

Chip Coils for High Frequency Monolithic Type



LQG15HN Series (0402 Size)

LQG15HN series is comprised of chip inductors specifically designed for high frequency applications. LQG15H series is designed to realize stable characteristics in high frequency range applying integrated multilayer process. The integrated multilayer process enables a wide range of inductance values with tight tolerance.

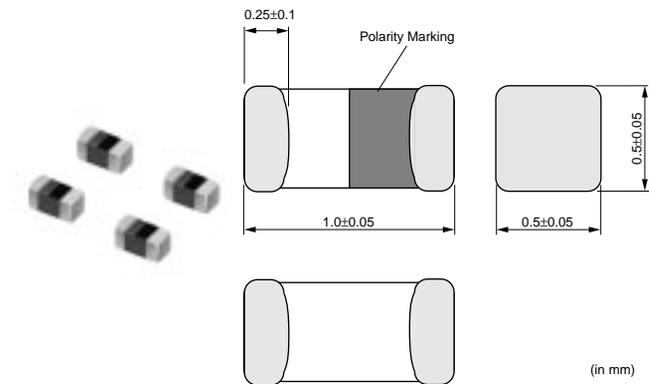
■ Features

1. High-Q, stable inductance in high frequency is achieved by the original structure that minimizes stray capacitance. It is suitable for the high frequency circuits of mobile communication equipment.
2. The small size of LQG15H (1.0x0.5x0.5mm) is suitable for small and low profile mobile equipment.
3. The external electrodes with nickel barrier structure provide excellent solder heat resistance.
4. Wide variation in inductance value
 - 1-10nH (E24 step)
 - 10-120nH (E12 step)

■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general

■ Dimension



■ Rated Value (□: packaging code)

Part Number	Inductance	Test Frequency	Rated Current	Max. of DC resistance	Q (min.)	Test Frequency	Self Resonance Frequency (min.)
LQG15HN1N0S02□	1.0nH±0.3nH	100MHz	300mA	0.10ohm	8	100MHz	6000MHz
LQG15HN1N1S02□	1.1nH±0.3nH	100MHz	300mA	0.10ohm	8	100MHz	6000MHz
LQG15HN1N2S02□	1.2nH±0.3nH	100MHz	300mA	0.10ohm	8	100MHz	6000MHz
LQG15HN1N3S02□	1.3nH±0.3nH	100MHz	300mA	0.10ohm	8	100MHz	6000MHz
LQG15HN1N5S02□	1.5nH±0.3nH	100MHz	300mA	0.10ohm	8	100MHz	6000MHz
LQG15HN1N6S02□	1.6nH±0.3nH	100MHz	300mA	0.10ohm	8	100MHz	6000MHz
LQG15HN1N8S02□	1.8nH±0.3nH	100MHz	300mA	0.10ohm	8	100MHz	6000MHz
LQG15HN2N0S02□	2.0nH±0.3nH	100MHz	300mA	0.12ohm	8	100MHz	6000MHz
LQG15HN2N2S02□	2.2nH±0.3nH	100MHz	300mA	0.15ohm	8	100MHz	6000MHz
LQG15HN2N4S02□	2.4nH±0.3nH	100MHz	300mA	0.16ohm	8	100MHz	6000MHz
LQG15HN2N7S02□	2.7nH±0.3nH	100MHz	300mA	0.17ohm	8	100MHz	6000MHz
LQG15HN3N0S02□	3.0nH±0.3nH	100MHz	300mA	0.18ohm	8	100MHz	6000MHz
LQG15HN3N3S02□	3.3nH±0.3nH	100MHz	300mA	0.19ohm	8	100MHz	6000MHz
LQG15HN3N6S02□	3.6nH±0.3nH	100MHz	300mA	0.19ohm	8	100MHz	6000MHz
LQG15HN3N9S02□	3.9nH±0.3nH	100MHz	300mA	0.19ohm	8	100MHz	6000MHz
LQG15HN4N3S02□	4.3nH±0.3nH	100MHz	300mA	0.21ohm	8	100MHz	6000MHz

Operating Temperature Range: -55°C to +125°C Only for reflow soldering.

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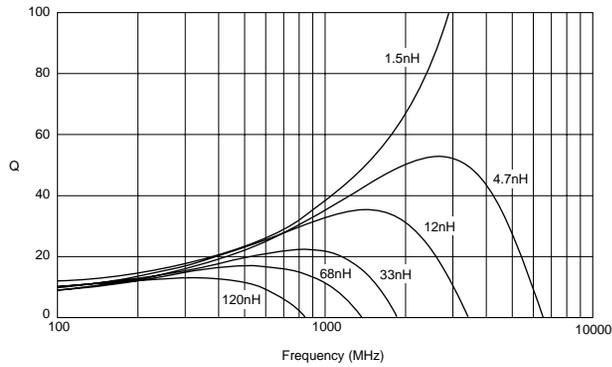
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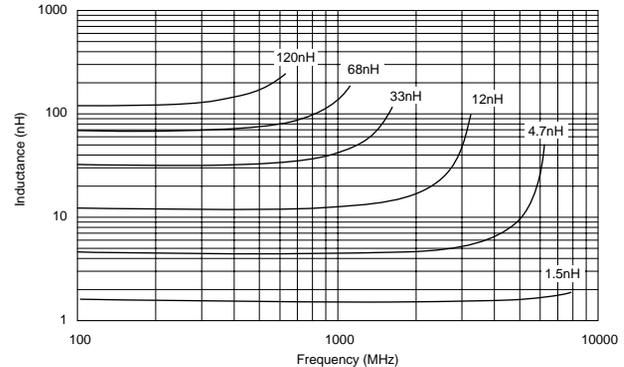
Part Number	Inductance	Test Frequency	Rated Current	Max. of DC resistance	Q (min.)	Test Frequency	Self Resonance Frequency (min.)
LQG15HN4N7S02□	4.7nH±0.3nH	100MHz	300mA	0.23ohm	8	100MHz	6000MHz
LQG15HN5N1S02□	5.1nH±0.3nH	100MHz	300mA	0.24ohm	8	100MHz	6000MHz
LQG15HN5N6S02□	5.6nH±0.3nH	100MHz	300mA	0.26ohm	8	100MHz	5300MHz
LQG15HN6N2S02□	6.2nH±0.3nH	100MHz	300mA	0.27ohm	8	100MHz	4300MHz
LQG15HN6N8J02□	6.8nH±5%	100MHz	300mA	0.29ohm	8	100MHz	4200MHz
LQG15HN7N5J02□	7.5nH±5%	100MHz	300mA	0.31ohm	8	100MHz	3900MHz
LQG15HN8N2J02□	8.2nH±5%	100MHz	300mA	0.33ohm	8	100MHz	3600MHz
LQG15HN9N1J02□	9.1nH±5%	100MHz	300mA	0.34ohm	8	100MHz	3400MHz
LQG15HN10N1J02□	10nH±5%	100MHz	300mA	0.35ohm	8	100MHz	3200MHz
LQG15HN12N1J02□	12nH±5%	100MHz	300mA	0.41ohm	8	100MHz	2800MHz
LQG15HN15N1J02□	15nH±5%	100MHz	300mA	0.46ohm	8	100MHz	2300MHz
LQG15HN18N1J02□	18nH±5%	100MHz	300mA	0.51ohm	8	100MHz	2100MHz
LQG15HN22N1J02□	22nH±5%	100MHz	300mA	0.58ohm	8	100MHz	1800MHz
LQG15HN27N1J02□	27nH±5%	100MHz	300mA	0.67ohm	8	100MHz	1600MHz
LQG15HN33N1J02□	33nH±5%	100MHz	200mA	0.67ohm	8	100MHz	1500MHz
LQG15HN39N1J02□	39nH±5%	100MHz	200mA	1.06ohm	8	100MHz	1200MHz
LQG15HN47N1J02□	47nH±5%	100MHz	200mA	1.15ohm	8	100MHz	1000MHz
LQG15HN56N1J02□	56nH±5%	100MHz	200mA	1.20ohm	8	100MHz	800MHz
LQG15HN68N1J02□	68nH±5%	100MHz	180mA	1.25ohm	8	100MHz	800MHz
LQG15HN82N1J02□	82nH±5%	100MHz	150mA	1.60ohm	8	100MHz	600MHz
LQG15HNR10J02□	100nH±5%	100MHz	150mA	1.60ohm	8	100MHz	600MHz
LQG15HNR12J02□	120nH±5%	100MHz	150mA	1.60ohm	8	100MHz	600MHz

Operating Temperature Range: -55°C to +125°C Only for reflow soldering.

■ Q - Frequency Characteristics (Typ.)



■ Inductance - Frequency Characteristics (Typ.)



● Part Numbering

Chip Coils (SMD)

(Part Number)

LQ	H	32	M	N	331	K	2	3	L
1	2	3	4	5	6	7	8	9	10

① Product ID

Product ID	
LQ	Chip Coils

② Structure

Code	Structure
G	Monolithic Type (Air-core Coil)
H	Wire Wound Type (Ferrite Core)
M	Monolithic Type (Ferrite Core)
P	Film Type
W	Wire Wound Type (Air-core Coil)

③ Dimensions (L×W)

Code	Dimensions (L×W)	EIA
02	0.4×0.2mm	01005
03	0.6×0.3mm	0201
04	0.8×0.4mm	03015
15	1.0×0.5mm	0402
18	1.6×0.8mm	0603
21	2.0×1.25mm	0805
2B	2.0×1.5mm	0805
2M	2.0×1.6mm	0806
3N	3.0×3.0mm	1212
31	3.2×1.6mm	1206
32	3.2×2.5mm	1210
43	4.5×3.2mm	1812
55	5.7×5.0mm	2220
66	6.3×6.3mm	2525

④ Applications and Characteristics

Code	Series	Applications and Characteristics
H	LQG	Monolithic Air-core
N	LQM	for Resonant Circuit
D		for Choke (Low-current DC Power Supplies)
F	LQP	for Choke (DC Power Supplies)
M		Film Type
T	LQW	Film Type (Low DC Resistance Type)
A		High Q Type (UHF-SHF)
H	LQH	High Q Type (VHF-UHF)
N		for Resonant Circuit
M	LQH	for Resonant Circuit (Coating Type)
D		for Choke
C	LQM/LQH	for Choke (Coating Type)
S		for Choke (Magnetically Shielded Type)
H	LQM/LQH	for High-frequency Resonant Circuit
P		for Power Line

⑤ Category

Code	Category
N	Standard Type
S	

⑥ Inductance

Expressed by three-digit alphanumerics. The unit is micro-henry (μH). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two figures. If there is a decimal point, it is expressed by the capital letter "R". In this case, all figures are significant digits. If inductance is less than 0.1μH, the inductance code is expressed by a combination of two figures and the capital letter "N", and the unit of inductance is nano-henry (nH). The capital letter "N" indicates the unit of "nH", and also expresses a decimal point. In this case, all figures are significant digits.

⑦ Inductance Tolerance

Code	Inductance Tolerance
B	±0.1nH
C	±0.2nH
D	±0.5nH
G	±2%
H	±3%
J	±5%
K	±10%
M	±20%
N	±30%
S	±0.3nH
W	±0.05nH

⑧ Features (Except LQH3NP/LQM21P/LQM31P_C0)

Code	Features	Series
0	Standard Type	LQG/LQP/LQW/LQM*/LQH* ²
1	High-Q/ Low DC Resistance	LQW15A/18A/2BH
	Standard Type	LQM21N
2	Standard Type	LQH32C/32M
3	Low DC Resistance	LQH32C
5	Low Profile Type	LQH2MC/32C
7	Large Current Type	LQM21F

*1 : Except LQM21N Series

*2 : Except LQH32 Series

⑨ Features (LQH3NP/LQM21P/LQM31P_C0 Only)

Code	Dimensions (T)
C	0.5mm
G	0.9mm

⑩ Electrode

•Lead (Pb) Free

Code	Electrode	Series
0	Sn	LQG18H/LQP03T/LQW□□A/LQM/LQH3NP
		LQG15H/LQP02T/LQP15T/LQP□□M/LQH2MC
3	LF Solder	LQW□□H/LQH (Except LQH2MC)
4	Au	LQP03T

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(Part Number)

LQ	H	32	M	N	331	K	2	3	L
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

⑩Packaging

Code	Packaging	Series
K	Embossed Taping (ø330mm Reel)	LQH*1 /LQW□□H/LQM31F/LQM21*2
L	Embossed Taping (ø180mm Reel)	LQH/LQW□□H/LQM31F/LQM21*2 /LQM31P
B	Bulk	LQH2MC/LQW/LQG/LQM/LQP
J	Paper Taping (ø330mm Reel)	LQW15A/LQW18A/LQG/LQM18/LQM21*3 /LQP*5
D	Paper Taping (ø180mm Reel)	LQW□□A/LQG/LQM18/LQM21*4 /LQP

*1 Except LQH2MC/LQH3NP/LQH43C

*2 LQM21D(22 - 47μH)/LQM21F(4.7 - 47μH)/LQM21N(2.7 - 4.7μH) only.

*3 LQM21D(1.0 - 10μH)/LQM21F(1.0 - 2.2μH)/LQM21N(0.1 - 2.2μH) only.

*4 LQM21D(1.0 - 10μH)/LQM21F(1.0 - 2.2μH)/LQM21N(0.1 - 2.2μH)/LQM21P only.

*5 Except LQP15T