

# Inductors

For Power Line  
SMD

## NLFC Series NLFC3225 Type

### FEATURES

- The NLFC series features magnetic shielding and is recommended for power supply line applications.
- They are available in 4 form factors ranging from 2016 to 4532.

### APPLICATIONS

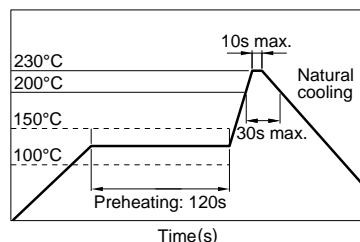
Personal computers, hard disk drives, and other electronic equipment.

### SPECIFICATIONS

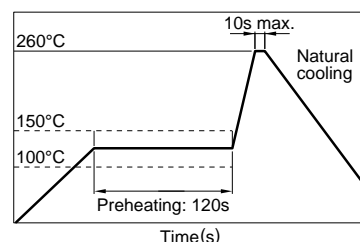
| Type       | Operating temperature range | Storage temperature range [Unit of products] |
|------------|-----------------------------|--|
| NLFC201614 | -20 to +80°C                | -40 to +85°C                                 |
| NLFC252018 | -20 to +80°C                | -40 to +85°C                                 |
| NLFC322522 | -20 to +80°C                | -40 to +85°C                                 |
| NLFC453232 | -20 to +80°C                | -40 to +80°C                                 |

### RECOMMENDED SOLDERING CONDITIONS

#### REFLOW SOLDERING



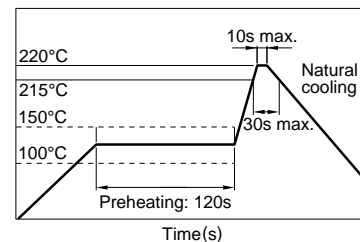
#### FLOW SOLDERING



#### IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

#### VAPOR-PHASING



### FLUX AND CLEANING

Rosin-based flux is recommended.

#### Cleaning Conditions

|         |   |
|---------|---|
| Solvent | Chlorine-based solvent<br>(Do not use acid or alkali solvents.) |
| Time    | 2min max.   |

### PRODUCT IDENTIFICATION

|      |        |     |     |     |
|------|--------|-----|-----|-----|
| NLFC | 201614 | T-  | 2R2 | M   |
| (1)  | (2)    | (3) | (4) | (5) |

(1)Series name

(2)Dimensions L×W×T

|        |               |
|--------|---------------|
| 201614 | 2.1×1.6×1.4mm |
| 252018 | 2.5×2.0×1.8mm |
| 322522 | 3.2×2.5×2.2mm |
| 453232 | 4.5×3.2×3.2mm |

(3)Packaging style

|   |               |
|---|---------------|
| T | Taping (reel) |
|---|---------------|

(4)Inductance value

|     |      |
|-----|------|
| 1R0 | 1μH  |
| 220 | 22μH |

(5)Inductance tolerance

|   |      |
|---|------|
| K | ±10% |
| M | ±20% |

### PACKAGING STYLE AND QUANTITIES

| Packaging style | Type        | Quantity         |
|-----------------|-------------|------------------|
| Taping          | NLFC201614T | 2000 pieces/reel |
|                 | NLFC252018T | 2000 pieces/reel |
|                 | NLFC322522T | 2000 pieces/reel |
|                 | NLFC453232T | 500 pieces/reel  |

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### SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



### ELECTRICAL CHARACTERISTICS

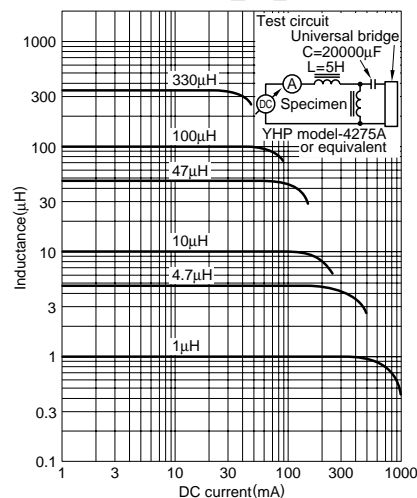
| Inductance (μH) | Inductance tolerance | Q ref. | Test frequency L, Q (MHz) | Self-resonant frequency (MHz)min. | DC resistance (Ω)±30% | Rated current (mA)* max.<br>Based on inductance change | Based on temperature rise | Part No.         |
|-----------------|----------------------|--------|---------------------------|-----------------------------------|-----------------------|--|---------------------------|------------------|
| 1               | ±20%                 | 5      | 7.96                      | 100                               | 0.06                  | 500  | 1250                      | NLFC322522T-1R0M |
| 1.5             | ±20%                 | 5      | 7.96                      | 80                                | 0.08                  | 400  | 1100                      | NLFC322522T-1R5M |
| 2.2             | ±20%                 | 5      | 7.96                      | 68                                | 0.09                  | 340  | 1000                      | NLFC322522T-2R2M |
| 3.3             | ±20%                 | 5      | 7.96                      | 54                                | 0.11                  | 270  | 900                       | NLFC322522T-3R3M |
| 4.7             | ±20%                 | 5      | 7.96                      | 46                                | 0.13                  | 240  | 850                       | NLFC322522T-4R7M |
| 6.8             | ±20%                 | 5      | 7.96                      | 38                                | 0.17                  | 195  | 750                       | NLFC322522T-6R8M |
| 10              | ±10%                 | 10     | 2.52                      | 30                                | 0.26                  | 165  | 650                       | NLFC322522T-100K |
| 15              | ±10%                 | 10     | 2.52                      | 26                                | 0.32                  | 145  | 550                       | NLFC322522T-150K |
| 22              | ±10%                 | 10     | 2.52                      | 21                                | 0.5                   | 115  | 450                       | NLFC322522T-220K |
| 33              | ±10%                 | 10     | 2.52                      | 17                                | 0.75                  | 95   | 360                       | NLFC322522T-330K |
| 47              | ±10%                 | 10     | 2.52                      | 14                                | 0.95                  | 85   | 320                       | NLFC322522T-470K |
| 68              | ±10%                 | 10     | 2.52                      | 12                                | 1.5                   | 70   | 260                       | NLFC322522T-680K |
| 100             | ±10%                 | 10     | 0.796                     | 10                                | 2.5                   | 55   | 200                       | NLFC322522T-101K |
| 150             | ±10%                 | 10     | 0.796                     | 8                                 | 3.2                   | 45   | 170                       | NLFC322522T-151K |
| 220             | ±10%                 | 10     | 0.796                     | 7                                 | 5.4                   | 35   | 130                       | NLFC322522T-221K |
| 330             | ±10%                 | 10     | 0.796                     | 5                                 | 7                     | 30   | 110                       | NLFC322522T-331K |
| 470             | ±10%                 | 10     | 0.796                     | 4                                 | 16                    | 25   | 79                        | NLFC322522T-471K |
| 680             | ±10%                 | 10     | 0.796                     | 3                                 | 20                    | 20   | 70                        | NLFC322522T-681K |
| 1000            | ±10%                 | 10     | 0.252                     | 2.4                               | 24                    | 15   | 63                        | NLFC322522T-102K |

\* Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1, or equivalent  
SRF: HP8753C NETWORK ANALYZER (Z<sub>in</sub>=Z<sub>out</sub>=50Ω), or equivalent  
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

### TYPICAL ELECTRICAL CHARACTERISTICS

#### INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



#### IMPEDANCE vs. FREQUENCY CHARACTERISTICS

