

Inductors

For General Applications
SMD

NL Series NL3225 Type

FEATURES

- The NL series are available in 5 form factors ranging from 2016 to 5650.
- Utilizing a miniaturized winding structure, these products provide high Q characteristics.
- Inductance tolerance is ± 5 percent.

APPLICATIONS

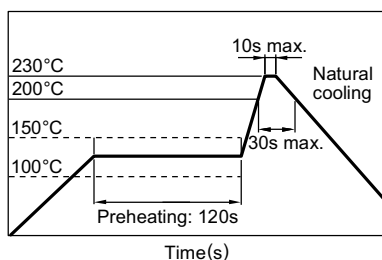
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

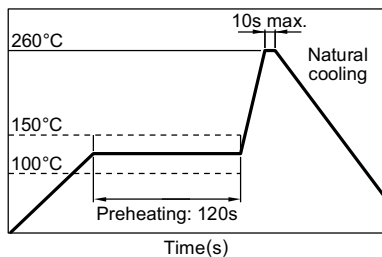
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



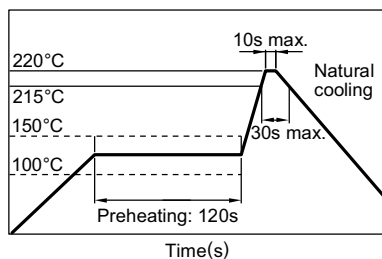
FLOW SOLDERING



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 (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NL	201614	T	2R2	J
(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
565050	5.6×5.0×5.0mm

(3)Packaging style

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

(4)Inductance value

1R0	1μH
330	33μH

(5)Inductance tolerance

J	$\pm 5\%$
K	$\pm 10\%$

PACKAGING STYLE AND QUANTITIES

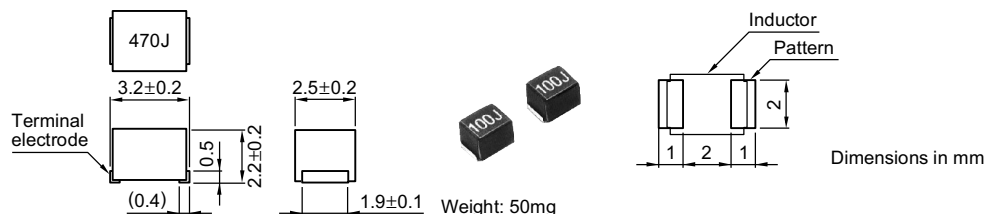
Packaging style	Type	Quantity
Taping	NL201614T	2000 pieces/reel
	NL252018T	2000 pieces/reel
	NL322522T	2000 pieces/reel
	NL453232T	500 pieces/reel
	NL565050T	400 pieces/reel

Inductors

For General Applications
SMD

NL Series NL3225 Type

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	±10, ±5%	15	100	2500	0.13	450	NL322522T-010X*
0.012	±10, ±5%	17	100	2300	0.14	450	NL322522T-012X
0.015	±10, ±5%	19	100	2100	0.16	450	NL322522T-015X
0.018	±10, ±5%	21	100	1900	0.18	450	NL322522T-018X
0.022	±10, ±5%	23	100	1700	0.2	450	NL322522T-022X
0.027	±10, ±5%	23	100	1500	0.22	450	NL322522T-027X
0.033	±10, ±5%	25	100	1400	0.24	450	NL322522T-033X
0.039	±10, ±5%	25	100	1300	0.27	450	NL322522T-039X
0.047	±10, ±5%	26	100	1200	0.3	450	NL322522T-047X
0.056	±10, ±5%	26	100	1100	0.33	450	NL322522T-056X
0.068	±10, ±5%	27	100	1000	0.36	450	NL322522T-068X
0.082	±10, ±5%	27	100	900	0.4	450	NL322522T-082X
0.1	±10, ±5%	28	100	700	0.44	450	NL322522T-R10X
0.12	±10, ±5%	30	25.2	500	0.22	450	NL322522T-R12X
0.15	±10, ±5%	30	25.2	450	0.25	450	NL322522T-R15X
0.18	±10, ±5%	30	25.2	400	0.28	450	NL322522T-R18X
0.22	±10, ±5%	30	25.2	350	0.32	450	NL322522T-R22X
0.27	±10, ±5%	30	25.2	320	0.36	450	NL322522T-R27X
0.33	±10, ±5%	30	25.2	300	0.4	450	NL322522T-R33X
0.39	±10, ±5%	30	25.2	250	0.45	450	NL322522T-R39X
0.47	±10, ±5%	30	25.2	220	0.5	450	NL322522T-R47X
0.56	±10, ±5%	30	25.2	180	0.55	450	NL322522T-R56X
0.68	±10, ±5%	30	25.2	160	0.6	450	NL322522T-R68X
0.82	±10, ±5%	30	25.2	140	0.65	450	NL322522T-R82X
1	±5%	30	7.96	120	0.7	400	NL322522T-1R0J
1.2	±5%	30	7.96	100	0.75	390	NL322522T-1R2J
1.5	±5%	30	7.96	85	0.85	370	NL322522T-1R5J
1.8	±5%	30	7.96	80	0.9	350	NL322522T-1R8J
2.2	±5%	30	7.96	75	1	320	NL322522T-2R2J
2.7	±5%	30	7.96	70	1.1	290	NL322522T-2R7J
3.3	±5%	30	7.96	60	1.2	260	NL322522T-3R3J
3.9	±5%	30	7.96	55	1.3	250	NL322522T-3R9J
4.7	±5%	30	7.96	50	1.5	220	NL322522T-4R7J
5.6	±5%	30	7.96	45	1.6	200	NL322522T-5R6J
6.8	±5%	30	7.96	40	1.8	180	NL322522T-6R8J
8.2	±5%	30	7.96	35	2	170	NL322522T-8R2J
10	±5%	30	2.52	30	2.1	150	NL322522T-100J
12	±5%	30	2.52	20	2.5	140	NL322522T-120J

* X: Please specify the inductance tolerance, K(±10%) or J(±5%)

• Inductance tolerance is only standard.

• Test equipment L, Q: 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

Inductors

For General Applications
SMD

NL Series NL3225 Type

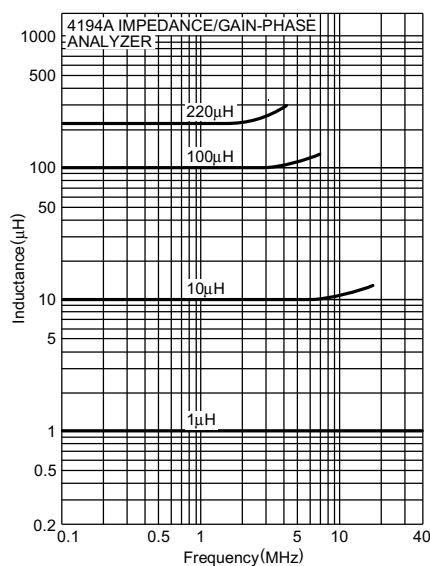
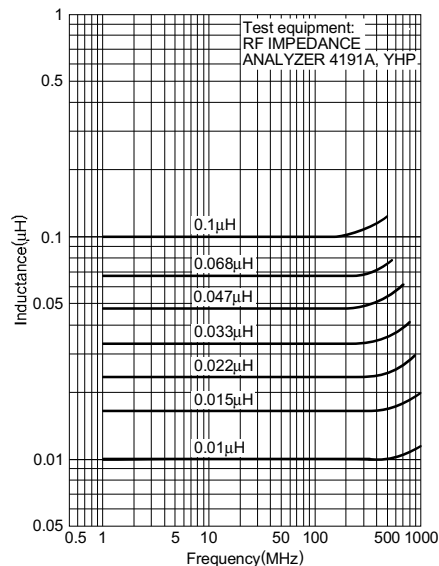
ELECTRICAL CHARACTERISTICS

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	±5%	30	2.52	20	2.8	130	NL322522T-150J
18	±5%	30	2.52	20	3.3	120	NL322522T-180J
22	±5%	30	2.52	20	3.7	110	NL322522T-220J
27	±5%	30	2.52	20	5	80	NL322522T-270J
33	±5%	30	2.52	17	5.6	70	NL322522T-330J
39	±5%	30	2.52	16	6.4	65	NL322522T-390J
47	±5%	30	2.52	15	7	60	NL322522T-470J
56	±5%	30	2.52	13	8	55	NL322522T-560J
68	±5%	30	2.52	12	9	50	NL322522T-680J
82	±5%	30	2.52	11	10	45	NL322522T-820J
100	±5%	20	0.796	10	10	40	NL322522T-101J
120	±5%	20	0.796	10	11	70	NL322522T-121J
150	±5%	20	0.796	8	15	65	NL322522T-151J
180	±5%	20	0.796	7	17	60	NL322522T-181J
220	±5%	20	0.796	7	21	50	NL322522T-221J
270	±5%	20	0.796	6	28	45	NL322522T-271J
330	±5%	20	0.796	5	34	40	NL322522T-331J
390	±5%	20	0.796	5	42	35	NL322522T-391J
470	±5%	20	0.796	4	40	25	NL322522T-471J

- Inductance tolerance is only standard.
- Test equipment L, Q: 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

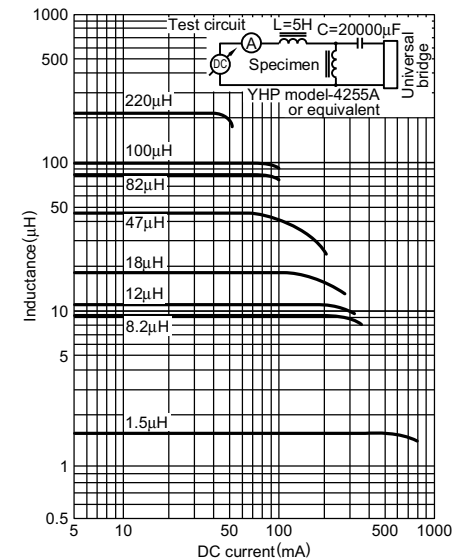
TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. DC

SUPERPOSITION CHARACTERISTICS

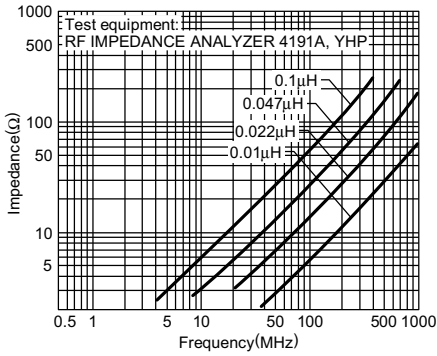


Inductors

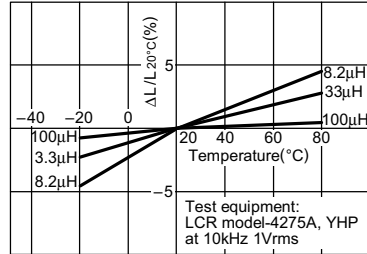
For General Applications
SMD

NL Series NL3225 Type

TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS

