                     | 1.3          | 1.1         |
| NLI100C221K__F                                | 220                             | $\pm 10\%$               | 20     | 796KHz  | 2.5               | 0.33                     | 1.1          | 1.0         |
| NLI100C331K__F                                | 330                             | $\pm 10\%$               | 20     | 796KHz  | 2.0               | 0.52                     | 0.88         | 0.82        |
| NLI100C471K__F                                | 470                             | $\pm 10\%$               | 10     | 796KHz  | 1.6               | 0.66                     | 0.75         | 0.72        |
| NLI100C681K__F                                | 680                             | $\pm 10\%$               | 10     | 796KHz  | 1.3               | 1.1                      | 0.61         | 0.56        |
| NLI100C102K__F                                | 1,000                           | $\pm 10\%$               | 20     | 252KHz  | 1.1               | 1.4                      | 0.51         | 0.50        |
| NLI100C152K__F                                | 1,500                           | $\pm 10\%$               | 30     | 252KHz  | 0.82              | 2.4                      | 0.43         | 0.38        |
| NLI100C222K__F                                | 2,200                           | $\pm 10\%$               | 20     | 252KHz  | 0.76              | 3.2                      | 0.35         | 0.33        |
| NLI100C332K__F                                | 3,300                           | $\pm 10\%$               | 30     | 252KHz  | 0.64              | 4.9                      | 0.28         | 0.26        |
| NLI100C472K__F                                | 4,700                           | $\pm 10\%$               | 30     | 252KHz  | 0.54              | 7.6                      | 0.24         | 0.21        |
| NLI100C682K__F                                | 6,800                           | $\pm 10\%$               | 30     | 252KHz  | 0.45              | 9.8                      | 0.20         | 0.18        |
| NLI100C103K__F                                | 10,000                          | $\pm 10\%$               | 30     | 79.6KHz | 0.38              | 18                       | 0.17         | 0.14        |
| NLI100C153K__F                                | 15,000                          | $\pm 10\%$               | 50     | 79.6KHz | 0.29              | 24                       | 0.13         | 0.12        |

I<sub>rm</sub> maximum +20°C temperature rise, I<sub>sat</sub>  $\Delta$ L -10% max.

\* Contact NIC for other tolerance options.

| NPI102C STANDARD VALUES (H = 15mm x D = 12mm) |                                 |                          |        |         |                   |                          |              |             |
|-----------------------------------------------|---------------------------------|--------------------------|--------|---------|-------------------|--------------------------|--------------|-------------|
| Part Number                                   | Inductance<br>( $\mu$ H) @ 1KHz | Inductance<br>Tolerance* | Q min. | Q Freq. | SRF<br>(MHz) min. | DCR<br>( $\Omega$ ) max. | I sat<br>(A) | Irms<br>(A) |
| NLI102C103K__F                                | 10,000                          | $\pm 10\%$               | 100    | 79.6KHz | 0.35              | 12                       | 0.18         | 0.17        |
| NLI102C123K__F                                | 12,000                          | $\pm 10\%$               | 100    | 79.6KHz | 0.31              | 13                       | 0.16         | 0.16        |
| NLI102C153K__F                                | 15,000                          | $\pm 10\%$               | 100    | 79.6KHz | 0.28              | 18                       | 0.14         | 0.14        |
| NLI102C183K__F                                | 18,000                          | $\pm 10\%$               | 80     | 79.6KHz | 0.26              | 25                       | 0.13         | 0.12        |
| NLI102C223K__F                                | 22,000                          | $\pm 10\%$               | 80     | 79.6KHz | 0.22              | 30                       | 0.12         | 0.11        |
| NLI102C273K__F                                | 27,000                          | $\pm 10\%$               | 80     | 79.6KHz | 0.20              | 35                       | 0.11         | 0.10        |
| NLI102C333K__F                                | 33,000                          | $\pm 10\%$               | 60     | 79.6KHz | 0.19              | 40                       | 0.10         | 0.09        |
| NLI102C393K__F                                | 39,000                          | $\pm 10\%$               | 60     | 79.6KHz | 0.17              | 50                       | 0.09         | 0.08        |
| NLI102C473K__F                                | 47,000                          | $\pm 10\%$               | 60     | 79.6KHz | 0.15              | 50                       | 0.080        | 0.075       |
| NLI102C563K__F                                | 56,000                          | $\pm 10\%$               | 40     | 79.6KHz | 0.13              | 65                       | 0.075        | 0.070       |
| NLI102C683K__F                                | 68,000                          | $\pm 10\%$               | 40     | 79.6KHz | 0.12              | 70                       | 0.070        | 0.065       |
| NLI102C823K__F                                | 82,000                          | $\pm 10\%$               | 30     | 79.6KHz | 0.10              | 100                      | 0.060        | 0.055       |
| NLI102C104K__F                                | 100,000                         | $\pm 10\%$               | 30     | 79.6KHz | 0.10              | 135                      | 0.055        | 0.045       |

I<sub>rm</sub> maximum +20°C temperature rise, I<sub>sat</sub>  $\Delta$ L -10% max.

\* Contact NIC for other tolerance options.

| NPI108C STANDARD VALUES (H = 21mm x D = 12mm) |                                 |                          |                          |              |             |
|-----------------------------------------------|---------------------------------|--------------------------|--------------------------|--------------|-------------|
| Part Number                                   | Inductance<br>( $\mu$ H) @ 1KHz | Inductance<br>Tolerance* | DCR<br>( $\Omega$ ) max. | I sat<br>(A) | Irms<br>(A) |
| NLI108C4R7K__F                                | 4.7                             | $\pm 10\%$               | 0.008                    | 10           | 6.0         |
| NLI108C6R8K__F                                | 6.8                             | $\pm 10\%$               | 0.011                    | 8.0          | 5.5         |
| NLI108C100K__F                                | 10                              | $\pm 10\%$               | 0.017                    | 7.0          | 4.5         |
| NLI108C150K__F                                | 15                              | $\pm 10\%$               | 0.022                    | 5.5          | 4.0         |
| NLI108C220K__F                                | 22                              | $\pm 10\%$               | 0.026                    | 4.5          | 3.7         |
| NLI108C330K__F                                | 33                              | $\pm 10\%$               | 0.032                    | 3.8          | 3.3         |
| NLI108C470K__F                                | 47                              | $\pm 10\%$               | 0.035                    | 3.2          | 3.0         |
| NLI108C680K__F                                | 68                              | $\pm 10\%$               | 0.047                    | 2.6          | 2.6         |
| NLI108C101K__F                                | 100                             | $\pm 10\%$               | 0.090                    | 2.2          | 2.0         |
| NLI108C151K__F                                | 150                             | $\pm 10\%$               | 0.129                    | 1.8          | 1.6         |
| NLI108C221K__F                                | 220                             | $\pm 10\%$               | 0.162                    | 1.5          | 1.5         |
| NLI108C331K__F                                | 330                             | $\pm 10\%$               | 0.212                    | 1.2          | 1.2         |
| NLI108C471K__F                                | 470                             | $\pm 10\%$               | 0.380                    | 1.0          | 1.0         |
| NLI108C681K__F                                | 680                             | $\pm 10\%$               | 0.548                    | 0.84         | 0.84        |
| NLI108C102K__F                                | 1,000                           | $\pm 10\%$               | 0.844                    | 0.66         | 0.66        |
| NLI108C152K__F                                | 1,500                           | $\pm 10\%$               | 1.18                     | 0.55         | 0.55        |
| NLI108C222K__F                                | 2,200                           | $\pm 10\%$               | 2.00                     | 0.46         | 0.44        |
| NLI108C332K__F                                | 3,300                           | $\pm 10\%$               | 2.53                     | 0.38         | 0.38        |
| NLI108C472K__F                                | 4,700                           | $\pm 10\%$               | 3.19                     | 0.32         | 0.32        |
| NLI108C682K__F                                | 6,800                           | $\pm 10\%$               | 5.69                     | 0.26         | 0.25        |
| NLI108C103K__F                                | 10,000                          | $\pm 10\%$               | 7.30                     | 0.22         | 0.22        |
| NLI108C153K__F                                | 15,000                          | $\pm 10\%$               | 10.5                     | 0.18         | 0.18        |
| NLI108C223K__F                                | 22,000                          | $\pm 10\%$               | 21.8                     | 0.14         | 0.13        |
| NLI108C333K__F                                | 33,000                          | $\pm 10\%$               | 25.7                     | 0.12         | 0.12        |
| NLI108C473K__F                                | 47,000                          | $\pm 10\%$               | 36.1                     | 0.10         | 0.10        |
| NLI108C683K__F                                | 68,000                          | $\pm 10\%$               | 57.3                     | 0.08         | 0.08        |
| NLI108C104K__F                                | 100,000                         | $\pm 10\%$               | 89.7                     | 0.06         | 0.06        |

I<sub>rm</sub> maximum +20°C temperature rise, I<sub>sat</sub>  $\Delta$ L -10% max.

\* Contact NIC for other tolerance options.

| NPI123C STANDARD VALUES (H = 16mm x D = 14mm) |                                 |                          |                          |              |              |
|-----------------------------------------------|---------------------------------|--------------------------|--------------------------|--------------|--------------|
| Part Number                                   | Inductance<br>( $\mu$ H) @ 1KHz | Inductance<br>Tolerance* | DCR<br>( $\Omega$ ) max. | I sat<br>(A) | I rms<br>(A) |
| NLI123C100M__F                                | 10                              | $\pm 10\%$               | 0.023                    | 8.0          | 5.1          |
| NLI123C150K__F                                | 15                              | $\pm 10\%$               | 0.028                    | 6.5          | 4.5          |
| NLI123C220K__F                                | 22                              | $\pm 10\%$               | 0.035                    | 5.5          | 4.2          |
| NLI123C330K__F                                | 33                              | $\pm 10\%$               | 0.043                    | 4.5          | 3.7          |
| NLI123C470K__F                                | 47                              | $\pm 10\%$               | 0.052                    | 3.6          | 3.4          |
| NLI123C680K__F                                | 68                              | $\pm 10\%$               | 0.068                    | 3.1          | 3            |
| NLI123C101K__F                                | 100                             | $\pm 10\%$               | 0.097                    | 2.6          | 2.5          |
| NLI123C151K__F                                | 150                             | $\pm 10\%$               | 0.14                     | 2.1          | 2.1          |
| NLI123C221K__F                                | 220                             | $\pm 10\%$               | 0.20                     | 1.7          | 1.7          |
| NLI123C331K__F                                | 330                             | $\pm 10\%$               | 0.30                     | 1.4          | 1.4          |
| NLI123C471K__F                                | 470                             | $\pm 10\%$               | 0.43                     | 1.1          | 1.1          |
| NLI123C681K__F                                | 680                             | $\pm 10\%$               | 0.61                     | 0.95         | 0.99         |
| NLI123C102K__F                                | 1000                            | $\pm 10\%$               | 1.0                      | 0.78         | 0.78         |
| NLI123C152K__F                                | 1500                            | $\pm 10\%$               | 1.3                      | 0.64         | 0.68         |
| NLI123C222K__F                                | 2200                            | $\pm 10\%$               | 2.0                      | 0.53         | 0.55         |
| NLI123C332K__F                                | 3300                            | $\pm 10\%$               | 3.1                      | 0.43         | 0.44         |
| NLI123C472K__F                                | 4700                            | $\pm 10\%$               | 4.4                      | 0.36         | 0.37         |
| NLI123C682K__F                                | 6800                            | $\pm 10\%$               | 6.5                      | 0.30         | 0.3          |
| NLI123C103K__F                                | 10000                           | $\pm 10\%$               | 10                       | 0.24         | 0.24         |

I<sub>rm</sub> maximum +20°C temperature rise, I<sub>sat</sub>  $\Delta$ L -10% max.

\* Contact NIC for other tolerance options.

### PACKAGING QUANTITY

| Series  | Bulk (per bag) | Tape & Box (per box) |
|---------|----------------|----------------------|
| NLI46C  | 500            | 1,000                |
| NLI68C  | 200            | 750                  |
| NLI77C  | 200            | n/a                  |
| NLI87C  | 100            | 600                  |
| NLI81C  | 100            | 600                  |
| NLI100C | 100            | 500                  |
| NLI102C | 100            | 500                  |
| NLI108C | 50             | n/a                  |
| NLI123C | 50             | n/a                  |

### TAPING SPECIFICATIONS

| P <sub>1</sub> | P <sub>2</sub> | H <sub>1</sub> | H <sub>2</sub> | W <sub>1</sub>                         | W <sub>2</sub> | W <sub>3</sub> | D         | S         | t         |
|----------------|----------------|----------------|----------------|----------------------------------------|----------------|----------------|-----------|-----------|-----------|
| 12.7 ± 1.0     | 12.7 ± 0.3     | 32.5 max.      | 18.5 ± 1.0     | 18.0 <sup>+1.0</sup> / <sub>-0.5</sub> | 12.0 min.      | 9.0 ± 0.8      | 4.0 ± 0.3 | 5.0 ± 0.8 | 0.7 ± 0.3 |

