

# 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 $\mu$ H to 470 $\mu$ H, all of the products in the E-12 series are J( $\pm$ 5%) tolerance products.
- This product is in compliance with the RoHS Directive. Other products with specifications that do not include exemption regulations are also available.

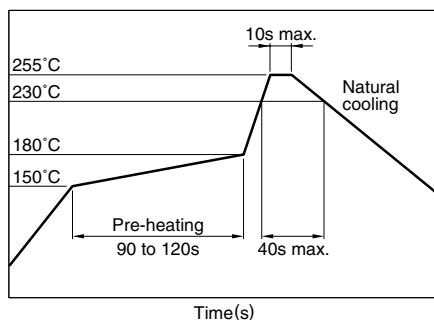
### APPLICATIONS

- 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.

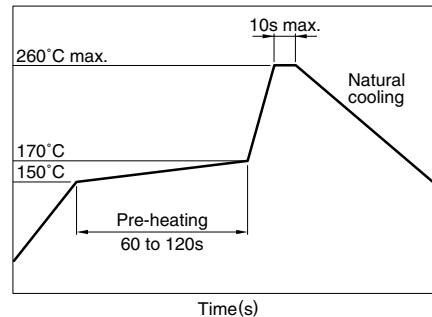
### SPECIFICATIONS

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 $\mu$ H
R10	0.1 $\mu$ H
1R0	1 $\mu$ H
100	10 $\mu$ H
101	100 $\mu$ H

(5) Inductance tolerance

J	$\pm$ 5%
---	----------

(6) Lead-free compatible product

PF	Conformity to RoHS directive, exemption regulations apply
EF	Conformity to RoHS directive

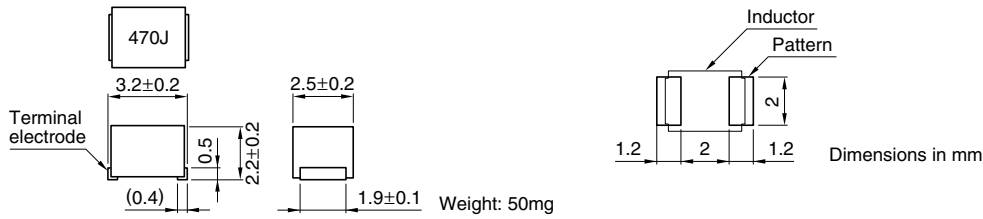
### PACKAGING STYLE AND QUANTITIES

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

\*1 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.

\*2 □: Please specify lead-free compatible product, PF (Conformity to RoHS directive, exemption regulations apply) or EF (Conformity to RoHS directive)

- 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( $\mu\text{H}$ )	Inductance tolerance	Q min.	Test frequency L,Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance ( $\Omega$ )max.	Rated current* <sup>1</sup> (mA)max.	Part No.
15	$\pm 5\%$	30	2.52	20	2.8	130	NLV32T-150J-□* <sup>2</sup>
18	$\pm 5\%$	30	2.52	20	3.3	120	NLV32T-180J-□
22	$\pm 5\%$	30	2.52	20	3.7	110	NLV32T-220J-□
27	$\pm 5\%$	30	2.52	20	5	80	NLV32T-270J-□
33	$\pm 5\%$	30	2.52	17	5.6	70	NLV32T-330J-□
39	$\pm 5\%$	30	2.52	16	6.4	65	NLV32T-390J-□
47	$\pm 5\%$	30	2.52	15	7	60	NLV32T-470J-□
56	$\pm 5\%$	30	2.52	13	8	55	NLV32T-560J-□
68	$\pm 5\%$	30	2.52	12	9	50	NLV32T-680J-□
82	$\pm 5\%$	30	2.52	11	10	45	NLV32T-820J-□
100	$\pm 5\%$	20	0.796	10	10	40	NLV32T-101J-□
120	$\pm 5\%$	20	0.796	10	11	70	NLV32T-121J-□
150	$\pm 5\%$	20	0.796	8	15	65	NLV32T-151J-□
180	$\pm 5\%$	20	0.796	7	17	60	NLV32T-181J-□
220	$\pm 5\%$	20	0.796	7	21	50	NLV32T-221J-□
270	$\pm 5\%$	20	0.796	6	28	45	NLV32T-271J-□
330	$\pm 5\%$	20	0.796	5	34	40	NLV32T-331J-□
390	$\pm 5\%$	20	0.796	5	36	35	NLV32T-391J-□
470	$\pm 5\%$	20	0.796	4	40	25	NLV32T-471J-□

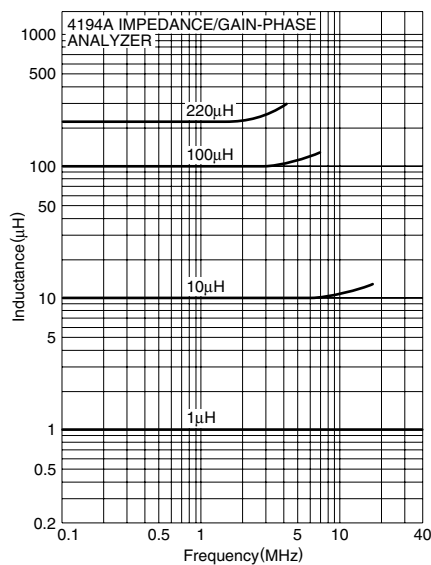
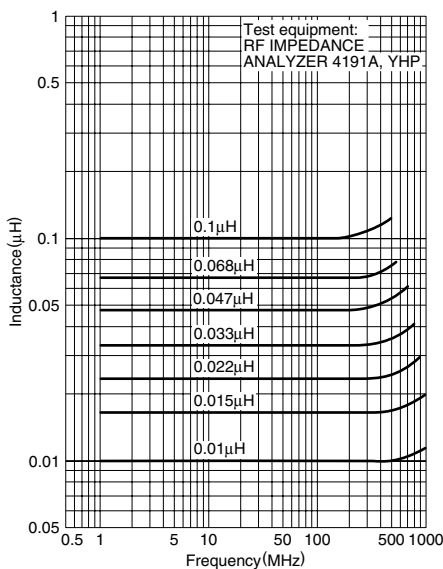
\*<sup>1</sup> Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

\*<sup>2</sup> □: Please specify lead-free compatible product, PF (Conformity to RoHS directive, exemption regulations apply) or EF (Conformity to RoHS directive)

- 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

