

### FEATURES

- RADIAL LEADED POWER INDUCTOR
- WIRE WOUND CONSTRUCTION
- WIDE VALUE RANGE  $1.0\mu\text{H} \sim 330\mu\text{H}$
- AVAILABLE WITH HIGH TEMPERATURE SLEEVE
- FIVE CASE SIZES (6.5X6.5mm ~ 11X15.5mm)
- BULK PACKAGING ONLY

**RoHS  
Compliant**

includes all homogeneous materials

\*See Part Number System for Details

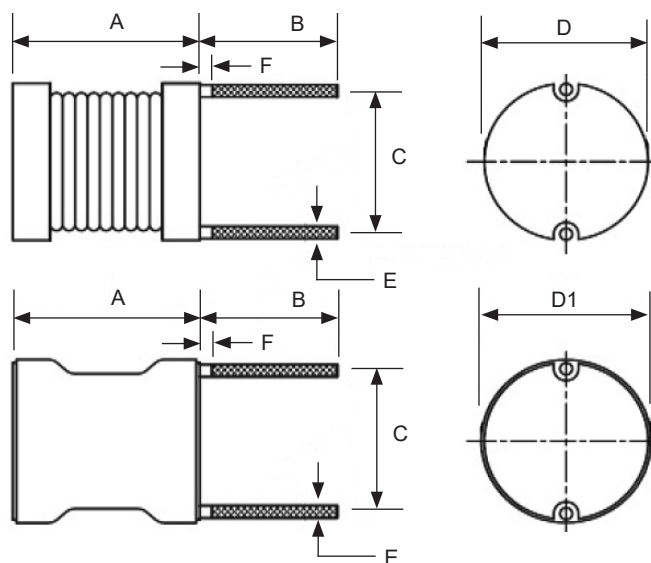


### CHARACTERISTICS

| Case Code                                              | NLI66H                                     | NLI77H                              | NLI87H                              | NLI101H                              | NLI121H                             |
|--------------------------------------------------------|--------------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|
| Inductance Range ( $\mu\text{H}$ )                     | $1.0\mu\text{H} \sim 4.7\mu\text{H}$       | $1.0\mu\text{H} \sim 22\mu\text{H}$ | $2.2\mu\text{H} \sim 22\mu\text{H}$ | $3.3\mu\text{H} \sim 100\mu\text{H}$ | $10\mu\text{H} \sim 330\mu\text{H}$ |
| Ambient Operating Temperature Range                    | $-20^\circ\text{C} \sim +80^\circ\text{C}$ |                                     |                                     |                                      |                                     |
| Maximum Component Temperature (Ambient + Self-Heating) | $+105^\circ\text{C}$                       |                                     |                                     |                                      |                                     |
| Temperature Rise at Irms                               | $+20^\circ\text{C}$                        |                                     |                                     |                                      |                                     |
| Inductance Change at Isat                              | $-20\%$                                    |                                     |                                     |                                      |                                     |
| Inductance Tolerance                                   | K ( $\pm 10\%$ ), M ( $\pm 20\%$ )         |                                     |                                     |                                      |                                     |

### DIMENSIONS (mm)

| Series  | A max. | B              | C              | D max.<br>(Without Sleeve) | D1 max.<br>(With Sleeve) | E                         | F max. |
|---------|--------|----------------|----------------|----------------------------|--------------------------|---------------------------|--------|
| NLI66H  | 6.5    | $5.0 \pm 1.0$  | $5.0 \pm 1.0$  | 6.5                        | 7.0                      | See Specifications Tables | 1.5    |
| NLI77H  | 7.5    | $5.0 \pm 1.0$  | $6.0 \pm 1.0$  | 7.5                        | 8.0                      |                           | 1.5    |
| NLI87H  | 7.5    | $5.0 \pm 1.0$  | $6.0 \pm 1.0$  | 8.5                        | 9.0                      |                           | 1.5    |
| NLI101H | 10.5   | $10.0 \pm 2.0$ | $8.0 \pm 1.0$  | 11.0                       | 11.5                     |                           | 1.5    |
| NLI121H | 15.5   | $10.0 \pm 2.0$ | $11.0 \pm 1.0$ | 15.0                       | 15.5                     |                           | 1.5    |



### PART NUMBER SYSTEM

NLI 66 H 4R7 K U F

- RoHS Compliant
- U = Optional Black UL Sleeve (blank for no sleeving)
- Inductance Tolerance Code: K =  $\pm 10\%$ , M =  $\pm 20\%$
- Inductance Code ( $\mu\text{H}$ ): 1st two digits are significant, 3rd digit is multiplier for values from  $10\mu\text{H}$  and up.
- Construction Code (see drawing for details)
- Size Code (see table for details)
- Series



| NLI66H STANDARD VALUES (H = 6.5mm x D = 6.5mm) |                 |                       |        |         |                |              |           |           |               |
|------------------------------------------------|-----------------|-----------------------|--------|---------|----------------|--------------|-----------|-----------|---------------|
| Part Number                                    | Inductance (μH) | Inductance Tolerance* | Q min. | Q Freq. | SRF (MHz) min. | DCR (Ω) max. | I sat (A) | I rms (A) | Dim. E (ref.) |
| NLI66H1R0M_F                                   | 1               | ±20%                  | 20     | 7.96MHz | 100            | 0.008        | 6         | 4.3       | 0.6           |
| NLI66H1R5M_F                                   | 1.5             | ±20%                  | 20     | 7.96MHz | 70             | 0.009        | 5         | 3.7       | 0.55          |
| NLI66H2R2M_F                                   | 2.2             | ±20%                  | 20     | 7.96MHz | 60             | 0.013        | 4         | 3.2       | 0.55          |
| NLI66H3R3M_F                                   | 3.3             | ±20%                  | 20     | 7.96MHz | 50             | 0.018        | 3.2       | 2.7       | 0.5           |
| NLI66H4R7M_F                                   | 4.7             | ±20%                  | 20     | 7.96MHz | 40             | 0.024        | 2.7       | 2.4       | 0.5           |

DC I maximum +25°C temperature rise, ΔL -20% max.

\* Contact NIC for other tolerance options. \_ Add the letter "U" if sleeving is required.

| NLI77H STANDARD VALUES (H = 7.5mm x D = 7.5mm) |                 |                       |        |         |                |              |           |           |               |
|------------------------------------------------|-----------------|-----------------------|--------|---------|----------------|--------------|-----------|-----------|---------------|
| Part Number                                    | Inductance (μH) | Inductance Tolerance* | Q min. | Q Freq. | SRF (MHz) min. | DCR (Ω) max. | I sat (A) | I rms (A) | Dim. E (ref.) |
| NLI77H1R0M_F                                   | 1               | ±20%                  | 10     | 7.96MHz | 70             | 0.006        | 6.6       | 5         | 0.7           |
| NLI77H1R5M_F                                   | 1.5             | ±20%                  | 10     | 7.96MHz | 56             | 0.008        | 5.4       | 4.3       | 0.7           |
| NLI77H2R2M_F                                   | 2.2             | ±20%                  | 10     | 7.96MHz | 45             | 0.011        | 4         | 3.7       | 0.7           |
| NLI77H3R3M_F                                   | 3.3             | ±20%                  | 10     | 7.96MHz | 36             | 0.018        | 3.6       | 2.9       | 0.55          |
| NLI77H4R7M_F                                   | 4.7             | ±20%                  | 10     | 7.96MHz | 29             | 0.022        | 3.1       | 2.6       | 0.5           |
| NLI77H6R8M_F                                   | 6.8             | ±20%                  | 10     | 7.96MHz | 24             | 0.028        | 2.5       | 2.3       | 0.5           |
| NLI77H100K_F                                   | 10              | ±10%                  | 20     | 2.52MHz | 19             | 0.043        | 2.1       | 1.9       | 0.45          |
| NLI77H150K_F                                   | 15              | ±10%                  | 20     | 2.52MHz | 15             | 0.056        | 1.7       | 1.6       | 0.45          |
| NLI77H220K_F                                   | 22              | ±10%                  | 20     | 2.52MHz | 12             | 0.086        | 1.4       | 1.3       | 0.4           |

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| NLI87H STANDARD VALUES (H = 7.5mm x D = 8.5mm) |                 |                       |        |         |                |              |           |           |               |
|------------------------------------------------|-----------------|-----------------------|--------|---------|----------------|--------------|-----------|-----------|---------------|
| Part Number                                    | Inductance (μH) | Inductance Tolerance* | Q min. | Q Freq. | SRF (MHz) min. | DCR (Ω) max. | I sat (A) | I rms (A) | Dim. E (ref.) |
| NLI87H2R2M_F                                   | 2.2             | ±20%                  | 10     | 7.96MHz | 60             | 0.011        | 5.5       | 4         | 0.7           |
| NLI87H3R3M_F                                   | 3.3             | ±20%                  | 10     | 7.96MHz | 38             | 0.013        | 3.8       | 3.4       | 0.7           |
| NLI87H4R7M_F                                   | 4.7             | ±20%                  | 10     | 7.96MHz | 30             | 0.017        | 3.7       | 3         | 0.6           |
| NLI87H6R8M_F                                   | 6.8             | ±20%                  | 10     | 7.96MHz | 24             | 0.023        | 2.8       | 2.6       | 0.55          |
| NLI87H100K_F                                   | 10              | ±10%                  | 20     | 2.52MHz | 19             | 0.031        | 2.5       | 2.2       | 0.55          |
| NLI87H150K_F                                   | 15              | ±10%                  | 20     | 2.52MHz | 15             | 0.042        | 2         | 1.9       | 0.5           |
| NLI87H220K_F                                   | 22              | ±10%                  | 20     | 2.52MHz | 12             | 0.07         | 1.6       | 1.5       | 0.45          |

DC I maximum +25°C temperature rise, ΔL -20% max.

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| NLI101H STANDARD VALUES (H = 10.5mm x D = 11.0mm) |                 |                       |        |         |                |              |           |           |               |
|---------------------------------------------------|-----------------|-----------------------|--------|---------|----------------|--------------|-----------|-----------|---------------|
| Part Number                                       | Inductance (μH) | Inductance Tolerance* | Q min. | Q Freq. | SRF (MHz) min. | DCR (Ω) max. | I sat (A) | I rms (A) | Dim. E (ref.) |
| NLI101H3R3M_F                                     | 3.3             | ±20%                  | 10     | 7.96MHz | 36             | 0.01         | 8.8       | 5.9       | 0.8           |
| NLI101H4R7M_F                                     | 4.7             | ±20%                  | 10     | 7.96MHz | 28             | 0.015        | 7.2       | 4.8       | 0.8           |
| NLI101H6R8M_F                                     | 6.8             | ±20%                  | 10     | 7.96MHz | 18             | 0.016        | 6.1       | 4.6       | 0.8           |
| NLI101H100M_F                                     | 10              | ±20%                  | 20     | 2.52MHz | 16             | 0.025        | 5         | 3.7       | 0.8           |
| NLI101H150K_F                                     | 15              | ±10%                  | 20     | 2.52MHz | 12             | 0.029        | 4.2       | 3.4       | 0.8           |
| NLI101H220K_F                                     | 22              | ±10%                  | 20     | 2.52MHz | 9.5            | 0.04         | 3.4       | 2.9       | 0.7           |
| NLI101H330K_F                                     | 33              | ±10%                  | 30     | 2.52MHz | 7              | 0.062        | 2.8       | 2.3       | 0.6           |
| NLI101H470K_F                                     | 47              | ±10%                  | 30     | 2.52MHz | 5.8            | 0.075        | 2.3       | 2.1       | 0.6           |
| NLI101H680K_F                                     | 68              | ±10%                  | 20     | 2.52MHz | 4.7            | 0.13         | 1.9       | 1.6       | 0.5           |
| NLI101H101K_F                                     | 100             | ±10%                  | 20     | 796KHz  | 3.8            | 0.16         | 1.6       | 1.4       | 0.5           |

DC I maximum +25°C temperature rise, ΔL -20% max.

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| NLI121H STANDARD VALUES (H = 15.5mm x D = 15.0mm) |                          |                          |        |         |                   |                          |              |              |                  |
|---------------------------------------------------|--------------------------|--------------------------|--------|---------|-------------------|--------------------------|--------------|--------------|------------------|
| Part Number                                       | Inductance<br>( $\mu$ H) | Inductance<br>Tolerance* | Q min. | Q Freq. | SRF<br>(MHz) min. | DCR<br>( $\Omega$ ) max. | I sat<br>(A) | I rms<br>(A) | Dim. E<br>(ref.) |
| NLI121H100M_F                                     | 10                       | $\pm 20\%$               | 20     | 2.52MHz | 19                | 0.023                    | 8            | 5.1          | 0.9              |
| NLI121H150K_F                                     | 15                       | $\pm 10\%$               | 20     | 2.52MHz | 12                | 0.028                    | 6.5          | 4.5          | 0.9              |
| NLI121H220K_F                                     | 22                       | $\pm 10\%$               | 20     | 2.52MHz | 7.6               | 0.035                    | 5.5          | 4.2          | 0.8              |
| NLI121H330K_F                                     | 33                       | $\pm 10\%$               | 20     | 2.52MHz | 6.9               | 0.043                    | 4.5          | 3.7          | 0.7              |
| NLI121H470K_F                                     | 47                       | $\pm 10\%$               | 20     | 2.52MHz | 5.6               | 0.052                    | 3.6          | 3.4          | 0.7              |
| NLI121H680K_F                                     | 68                       | $\pm 10\%$               | 20     | 2.52MHz | 4.4               | 0.068                    | 3.1          | 3            | 0.7              |
| NLI121H101K_F                                     | 100                      | $\pm 10\%$               | 20     | 796KHz  | 3.3               | 0.097                    | 2.6          | 2.5          | 0.6              |
| NLI121H151K_F                                     | 150                      | $\pm 10\%$               | 20     | 796KHz  | 2.6               | 0.14                     | 2.1          | 2.1          | 0.55             |
| NLI121H221K_F                                     | 220                      | $\pm 10\%$               | 20     | 796KHz  | 2.2               | 0.2                      | 1.7          | 1.7          | 0.5              |
| NLI121H331K_F                                     | 330                      | $\pm 10\%$               | 20     | 796KHz  | 1.8               | 0.3                      | 1.4          | 1.4          | 0.45             |

DC I maximum +25°C temperature rise,  $\Delta L$  -20% max.

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### PACKAGING QUANTITIY

| Series  | Bulk (per bag) |
|---------|----------------|
| NLI66H  | 100            |
| NLI77H  | 100            |
| NLI87H  | 100            |
| NLI101H | 100            |
| NLI121H | 80             |