

# SMD Inductors(Coils) For Power Line(Wound)

Conformity to RoHS Directive

## NLC Series NLC5650

### FEATURES

- The NLC series feature low DC resistance and high current handling capacities, making them ideal for power supply line applications.
- 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 product uses metal terminals, which realize excellent connection reliability.
- From 1 $\mu$ H to 1000 $\mu$ H, all of the products in the E-12 series are K( $\pm$ 10%) tolerance products.
- This product conforms to the standards that are slated to be introduced under the RoHS Directive.

### APPLICATIONS

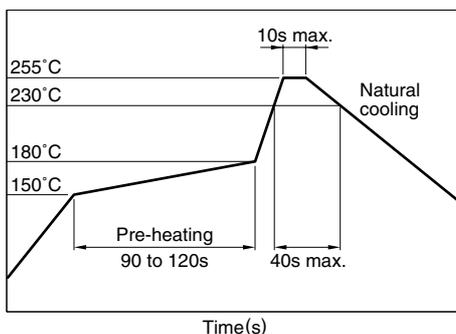
- Electronic equipment used in communication infrastructures including xDSL and mobile base stations.
- Electronic equipment used in onboard automobile equipment including car audio and ECU systems.
- Audio-visual equipment including TVs and VCRs.
- Other electronic equipment including HDDs and ODDs.

### SPECIFICATIONS

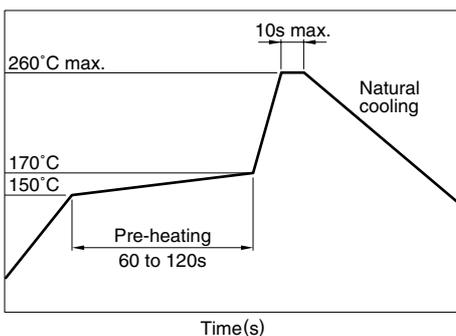
Operating temperature range	-40 to +105°C [Including self-temperature rise]
Storage temperature range	-40 to +105°C

### 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

NLC	565050	T	2R2	K	- PF
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions

565050	5.6×5.0×5.0mm(L×W×T)
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(3) Packaging style

T	Taping(reel)
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(4) Inductance value

1R0	1 $\mu$ H
100	10 $\mu$ H
101	100 $\mu$ H
102	1000 $\mu$ H

(5) Inductance tolerance

K	$\pm$ 10%
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(6) Lead-free compatible product

PF	Lead-free compatible product
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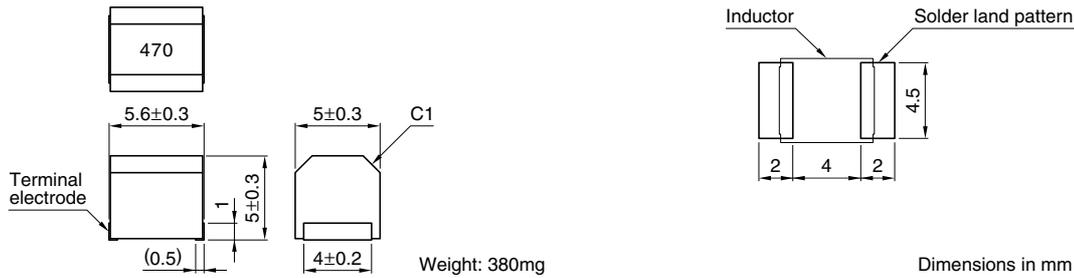
### PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	400 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



Dimensions in mm

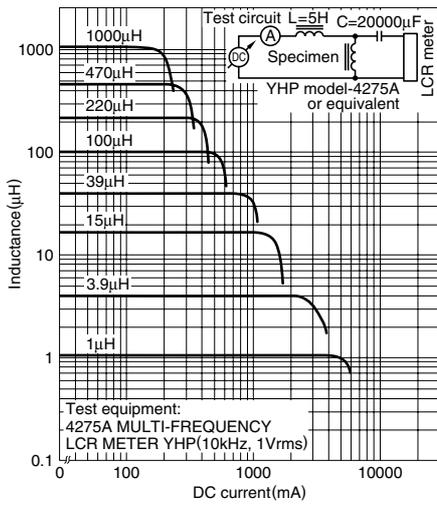
## ELECTRICAL CHARACTERISTICS

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.
1	±10%	10	7.96	95	0.03	1800	NLC565050T-1R0K-PF
1.2	±10%	10	7.96	70	0.035	1700	NLC565050T-1R2K-PF
1.5	±10%	10	7.96	55	0.04	1600	NLC565050T-1R5K-PF
1.8	±10%	10	7.96	47	0.05	1400	NLC565050T-1R8K-PF
2.2	±10%	10	7.96	42	0.06	1300	NLC565050T-2R2K-PF
2.7	±10%	10	7.96	37	0.07	1200	NLC565050T-2R7K-PF
3.3	±10%	10	7.96	34	0.08	1120	NLC565050T-3R3K-PF
3.9	±10%	10	7.96	32	0.09	1050	NLC565050T-3R9K-PF
4.7	±10%	10	7.96	29	0.11	950	NLC565050T-4R7K-PF
5.6	±10%	10	7.96	26	0.13	880	NLC565050T-5R6K-PF
6.8	±10%	10	7.96	24	0.15	810	NLC565050T-6R8K-PF
8.2	±10%	10	7.96	22	0.18	750	NLC565050T-8R2K-PF
10	±10%	10	2.52	19	0.21	690	NLC565050T-100K-PF
12	±10%	10	2.52	17	0.25	630	NLC565050T-120K-PF
15	±10%	10	2.52	16	0.3	580	NLC565050T-150K-PF
18	±10%	10	2.52	14	0.36	530	NLC565050T-180K-PF
22	±10%	10	2.52	13	0.43	480	NLC565050T-220K-PF
27	±10%	10	2.52	11.5	0.52	440	NLC565050T-270K-PF
33	±10%	10	2.52	10.5	0.62	400	NLC565050T-330K-PF
39	±10%	10	2.52	9.5	0.72	370	NLC565050T-390K-PF
47	±10%	10	2.52	8.5	0.85	340	NLC565050T-470K-PF
56	±10%	10	2.52	7.8	1	310	NLC565050T-560K-PF
68	±10%	10	2.52	7	1.2	290	NLC565050T-680K-PF
82	±10%	10	2.52	6.4	1.4	270	NLC565050T-820K-PF
100	±10%	20	0.796	6	1.6	250	NLC565050T-101K-PF
120	±10%	20	0.796	5.4	1.9	230	NLC565050T-121K-PF
150	±10%	20	0.796	4.8	2.2	210	NLC565050T-151K-PF
180	±10%	20	0.796	4.4	2.8	190	NLC565050T-181K-PF
220	±10%	20	0.796	3.9	3.4	170	NLC565050T-221K-PF
270	±10%	20	0.796	3.6	4.2	155	NLC565050T-271K-PF
330	±10%	20	0.796	3.2	4.9	140	NLC565050T-331K-PF
390	±10%	20	0.796	2.9	5.8	130	NLC565050T-391K-PF
470	±10%	20	0.796	2.6	7	120	NLC565050T-471K-PF
560	±10%	20	0.796	2.4	8.5	110	NLC565050T-561K-PF
680	±10%	20	0.796	2.2	10	100	NLC565050T-681K-PF
820	±10%	20	0.796	2	13	90	NLC565050T-821K-PF
1000	±10%	20	0.252	1.8	15	85	NLC565050T-102K-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+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



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