

SMD Inductors(Coils) For Signal Line(Wound)

Conformity to RoHS Directive

NLV Series NLV32

FEATURES

- This is a renewed version of NL322522.
- The product has good heat durability that withstands lead-free compatible reflow soldering conditions.
- Lead-free material is used for the plating on the terminal.
- The electrical characteristics, reliability, shape and pad shape are the same as the previous NL series.
- The product uses metal terminals, which realize excellent connection reliability.
- Highly heat resistant thermoplastic resin is used to form the exterior package.
- From 0.01 μ H to 470 μ H, all of the products in the E-12 series are J(\pm 5%) tolerance products.
- This product conforms to the standards that are slated to be introduced under the RoHS Directive.

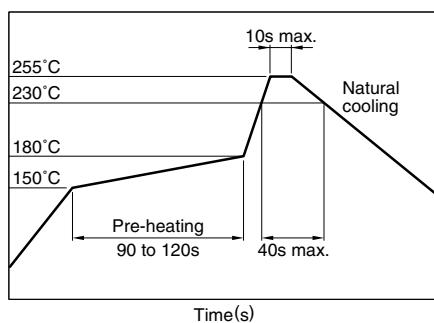
APPLICATIONS

- Audio-visual equipment including TVs, VCRs and digital cameras.
- Electronic equipment used in communication infrastructures including xDSL and mobile base stations.
- Electronic equipment used in onboard automobile equipment including car audio and ECU systems.
- Other electronic equipment including HDDs and ODDs.

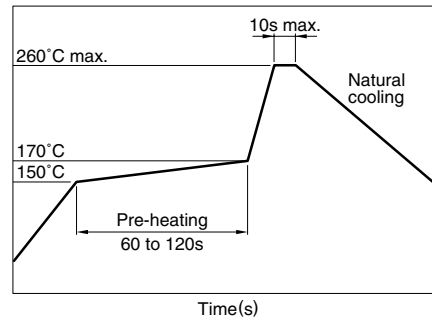
SPECIFICATIONS

| | |
|-----------------------------|--|
| Operating temperature range | -40 to +105°C [Including self-temperature rise] |
| Storage temperature range | -40 to +105°C |

RECOMMENDED SOLDERING CONDITIONS REFLOW SOLDERING



FLOW SOLDERING



IRON SOLDERING

| | |
|------------------------------|-------------------------------|
| Tip temperature | 300 to 350°C |
| Heating time | 3 seconds/soldering |
| Soldering rod specifications | Output: 30W Tip diameter: 1mm |

- Based on the above conditions, use a maximum product temperature of 260°C and a maximum accumulated heating time of 10 seconds as a guideline.
- Please contact us for details.

PRODUCT IDENTIFICATION

| | | | | | | |
|-----|-----|-----|-----|-----|-----|----|
| NLV | 32 | T- | 2R2 | J | - | PF |
| (1) | (2) | (3) | (4) | (5) | (6) | |

(1) Series name

(2) Dimensions

| | |
|----|-----------------------|
| 32 | 3.2×2.5×2.2mm (L×W×T) |
|----|-----------------------|

(3) Packaging style

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

(4) Inductance value

| | |
|-----|--------------|
| 010 | 0.01 μ H |
| R10 | 0.1 μ H |
| 1R0 | 1 μ H |
| 100 | 10 μ H |
| 101 | 100 μ H |

(5) Inductance tolerance

| | |
|---|----------|
| J | \pm 5% |
|---|----------|

(6) Lead-free compatible product

| | |
|----|------------------------------|
| PF | Lead-free compatible product |
|----|------------------------------|

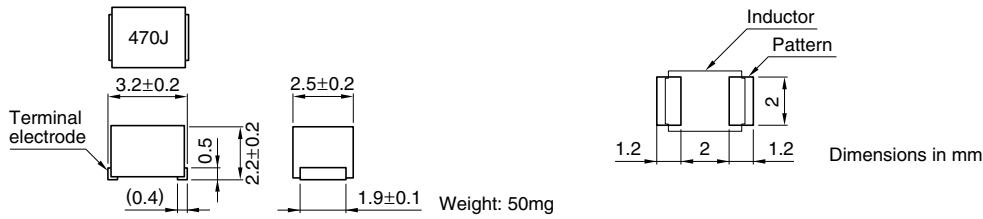
PACKAGING STYLE AND QUANTITIES

| | |
|-----------------|------------------|
| Packaging style | Quantity |
| Taping | 2000 pieces/reel |

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

| Inductance(μH) | Inductance tolerance | Q min. | Test frequency L,Q (MHz) | Self-resonant frequency (MHz)min. | DC resistance (Ω)max. | Rated current* (mA)max. | Part No. |
|----------------|----------------------|--------|--------------------------|-----------------------------------|-----------------------|-------------------------|----------------|
| 0.01 | ±5% | 15 | 100 | 2500 | 0.13 | 450 | NLV32T-010J-PF |
| 0.012 | ±5% | 17 | 100 | 2300 | 0.14 | 450 | NLV32T-012J-PF |
| 0.015 | ±5% | 19 | 100 | 2100 | 0.16 | 450 | NLV32T-015J-PF |
| 0.018 | ±5% | 21 | 100 | 1900 | 0.18 | 450 | NLV32T-018J-PF |
| 0.022 | ±5% | 23 | 100 | 1700 | 0.2 | 450 | NLV32T-022J-PF |
| 0.027 | ±5% | 23 | 100 | 1500 | 0.22 | 450 | NLV32T-027J-PF |
| 0.033 | ±5% | 25 | 100 | 1400 | 0.24 | 450 | NLV32T-033J-PF |
| 0.039 | ±5% | 25 | 100 | 1300 | 0.27 | 450 | NLV32T-039J-PF |
| 0.047 | ±5% | 26 | 100 | 1200 | 0.3 | 450 | NLV32T-047J-PF |
| 0.056 | ±5% | 26 | 100 | 1100 | 0.33 | 450 | NLV32T-056J-PF |
| 0.068 | ±5% | 27 | 100 | 1000 | 0.36 | 450 | NLV32T-068J-PF |
| 0.082 | ±5% | 27 | 100 | 900 | 0.4 | 450 | NLV32T-082J-PF |
| 0.1 | ±5% | 28 | 100 | 700 | 0.44 | 450 | NLV32T-R10J-PF |
| 0.12 | ±5% | 30 | 25.2 | 500 | 0.22 | 450 | NLV32T-R12J-PF |
| 0.15 | ±5% | 30 | 25.2 | 450 | 0.25 | 450 | NLV32T-R15J-PF |
| 0.18 | ±5% | 30 | 25.2 | 400 | 0.28 | 450 | NLV32T-R18J-PF |
| 0.22 | ±5% | 30 | 25.2 | 350 | 0.32 | 450 | NLV32T-R22J-PF |
| 0.27 | ±5% | 30 | 25.2 | 320 | 0.36 | 450 | NLV32T-R27J-PF |
| 0.33 | ±5% | 30 | 25.2 | 300 | 0.4 | 450 | NLV32T-R33J-PF |
| 0.39 | ±5% | 30 | 25.2 | 250 | 0.45 | 450 | NLV32T-R39J-PF |
| 0.47 | ±5% | 30 | 25.2 | 220 | 0.5 | 450 | NLV32T-R47J-PF |
| 0.56 | ±5% | 30 | 25.2 | 180 | 0.55 | 450 | NLV32T-R56J-PF |
| 0.68 | ±5% | 30 | 25.2 | 160 | 0.6 | 450 | NLV32T-R68J-PF |
| 0.82 | ±5% | 30 | 25.2 | 140 | 0.65 | 450 | NLV32T-R82J-PF |
| 1 | ±5% | 30 | 7.96 | 120 | 0.7 | 400 | NLV32T-1R0J-PF |
| 1.2 | ±5% | 30 | 7.96 | 100 | 0.75 | 390 | NLV32T-1R2J-PF |
| 1.5 | ±5% | 30 | 7.96 | 85 | 0.85 | 370 | NLV32T-1R5J-PF |
| 1.8 | ±5% | 30 | 7.96 | 80 | 0.9 | 350 | NLV32T-1R8J-PF |
| 2.2 | ±5% | 30 | 7.96 | 75 | 1 | 320 | NLV32T-2R2J-PF |
| 2.7 | ±5% | 30 | 7.96 | 70 | 1.1 | 290 | NLV32T-2R7J-PF |
| 3.3 | ±5% | 30 | 7.96 | 60 | 1.2 | 260 | NLV32T-3R3J-PF |
| 3.9 | ±5% | 30 | 7.96 | 55 | 1.3 | 250 | NLV32T-3R9J-PF |
| 4.7 | ±5% | 30 | 7.96 | 50 | 1.5 | 220 | NLV32T-4R7J-PF |
| 5.6 | ±5% | 30 | 7.96 | 45 | 1.6 | 200 | NLV32T-5R6J-PF |
| 6.8 | ±5% | 30 | 7.96 | 40 | 1.8 | 180 | NLV32T-6R8J-PF |
| 8.2 | ±5% | 30 | 7.96 | 35 | 2 | 170 | NLV32T-8R2J-PF |
| 10 | ±5% | 30 | 2.52 | 30 | 2.1 | 150 | NLV32T-100J-PF |
| 12 | ±5% | 30 | 2.52 | 20 | 2.5 | 140 | NLV32T-120J-PF |

* 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: YHP4191A IMPEDANCE ANALYZER (16092A) [$L \leq 0.1\mu\text{H}$]
YHP4194A IMPEDANCE ANALYZER (16085A+16093B+TDK TF-1) [$L \geq 0.12\mu\text{H}$]
SRF:HP8753C NETWORK ANALYZER
Rdc:MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

ELECTRICAL CHARACTERISTICS

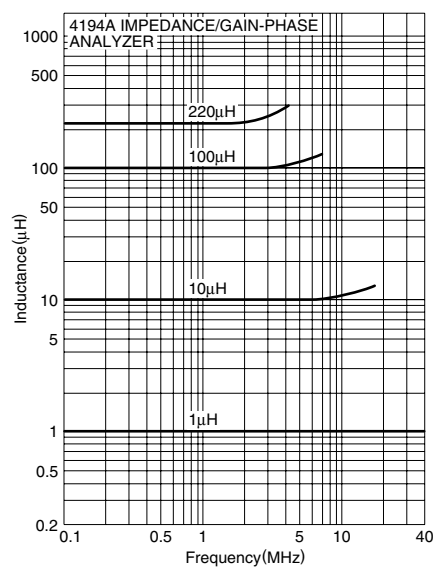
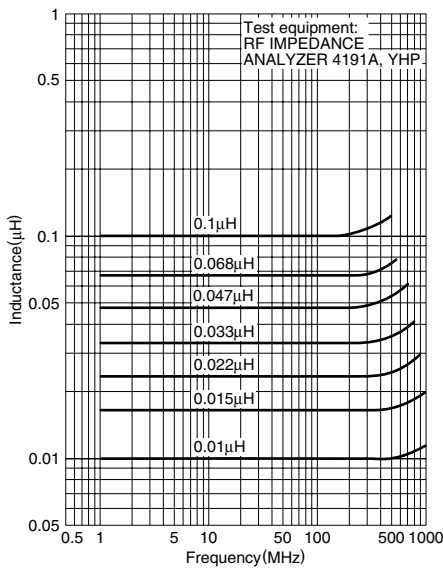
| Inductance(μH) | Inductance tolerance | Q min. | Test frequency L,Q (MHz) | Self-resonant frequency (MHz)min. | DC resistance (Ω)max. | Rated current* (mA)max. | Part No. |
|-----------------------------|----------------------|--------|--------------------------|-----------------------------------|--------------------------------|-------------------------|----------------|
| 15 | $\pm 5\%$ | 30 | 2.52 | 20 | 2.8 | 130 | NLV32T-150J-PF |
| 18 | $\pm 5\%$ | 30 | 2.52 | 20 | 3.3 | 120 | NLV32T-180J-PF |
| 22 | $\pm 5\%$ | 30 | 2.52 | 20 | 3.7 | 110 | NLV32T-220J-PF |
| 27 | $\pm 5\%$ | 30 | 2.52 | 20 | 5 | 80 | NLV32T-270J-PF |
| 33 | $\pm 5\%$ | 30 | 2.52 | 17 | 5.6 | 70 | NLV32T-330J-PF |
| 39 | $\pm 5\%$ | 30 | 2.52 | 16 | 6.4 | 65 | NLV32T-390J-PF |
| 47 | $\pm 5\%$ | 30 | 2.52 | 15 | 7 | 60 | NLV32T-470J-PF |
| 56 | $\pm 5\%$ | 30 | 2.52 | 13 | 8 | 55 | NLV32T-560J-PF |
| 68 | $\pm 5\%$ | 30 | 2.52 | 12 | 9 | 50 | NLV32T-680J-PF |
| 82 | $\pm 5\%$ | 30 | 2.52 | 11 | 10 | 45 | NLV32T-820J-PF |
| 100 | $\pm 5\%$ | 20 | 0.796 | 10 | 10 | 40 | NLV32T-101J-PF |
| 120 | $\pm 5\%$ | 20 | 0.796 | 10 | 11 | 70 | NLV32T-121J-PF |
| 150 | $\pm 5\%$ | 20 | 0.796 | 8 | 15 | 65 | NLV32T-151J-PF |
| 180 | $\pm 5\%$ | 20 | 0.796 | 7 | 17 | 60 | NLV32T-181J-PF |
| 220 | $\pm 5\%$ | 20 | 0.796 | 7 | 21 | 50 | NLV32T-221J-PF |
| 270 | $\pm 5\%$ | 20 | 0.796 | 6 | 28 | 45 | NLV32T-271J-PF |
| 330 | $\pm 5\%$ | 20 | 0.796 | 5 | 34 | 40 | NLV32T-331J-PF |
| 390 | $\pm 5\%$ | 20 | 0.796 | 5 | 36 | 35 | NLV32T-391J-PF |
| 470 | $\pm 5\%$ | 20 | 0.796 | 4 | 40 | 25 | NLV32T-471J-PF |

* 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 (16085A+16093B+TDK TF-1)
SRF: HP8753C NETWORK ANALYZER
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. DC

SUPERPOSITION CHARACTERISTICS

