

## CHIP COILS

Application	Part Number	Structure	Dimensions		Inductance Range (H)									
			(mm)	EIA Code	1n	10n	100n	1 $\mu$	10 $\mu$	100 $\mu$	1m	10m		
General frequency range	LQH1N	Winding (ferrite core)	3.2 1.6	1206										
	LQH3N		3.2 2.5	1210										
	LQH(N)4N		4.5 3.2	1812										
	LQG21N	Magnetically shielded monolithic	2.0 11.25	0805										
Tight inductance tolerance	LQS33N	Magnetically shielded	3.2 3.5	1214										
High-frequency range	LQN1H	Winding (ferrite core)	3.2 1.6	1206										
	LQN1A	Winding (air core)	3.2 1.6	1206										
	LQN21A		2.0 1.5	0805										
	Tight inductance tolerance	LQP11A	Thin film	1.6 10.8	0603									
		LQP21A		2.0 11.25	0805									
Chokes	LQH1C	Winding	3.2 1.6	1206										
	LQH3C		3.2 2.5	1210										
	LQG21C	Magnetically shielded monolithic	2.0 11.25	0805										
	LQN6C	Winding	5.7 5.0	2220										
	LQS66C	Magnetically shielded	6.3 6.3	2525										

### Part Numbering (Please specify the part number when ordering)

(Ex.) LQ H 3 N 331 K 04

LQ P 11 A 10N G 14

LQ G 21 N R10 K 04 T1

#### Chip Coil

#### Form, Structure

Mark	Form - Structure
H	With Coating
N	Without Coating
S	Sealed
P	Thin film
G	Monolithic

#### Size

Mark	Size
1	3.2×1.6 mm
3	3.2×2.5 mm
4	4.5×3.2 mm
6	5.7×5.0 mm
11	1.6×0.8 mm
21	2.0×1.25(1.5) mm
33	3.2×3.5 mm
66	6.3×6.3 mm

#### Characteristics/Applications

Mark	Characteristics - Applications
N	for general use
C	for choke coil
A	Air coil type
H	High Q value type

#### Inductance

Example): 330  $\mu$ H  $\rightarrow$  331  
 33  $\mu$ H  $\rightarrow$  330  
 3.3  $\mu$ H  $\rightarrow$  3R3  
 0.33  $\mu$ H  $\rightarrow$  R33  
 33 nH  $\rightarrow$  33N  
 3.3 nH  $\rightarrow$  3N3

#### Inductance Tolerance

Mark	Tolerance
G	$\pm$ 2%
J	$\pm$ 5%
K	$\pm$ 10%
M	$\pm$ 20%
N	$\pm$ 30%
C	$\pm$ 0.2nH
D	$\pm$ 0.5nH

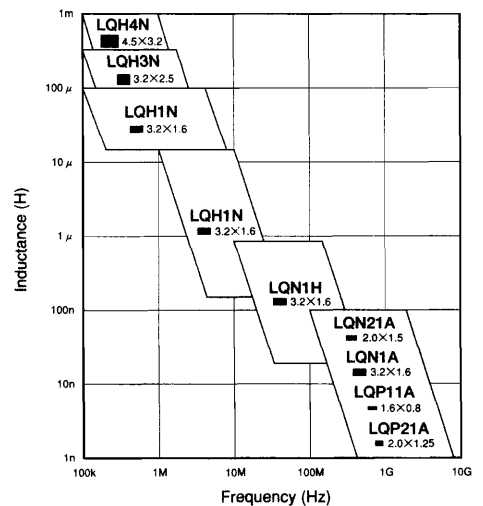
#### Additional Number

Mark	Packaging
T1	Taped
B1	Bulk Package

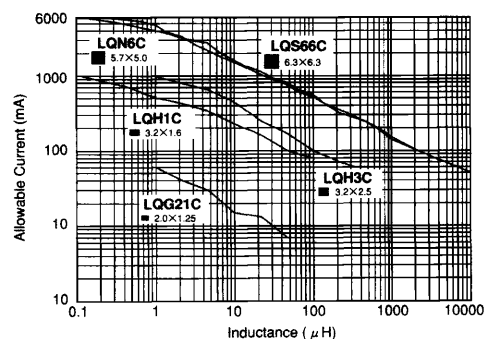
#### Packaging (LQG21N/LQG21C)

CAUTION: Use rosin-based flux, but not strong acidic flux (with chlorine content exceeding 0.2wt%) when soldering chip coil.

### Line-up of Chip Coils for General frequency range and High-frequency range



### Line-up of Chip Coils for Chokes



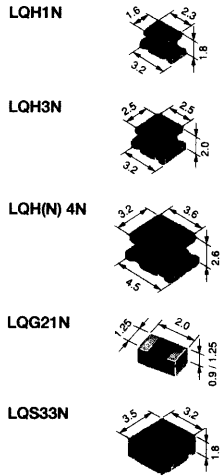
# COILS/DELAY LINES/ FERRITE CORES

# CHIP COILS

CHIP COILS

## Chip Coil for General Frequency Range

### • LQH1N/LQH3N/LQH(N)4N/LQG21N/LQS33N Series

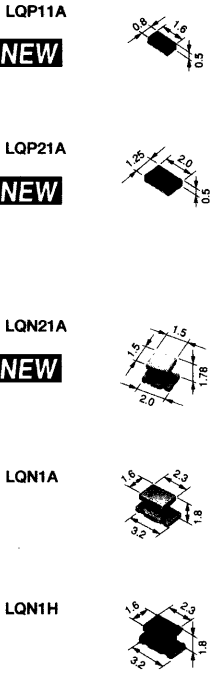


Part Number <sup>1)</sup>	Nominal Inductance ( $\mu$ H)	Tolerance <sup>2)</sup>				Q <sup>4)</sup> (Typ.)	DC <sup>3)</sup> Resistance ( $\Omega$ )	Self <sup>3)</sup> Resonant Freq. (MHz min.)	Allowable <sup>3)</sup> Current (mA)	Features
		G	J	K	M					
LQH1N○○○□04	0.15-1.2			◎		60	0.39 $\pm$ 40%	250	250	Low resistance High Q
	1.5-100		○	◎			1.0 $\pm$ 30%	75	155	
LQH3N○○○□04	0.1-1.2				◎	60	0.25max.	200	700	High Q up to 100MHz Low resistance Large allowable current
	1.5-8.2			◎			0.6 max.	75	400	
	10-560		○	◎			1.8 max.	20	190	
LQH4N○○○□04	1.0-3.9				◎	80	0.20max.	120	500	Large inductance Large allowable current
	4.7-8.2			◎			0.40max.	38	500	
	10-1500		○	◎			0.56max.	23	400	
LQN4N○○○□04	1800-2200		○	◎			45max.	1.5	35	
LQG21N○○○□04	0.1-4.7				◎	60	0.17 $\pm$ 50%	340	250	Minimum size (2 $\times$ 1.25) Magnetically shielded Monolithic
LQS33N○○○□04	1.0-100	◎	○			100	0.19 $\pm$ 30%	120	70	Tolerance $\pm$ 2%, High Q Magnetically shielded

- 1) Inductance code is shown in ○○○:0.15 $\mu$ H=R15, 10 $\mu$ H=100, 100 $\mu$ H=101  
Tolerance code is shown in □:±2%=G, ±5%=J, ±10%=K, ±20%=M
- 2) ◎:Standard. ○:Semi-Standard. Operating Temp. Range: -25 to +85°C
- 3) DC resistance, self-resonant frequency and allowable current shown are based on the minimum value of inductance.
- 4) Q shows the typical peak value on typical P/N.

## Chip Coil for High-Frequency Range

### • LQP11A/LQP21A/LQN21A/LQN1A/LQN1H Series



Part Number <sup>1)</sup>	Nominal Inductance (nH)	Tolerance <sup>2)</sup>			Q <sup>4)</sup> (Typ.)	DC <sup>3)</sup> Resistance ( $\Omega$ )	Self <sup>3)</sup> Resonant Freq. (MHz min.)	Allowable <sup>3)</sup> Current (mA)	Features
		G	J	C					
LQP11A○○○□14	1.3-8.2			◎	180	0.3 max.	6000	300	Thin film construction Micro inductance Minimum size Low profile Small tolerance
	10-33	◎	○			1.0 max.	3400	150	
LQP21A○○○□14	22-100	◎	○		42	0.9 max.	1800	200	

- 1) Inductance code is shown in ○○○:1.3nH=1N3, 22nH=22N, 100nH=R10  
Tolerance code is shown in □:±2%=G, ±5%=J, ±0.2nH=C
- 2) ◎:Standard. ○:Semi-Standard. Operating Temp. Range: -40 to +85°C
- 3) DC resistance, self-resonant frequency and allowable current shown are based on the minimum value of inductance.
- 4) Q shows the typical peak value on typical P/N.

Part Number <sup>1)</sup>	Nominal Inductance (nH)	Tolerance <sup>2)</sup>			Q <sup>4)</sup> (Typ.)	DC <sup>3)</sup> Resistance ( $\Omega$ )	Self <sup>3)</sup> Resonant Freq. (MHz min.)	Allowable <sup>3)</sup> Current (mA)	Features
		J	K	D					
LQN21A○○○□04	3.3			◎	80	0.05 max.	6000	910	Minimum size Small tolerance Winding
	6.8-8.2		○	◎		0.11 max.	5400	680	
	10-220	◎	○			0.03 max.	3300	1320	
LQN1A○○○□04	8.8-100	◎	○		100	0.029 $\pm$ 40%	1000	750	Small tolerance High Q Winding
LQN1H○○○□04	54-95			◎	90	0.035 $\pm$ 30%	800	920	High Q Winding
	145-880	○	◎			0.061 $\pm$ 30%	500	700	

- 1) Inductance code is shown in ○○○:8.8nH=8N8, 10nH=10N, 880nH=R88  
Tolerance code is shown in □:±5%=J, ±10%=K, ±0.5nH=D
- 2) ◎:Standard. ○:Semi-Standard. Operating Temp. Range: -25 to +85°C
- 3) DC resistance, self-resonant frequency and allowable current shown are based on the minimum value of inductance.
- 4) Q shows the typical peak value on typical P/N.

(in mm)

EMI SUPPRESSION  
FILTERS (EMFIL®)

MICROWAVE  
COMPONENTS

FILTERS

VIDEO EQUIPMENT

FUNCTIONAL MODULES  
HYBRID ICs

POWER SUPPLIES

SENSORS

CAPACITORS

THERMISTORS  
/RESISTORS

RESONATORS

PIEZO PRODUCTS

## CHIP COILS

### Chip Coil for Chokes

#### • LQH1C/LQH3C/LQG21C/LQN6C/LQS66C Series

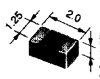
LQH1C



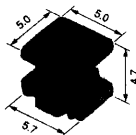
LQH3C



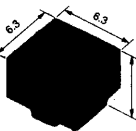
LQG21C



**NEW**  
LQN6C



**NEW**  
LQS66C



(in mm)

Part Number <sup>1)</sup>	Nominal Inductance ( $\mu$ H)	Tolerance <sup>2)</sup>			Q (Typ.)	DC <sup>3)</sup> Resistance ( $\Omega$ )	Self Resonant Freq. (MHz) min.	Allowable <sup>3)</sup> Current (mA)	Features
		J	K	M					
LQH1C○○○○□04	0.12-4.7			⊙	—	0.08 $\pm$ 40%	250	970	Large allowable current
	10-100			⊙	—	1.3 $\pm$ 30%	20	230	
LQH3C○○○○□04	1.0-4.7			⊙	—	0.09 $\pm$ 30%	96	800	Large allowable current, Low resistance
	10-560			⊙	—	0.44 $\pm$ 30%	26	300	
LQH3C○○○○□24	0.15-4.7			⊙	—	0.028 $\pm$ 30%	400	1450	
	10			⊙	—	0.30 $\pm$ 30%	26	450	

1) Inductance code is shown in ○○○: 1.0  $\mu$ H=1R0, 10  $\mu$ H=100, 100  $\mu$ H=101

Tolerance code is shown in □:  $\pm$ 10%=K,  $\pm$ 20%=M

2) ⊙: Standard Operating Temp. Range: -25 to +85°C

3) DC resistance, self-resonant frequency and allowable current shown are based on the minimum value of inductance.

Part Number <sup>1)</sup>	Nominal Inductance ( $\mu$ H)	Tolerance <sup>2)</sup>			Q (Typ.)	DC <sup>3)</sup> Resistance ( $\Omega$ )	Self Resonant Freq. (MHz) min.	Allowable <sup>3)</sup> Current (mA)	Features
		K	M	N					
LQG21C○○○○□00	1.0-47			⊙	—	0.10 max.	75	60	Low resistance, Magnetically shielded, Monolithic

1) Inductance code is shown in ○○○: 1.0  $\mu$ H=1R0, 47  $\mu$ H=470

Tolerance code is shown in □:  $\pm$ 30%=N

2) ⊙: Standard Operating Temp. Range: -40 to +85°C

3) DC resistance, self-resonant frequency and allowable current shown are based on the minimum value of inductance.

Part Number <sup>1)</sup>	Nominal Inductance ( $\mu$ H)	Tolerance <sup>2)</sup>			Q (Typ.)	DC <sup>3)</sup> Resistance ( $\Omega$ )	Self Resonant Freq. (MHz) min.	Allowable <sup>3)</sup> Current (mA)	Features
		J	K	M					
LQN6C○○○○□04	0.12-10000			⊙	—	0.006 $\pm$ 40%	450	6	Low resistance, Large inductance, Large allowable current
LQS66C○○○○□04	0.27-10000			⊙	—	0.006 $\pm$ 40%	300	6	Low resistance, Large inductance, Large allowable current, Magnetically shielded

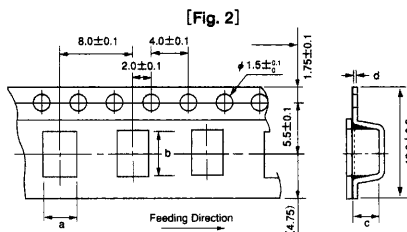
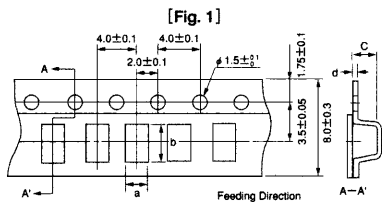
1) Inductance code is shown in ○○○: 0.12  $\mu$ H=R12, 1000  $\mu$ H=102, 10000  $\mu$ H=103

Tolerance code is shown in □:  $\pm$ 20%=M

2) ⊙: Standard Operating Temp. Range: -25 to +80°C

3) DC resistance, self-resonant frequency and allowable current shown are based on the minimum value of inductance.

### Dimensions of Plastic Tape and Minimum Quantity (order in sets only)



Product Name	Fig.	a	b	c	d	Quantity (pcs.)	
						per $\phi$ 180mm Reel	per $\phi$ 330mm Reel
LQH1N/LQH1C/LQN1A/LQN1H	1	1.9 $\pm$ 0.2	3.6 $\pm$ 0.2	2.0 $\pm$ 0.1	0.2	2,000	—
LQH3N/LQH3C	1	2.9 $\pm$ 0.2	3.6 $\pm$ 0.2	2.1 $\pm$ 0.1		2,000	—
LQG21N/LQG21C	1	1.55 $\pm$ 0.2	2.3 $\pm$ 0.2	1.05 $\pm$ 0.1		4,000	—
LQN21A	1	1.75 $\pm$ 0.2	2.3 $\pm$ 0.2	2.0 $\pm$ 0.1		3,000	—
LQP11A	1	1.3 $\pm$ 0.1	2.1 $\pm$ 0.1	0.65 $\pm$ 0.05		2,000	—
LQP21A	1	1.6 $\pm$ 0.1	2.4 $\pm$ 0.1	0.75 $\pm$ 0.05		2,000	—
LQS33N	2	3.9 $\pm$ 0.1	3.7 $\pm$ 0.1	1.9 $\pm$ 0.1	0.3	1,000	—
LQH4N/LQN4N	2	3.6	4.9	2.7 $\pm$ 0.2		500	2,500
LQN6C	2	5.4 $\pm$ 0.1	6.1 $\pm$ 0.1	5.0 $\pm$ 0.1		350	—
LQS66C	2	6.7 $\pm$ 0.1	6.7 $\pm$ 0.1	5.2 $\pm$ 0.1	0.4	350	—

EIAJ-RC-1009B  
Applicable

(in mm)