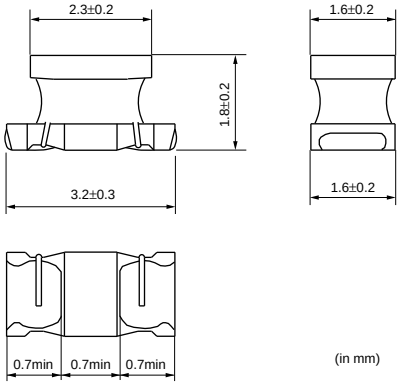
CHIP COILS

for General Use Winding Type LQH31M/LQH32M/LQH43M(N) Series

LQH31M Series

■ Features

The chip inductor LQH31M series consists of miniature chip inductors wound on a special ferrite core. It have a high Q value at high frequencies and low DC resistance. Wide inductance range from 0.15 micro H to 100 micro H are available.



Part Number	Inductance (μH)	Rated Current (mA)	Max. of DC resistance (ohm)	Q (min.)	Self Resonance Frequency (MHz)
LQH31MN1R5J01	1.5 ±5%	155	1.3	35 at 10MHz	75 min.
LQH31MN1R8J01	1.8 ±5%	150	2.08	35 at 10MHz	60 min.
LQH31MN2R2J01	2.2 ±5%	140	0.91	35 at 10MHz	50 min.
LQH31MN2R7J01	2.7 ±5%	135	0.715	35 at 10MHz	43 min.
LQH31MN3R3J01	3.3 ±5%	130	1.82	35 at 8MHz	38 min.
LQH31MN3R9J01	3.9 ±5%	125	1.95	35 at 8MHz	35 min.
LQH31MN4R7J01	4.7 ±5%	120	2.21	35 at 8MHz	31 min.
LQH31MN5R6J01	5.6 ±5%	115	2.34	35 at 8MHz	28 min.
LQH31MN6R8J01	6.8 ±5%	110	2.6	35 at 8MHz	25 min.
LQH31MN8R2J01	8.2 ±5%	105	2.86	35 at 8MHz	23 min.
LQH31MN100J01	10 ±5%	100	3.25	35 at 5MHz	20 min.
LQH31MN120J01	12 ±5%	95	3.51	35 at 5MHz	18 min.
LQH31MN150J01	15 ±5%	90	3.9	35 at 5MHz	16 min.
LQH31MN180J01	18 ±5%	85	4.42	35 at 5MHz	15 min.
LQH31MN220J01	22 ±5%	85	4.03	40 at 2.5MHz	14 min.
LQH31MN270J01	27 ±5%	85	4.42	40 at 2.5MHz	13 min.
LQH31MN330J01	33 ±5%	80	4.94	40 at 2.5MHz	12 min.
LQH31MN390J01	39 ±5%	55	9.36	40 at 2.5MHz	11 min.
LQH31MN470J01	47 ±5%	55	10.4	40 at 2.5MHz	10 min.
LQH31MN560J01	56 ±5%	50	11.57	40 at 2.5MHz	9 min.
LQH31MN680J01	68 ±5%	50	12.87	40 at 2.5MHz	8.5 min.
LQH31MN820J01	82 ±5%	45	14.3	40 at 2.5MHz	7.5 min.
LQH31MN101J01	100 ±5%	45	15.6	40 at 2.5MHz	7 min.
LQH31MNR15K01	0.15 ±10%	250	0.546	20 at 25MHz	250 min.
LQH31MNR22K01	0.22 ±10%	240	0.602	20 at 25MHz	250 min.
LQH31MNR33K01	0.33 ±10%	230	0.63	30 at 25MHz	250 min.
LQH31MNR47K01	0.47 ±10%	215	1.162	30 at 25MHz	200 min.
LQH31MNR56K01	0.56 ±10%	200	0.854	30 at 25MHz	180 min.
LQH31MNR68K01	0.68 ±10%	190	0.938	30 at 25MHz	160 min.
LQH31MNR82K01	0.82 ±10%	185	1.022	30 at 25MHz	120 min.
LQH31MN1R0K01	1.0 ±10%	175	0.637	35 at 10MHz	100 min.
LQH31MN1R2K01	1.2 ±10%	165	1.17	35 at 10MHz	90 min.
LQH31MN1R5K01	1.5 ±10%	155	1.3	35 at 10MHz	75 min.
LQH31MN1R8K01	1.8 ±10%	150	2.08	35 at 10MHz	60 min.
LQH31MN2R2K01	2.2 ±10%	140	0.91	35 at 10MHz	50 min.
LQH31MN2R7K01	2.7 ±10%	135	0.715	35 at 10MHz	43 min.

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Part Number	Inductance (μH)	Rated Current (mA)	Max. of DC resistance (ohm)	Q (min.)	Self Resonance Frequency (MHz)
LQH31MN3R3K01	3.3 ±10%	130	1.82	35 at 8MHz	38 min.
LQH31MN3R9K01	3.9 ±10%	125	1.95	35 at 8MHz	35 min.
LQH31MN4R7K01	4.7 ±10%	120	2.21	35 at 8MHz	31 min.
LQH31MN5R6K01	5.6 ±10%	115	2.34	35 at 8MHz	28 min.
LQH31MN6R8K01	6.8 ±10%	110	2.6	35 at 8MHz	25 min.
LQH31MN8R2K01	8.2 ±10%	105	2.86	35 at 8MHz	23 min.
LQH31MN100K01	10 ±10%	100	3.25	35 at 5MHz	20 min.
LQH31MN120K01	12 ±10%	95	3.51	35 at 5MHz	18 min.
LQH31MN150K01	15 ±10%	90	3.9	35 at 5MHz	16 min.
LQH31MN180K01	18 ±10%	85	4.42	35 at 5MHz	15 min.
LQH31MN220K01	22 ±10%	85	4.03	40 at 2.5MHz	14 min.
LQH31MN270K01	27 ±10%	85	4.42	40 at 2.5MHz	13 min.
LQH31MN330K01	33 ±10%	80	4.94	40 at 2.5MHz	12 min.
LQH31MN390K01	39 ±10%	55	9.36	40 at 2.5MHz	11 min.
LQH31MN470K01	47 ±10%	55	10.4	40 at 2.5MHz	10 min.
LQH31MN560K01	56 ±10%	50	11.57	40 at 2.5MHz	9 min.
LQH31MN680K01	68 ±10%	50	12.87	40 at 2.5MHz	8.5 min.
LQH31MN820K01	82 ±10%	45	14.3	40 at 2.5MHz	7.5 min.
LQH31MN101K01	100 ±10%	45	15.6	40 at 2.5MHz	7 min.

Min. of Operating Temp. : -25°C to 85°C

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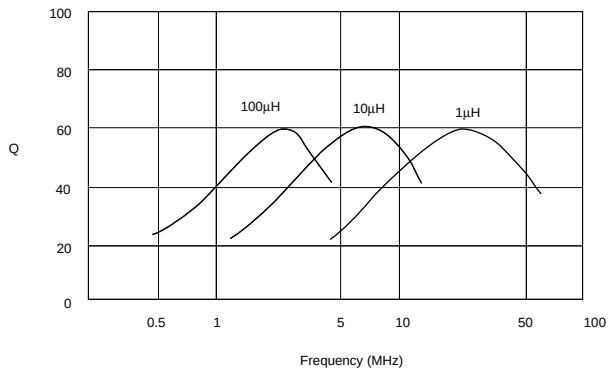
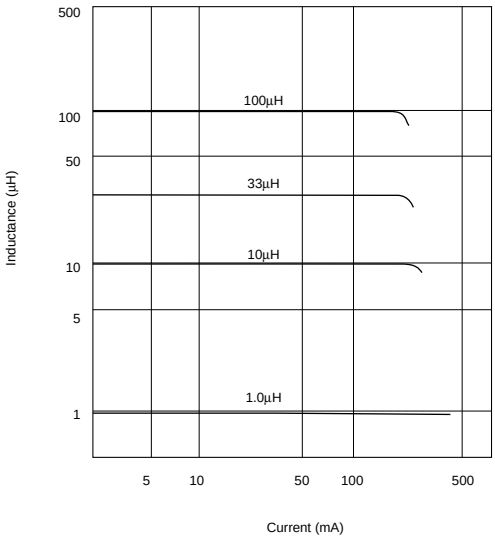
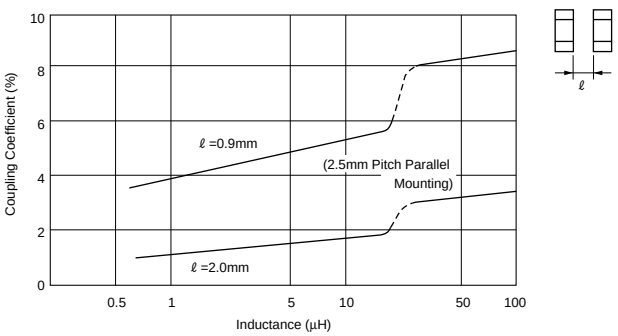
■ Q-Frequency Characteristics



■ Inductance-Current Characteristics



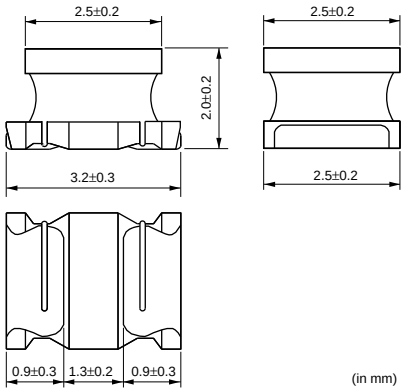
■ Coupling Coefficient



LQH32M Series

■ Features

The chip inductor LQH32M series consists of miniature chip inductors wound on a special ferrite core. It have a high Q value at high frequencies and low DC resistance. Wide inductance range from 0.10 micro H to 560 micro H are available.



Part Number	Inductance (μH)	Rated Current (mA)	Max. of DC resistance (ohm)	Q (min.)	Self Resonance Frequency (MHz)
LQH32MN100J21	10 ±5%	190	1.8	35 at 1MHz	20 min.
LQH32MN120J21	12 ±5%	180	2	35 at 1MHz	18 min.
LQH32MN150J21	15 ±5%	170	2.2	35 at 1MHz	16 min.
LQH32MN180J21	18 ±5%	165	2.5	35 at 1MHz	15 min.
LQH32MN220J21	22 ±5%	150	2.8	35 at 1MHz	14 min.
LQH32MN270J21	27 ±5%	125	3.1	35 at 1MHz	13 min.
LQH32MN330J21	33 ±5%	115	3.5	40 at 1MHz	12 min.
LQH32MN390J21	39 ±5%	110	3.9	40 at 1MHz	11 min.
LQH32MN470J21	47 ±5%	100	4.3	40 at 1MHz	11 min.
LQH32MN560J21	56 ±5%	85	4.9	40 at 1MHz	10 min.
LQH32MN680J21	68 ±5%	80	5.5	40 at 1MHz	9 min.
LQH32MN820J21	82 ±5%	70	6.2	40 at 1MHz	8.5 min.
LQH32MN101J21	100 ±5%	80	7	40 at 0.796MHz	8 min.
LQH32MN121J21	120 ±5%	75	8	40 at 0.796MHz	7.5 min.
LQH32MN151J21	150 ±5%	70	9.3	40 at 0.796MHz	7 min.
LQH32MN181J21	180 ±5%	65	10.2	40 at 0.796MHz	6 min.
LQH32MN221J21	220 ±5%	65	11.8	40 at 0.796MHz	5.5 min.
LQH32MN271J21	270 ±5%	65	12.5	40 at 0.796MHz	5 min.
LQH32MN331J21	330 ±5%	65	13	40 at 0.796MHz	5 min.
LQH32MN391J21	390 ±5%	50	22	50 at 0.796MHz	5 min.
LQH32MN471J21	470 ±5%	45	25	50 at 0.796MHz	5 min.
LQH32MN561J21	560 ±5%	40	28	50 at 0.796MHz	5 min.
LQH32MN1R5K21	1.5 ±10%	400	0.6	20 at 1MHz	75 min.
LQH32MN1R8K21	1.8 ±10%	390	0.7	20 at 1MHz	60 min.
LQH32MN2R2K21	2.2 ±10%	370	0.8	20 at 1MHz	50 min.
LQH32MN2R7K21	2.7 ±10%	320	0.9	20 at 1MHz	43 min.
LQH32MN3R3K21	3.3 ±10%	300	1	20 at 1MHz	38 min.
LQH32MN3R9K21	3.9 ±10%	290	1.1	20 at 1MHz	35 min.
LQH32MN4R7K21	4.7 ±10%	270	1.2	20 at 1MHz	31 min.
LQH32MN5R6K21	5.6 ±10%	250	1.3	20 at 1MHz	28 min.
LQH32MN6R8K21	6.8 ±10%	240	1.5	20 at 1MHz	25 min.
LQH32MN8R2K21	8.2 ±10%	225	1.6	20 at 1MHz	23 min.
LQH32MN100K21	10 ±10%	190	1.8	35 at 1MHz	20 min.
LQH32MN120K21	12 ±10%	180	2	35 at 1MHz	18 min.
LQH32MN150K21	15 ±10%	170	2.2	35 at 1MHz	16 min.
LQH32MN180K21	18 ±10%	165	2.5	35 at 1MHz	15 min.
LQH32MN220K21	22 ±10%	150	2.8	35 at 1MHz	14 min.
LQH32MN270K21	27 ±10%	125	3.1	35 at 1MHz	13 min.
LQH32MN330K21	33 ±10%	115	3.5	40 at 1MHz	12 min.
LQH32MN390K21	39 ±10%	110	3.9	40 at 1MHz	11 min.
LQH32MN470K21	47 ±10%	100	4.3	40 at 1MHz	11 min.
LQH32MN560K21	56 ±10%	85	4.9	40 at 1MHz	10 min.

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Part Number	Inductance (μH)	Rated Current (mA)	Max. of DC resistance (ohm)	Q (min.)	Self Resonance Frequency (MHz)
LQH32MN680K21	68 ±10%	80	5.5	40 at 1MHz	9 min.
LQH32MN820K21	82 ±10%	70	6.2	40 at 1MHz	8.5 min.
LQH32MN101K21	100 ±10%	80	7	40 at 0.796MHz	8 min.
LQH32MN121K21	120 ±10%	75	8	40 at 0.796MHz	7.5 min.
LQH32MN151K21	150 ±10%	70	9.3	40 at 0.796MHz	7 min.
LQH32MN181K21	180 ±10%	65	10.2	40 at 0.796MHz	6 min.
LQH32MN221K21	220 ±10%	65	11.8	40 at 0.796MHz	5.5 min.
LQH32MN271K21	270 ±10%	65	12.5	40 at 0.796MHz	5 min.
LQH32MN331K21	330 ±10%	65	13	40 at 0.796MHz	5 min.
LQH32MN391K21	390 ±10%	50	22	50 at 0.796MHz	5 min.
LQH32MN471K21	470 ±10%	45	25	50 at 0.796MHz	5 min.
LQH32MN561K21	560 ±10%	40	28	50 at 0.796MHz	5 min.
LQH32MNR10M21	0.1 ±20%	700	0.25	20 at 25.2MHz	200 min.
LQH32MNR18M21	0.18 ±20%	650	0.25	20 at 25.2MHz	200 min.
LQH32MNR27M21	0.27 ±20%	600	0.25	25 at 25.2MHz	200 min.
LQH32MNR39M21	0.39 ±20%	530	0.25	25 at 25.2MHz	200 min.
LQH32MNR56M21	0.56 ±20%	530	0.25	30 at 25.2MHz	160 min.
LQH32MNR68M21	0.68 ±20%	470	0.25	30 at 25.2MHz	160 min.
LQH32MNR82M21	0.82 ±20%	450	0.25	30 at 25.2MHz	120 min.
LQH32MN1R0M21	1 ±20%	445	0.5	20 at 1MHz	100 min.
LQH32MN1R2M21	1.2 ±20%	425	0.6	20 at 1MHz	100 min.

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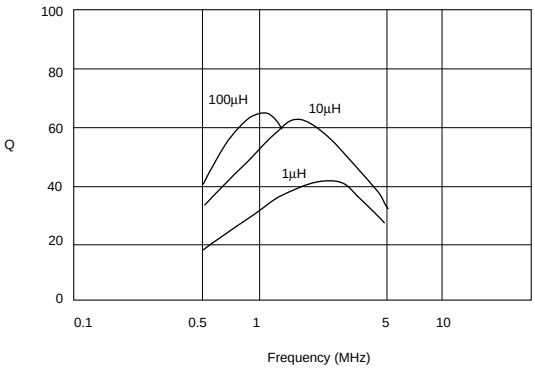
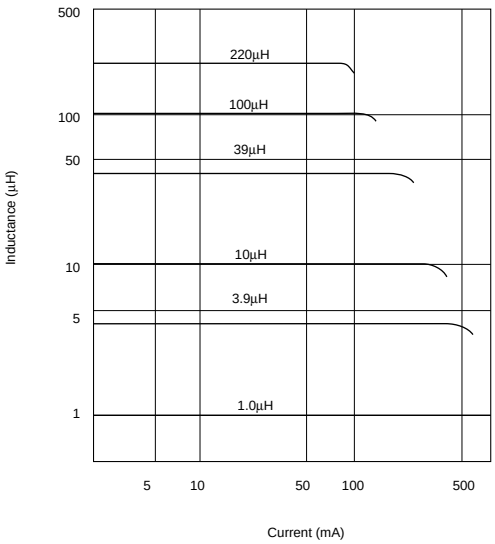
Min. of Operating Temp. : -25°C to 85°C

■ Q-Frequency Characteristics



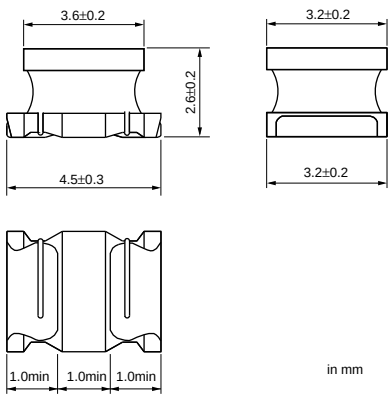
■ Inductance-Current Characteristics



LQH43M/N Series

■ Features

The chip inductor LQH43M series consists of miniature chip inductors wound on a special ferrite core. It have a high Q value at high frequencies and low DC resistance. Wide inductance range from 1.0 micro H to 2200 micro H are available.



Part Number	Inductance (μH)	Rated Current (mA)	Max. of DC resistance (ohm)	Q (min.)	Self Resonance Frequency (MHz)
LQH43MN100J01	10 ±5%	400	0.56	35 at 1MHz	23 min.
LQH43MN120J01	12 ±5%	380	0.62	35 at 1MHz	21 min.
LQH43MN150J01	15 ±5%	360	0.73	35 at 1MHz	19 min.
LQH43MN180J01	18 ±5%	340	0.82	35 at 1MHz	17 min.
LQH43MN220J01	22 ±5%	320	0.94	35 at 1MHz	15 min.
LQH43MN270J01	27 ±5%	300	1.1	35 at 1MHz	14 min.
LQH43MN330J01	33 ±5%	270	1.2	35 at 1MHz	12 min.
LQH43MN390J01	39 ±5%	240	1.4	35 at 1MHz	11 min.
LQH43MN470J01	47 ±5%	220	1.5	35 at 1MHz	10 min.
LQH43MN560J01	56 ±5%	200	1.7	35 at 1MHz	9.3 min.
LQH43MN680J01	68 ±5%	180	1.9	35 at 1MHz	8.4 min.
LQH43MN820J01	82 ±5%	170	2.2	35 at 1MHz	7.5 min.
LQH43MN101J01	100 ±5%	160	2.5	40 at 0.796MHz	6.8 min.
LQH43MN121J01	120 ±5%	150	3	40 at 0.796MHz	6.2 min.
LQH43MN151J01	150 ±5%	130	3.7	40 at 0.796MHz	5.5 min.
LQH43MN181J01	180 ±5%	120	4.5	40 at 0.796MHz	5 min.
LQH43MN221J01	220 ±5%	110	5.4	40 at 0.796MHz	4.5 min.
LQH43MN271J01	270 ±5%	100	6.8	40 at 0.796MHz	4 min.
LQH43MN331J01	330 ±5%	95	8.2	40 at 0.796MHz	3.6 min.
LQH43MN391J01	390 ±5%	90	9.7	40 at 0.796MHz	3.3 min.
LQH43MN471J01	470 ±5%	80	11.8	40 at 0.796MHz	3 min.
LQH43MN561J01	560 ±5%	70	14.5	40 at 0.796MHz	2.7 min.
LQH43MN681J01	680 ±5%	65	17	40 at 0.796MHz	2.5 min.
LQH43MN821J01	820 ±5%	60	20.5	40 at 0.796MHz	2.2 min.
LQH43MN102J01	1000 ±5%	50	25	40 at 0.252MHz	2 min.
LQH43MN122J01	1200 ±5%	45	30	40 at 0.252MHz	1.8 min.
LQH43MN152J01	1500 ±5%	40	37	40 at 0.252MHz	1.6 min.
LQH43NN182J01	1800 ±5%	35	45	40 at 0.252MHz	1.5 min.
LQH43NN222J01	2200 ±5%	30	50	40 at 0.252MHz	1.3 min.
LQH43MN4R7K01	4.7 ±10%	500	0.4	30 at 1MHz	38 min.
LQH43MN5R6K01	5.6 ±10%	500	0.47	30 at 1MHz	33 min.
LQH43MN6R8K01	6.8 ±10%	450	0.5	30 at 1MHz	31 min.
LQH43MN8R2K01	8.2 ±10%	450	0.56	30 at 1MHz	27 min.
LQH43MN100K01	10 ±10%	400	0.56	35 at 1MHz	23 min.
LQH43MN120K01	12 ±10%	380	0.62	35 at 1MHz	21 min.
LQH43MN150K01	15 ±10%	360	0.73	35 at 1MHz	19 min.
LQH43MN180K01	18 ±10%	340	0.82	35 at 1MHz	17 min.
LQH43MN220K01	22 ±10%	320	0.94	35 at 1MHz	15 min.
LQH43MN270K01	27 ±10%	300	1.1	35 at 1MHz	14 min.
LQH43MN330K01	33 ±10%	270	1.2	35 at 1MHz	12 min.
LQH43MN390K01	39 ±10%	240	1.4	35 at 1MHz	11 min.
LQH43MN470K01	47 ±10%	220	1.5	35 at 1MHz	10 min.
LQH43MN560K01	56 ±10%	200	1.7	35 at 1MHz	9.3 min.
LQH43MN680K01	68 ±10%	180	1.9	35 at 1MHz	8.4 min.
LQH43MN820K01	82 ±10%	170	2.2	35 at 1MHz	7.5 min.
LQH43MN101K01	100 ±10%	160	2.5	40 at 0.796MHz	6.8 min.
LQH43MN121K01	120 ±10%	150	3	40 at 0.796MHz	6.2 min.
LQH43MN151K01	150 ±10%	130	3.7	40 at 0.796MHz	5.5 min.
LQH43MN181K01	180 ±10%	120	4.5	40 at 0.796MHz	5 min.
LQH43MN221K01	220 ±10%	110	5.4	40 at 0.796MHz	4.5 min.
LQH43MN271K01	270 ±10%	100	6.8	40 at 0.796MHz	4 min.
LQH43MN331K01	330 ±10%	95	8.2	40 at 0.796MHz	3.6 min.
LQH43MN391K01	390 ±10%	90	9.7	40 at 0.796MHz	3.3 min.
LQH43MN471K01	470 ±10%	80	11.8	40 at 0.796MHz	3 min.
LQH43MN561K01	560 ±10%	70	14.5	40 at 0.796MHz	2.7 min.
LQH43MN681K01	680 ±10%	65	17	40 at 0.796MHz	2.5 min.
LQH43MN821K01	820 ±10%	60	20.5	40 at 0.796MHz	2.2 min.

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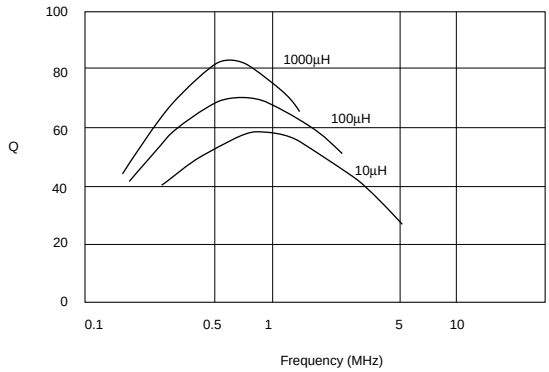
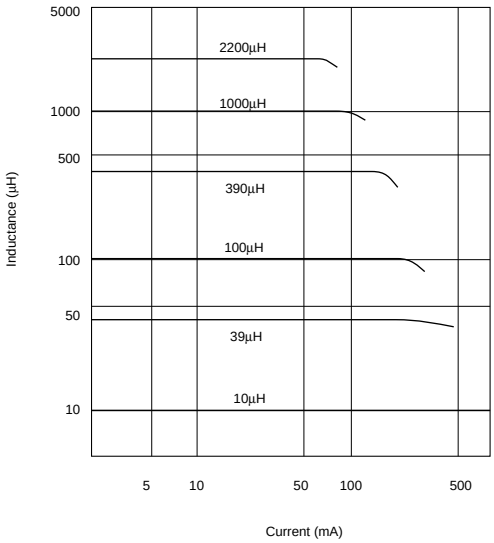
Part Number	Inductance (μH)	Rated Current (mA)	Max. of DC resistance (ohm)	Q (min.)	Self Resonance Frequency (MHz)
LQH43MN102K01	1000 ±10%	50	25	40 at 0.252MHz	2 min.
LQH43MN122K01	1200 ±10%	45	30	40 at 0.252MHz	1.8 min.
LQH43MN152K01	1500 ±10%	40	37	40 at 0.252MHz	1.6 min.
LQH43NN182K01	1800 ±10%	35	45	40 at 0.252MHz	1.5 min.
LQH43NN222K01	2200 ±10%	30	50	40 at 0.252MHz	1.3 min.
LQH43MN1R0M01	1 ±20%	500	0.2	20 at 1MHz	120 min.
LQH43MN1R2M01	1.2 ±20%	500	0.2	20 at 1MHz	100 min.
LQH43MN1R5M01	1.5 ±20%	500	0.3	20 at 1MHz	85 min.
LQH43MN1R8M01	1.8 ±20%	500	0.3	20 at 1MHz	75 min.
LQH43MN2R2M01	2.2 ±20%	500	0.3	20 at 1MHz	62 min.
LQH43MN2R7M01	2.7 ±20%	500	0.32	20 at 1MHz	53 min.
LQH43MN3R3M01	3.3 ±20%	500	0.35	20 at 1MHz	47 min.
LQH43MN3R9M01	3.9 ±20%	500	0.38	20 at 1MHz	41 min.

Min. of Operating Temp. : -25°C to 85°C

■ Q-Frequency Characteristics



■ Inductance-Current Characteristics



Part Numbering (The structure of the "Global Part Numbers" that will be adopted from June 2001 and the meaning of each code are described herein. If you have any questions about details, inquire at your usual Murata sales office or distributor.)

Chip Coils (SMD)

(Global Part Number) LQ H 32 M N 331 K 2 1 L
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶Product ID

Product ID	
LQ	Chip Coils

❷Structure

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

❸Dimension (L×W)

Code	Dimension (L×W)
03	0.60×0.30mm
15	1.00×0.50mm
18	1.60×0.80mm
21	2.00×1.25mm
2B	2.00×1.50mm
31	3.20×1.60mm
32	3.20×2.50mm
3E	3.50×3.20mm
3K	3.30×3.30mm
43	4.50×3.20mm
55	5.70×5.00mm
66	6.30×6.30mm

❹Applications 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		for Choke (DC Power Supplies)
M	**LQP**	Film Type
T		Film Type (Low DC Resistance Type)
A	**LQW**	High Q Type (UFH-SHF)
H		High Q Type (VHF-UHF)
N	**LQH**	for Resonant Circuit
M		for Resonant Circuit (Coating Type)
R		for Resonant Circuit (Magnetically Shielded Type)
D		for Choke
C		for Choke (Coating Type)
S		for Choke (Magnetically Shielded Type)
H		for High-frequency Resonant Circuit

❺Category

Code	Category
N	Standard Type

❻Inductance

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

❼Inductance 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

❽Features

Expressed by a figure from "0" to "2".

Ex.)

Code	Fetures
0	Standard Type

❾Electrode

Code	Electrode
0	Solder Plating
1	Sputtering
2	Sn Plating

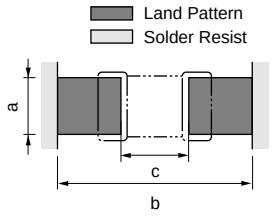
❿Pakaging

Code	Pakaging
K	Plastic Taping (ø330mm Reel)
L	Plastic Taping (ø180mm Reel)
B	Bulk
J	Paper Taping (ø330mm Reel)
D	Paper Taping (ø180mm Reel)

Monolithic And Film Type Notice(Soldering and Mounting)

1. STANDARD LAND DIMENSIONS

A high Q value is achieved when the PCB electrode land pattern is designed so that it does not project beyond the chip coil electrode.



Part Number		a	b	c
LQG15H		0.5-0.6	1.4-1.5	0.4
LQG18H		0.6-0.8	1.8-2.2	0.6-0.8
LQM18N	Flow	0.7	2.2-2.6	0.7
	Reflow		1.8-2.0	
LQM21N/21D/21F		1.0	3.0-4.0	1.2
LQM31F		1.2	4.2-5.2	2.0
LQP03T		0.2-0.3	0.8-0.9	0.2-0.3
LQP15M		0.5-0.6	1.4-1.5	0.4

in mm

2. STANDARD SOLDERING CONDITIONS

1) Soldering method

Chip coils can be flow or reflow soldered.
Please contact Murata regarding other soldering methods.
The volume of solder can cause minor fluctuations in inductance value. Therefore, carefully control the amount of solder when soldering the LQG15H/18H, LQP03T and LQP15M series.

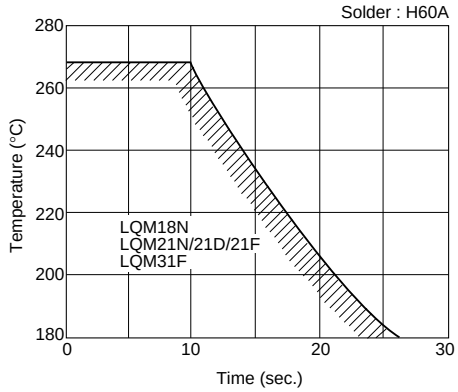
2) Soldering Temperature and Time

Solder whithin the temperature and time combinations indicated by the slanted lines in the following graphs. If soldering is repeated, please note that the allowed time is the accumulated time.

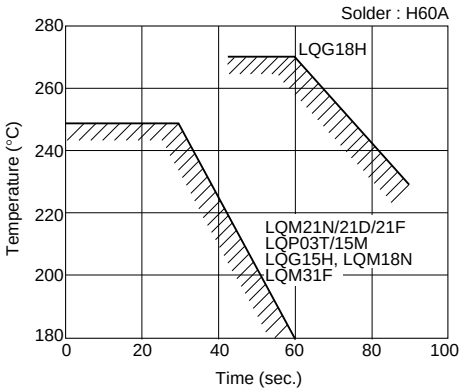
Solder : Use H60A,H63A(JIS Z 3282) or equivalent.
Use solder paste equivalent to H60A for LQP03T/15M and LQG15H/18H.

Flux : Use rosin-based flux, but not strongly acidic flux. (with chlorine content exceeding 0.2wt%)
Do not use water-soluble flux.

Allowable Flow Soldering Temperature and Time



Allowable Reflow Soldering Temperature and Time



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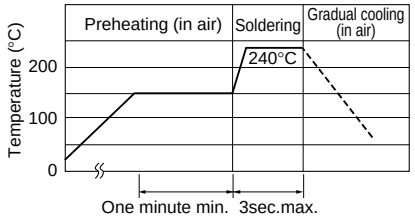
Monolithic And Film Type Notice(Soldering and Mounting)

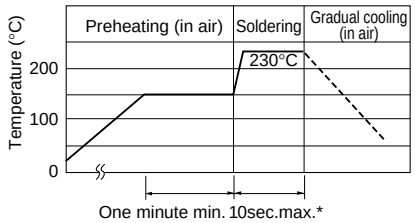
Continued from the preceding page.

3) Standard Soldering Conditions

Flow Solder



Reflow Solder



*LQG15H/18H,LQP03T/15M : 20sec.max

4) Reworking with Soldering Iron

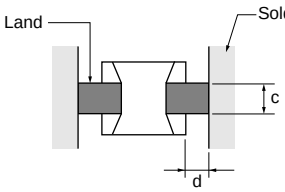
Preheating at 150°C for 1 minute is required. Do not directry touch the ceramic element with the tip of the soldering iron. The reworking soldering conditions are as follows.

Soldering iron power output	: 30W Max.
Temperature of soldering iron tip	: 280°C
Diameter of soldering iron end	: 3.0mm Max.
Soldering time	: within 3 second

3. MOUNTING INSTRUCTIONS

1) Land Pattern Dimensions

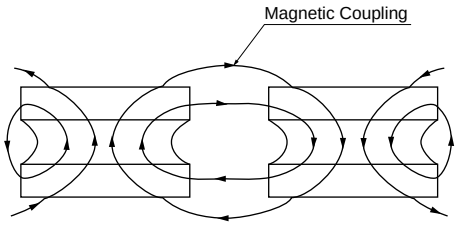
Large lands reduce Q of the mounted chip. Also, large protruding land areas (bordered by lines having dimensions 'c' and 'd' shown bellow) cause floating and electrode cracks.



2) Magnetic Coupling

Since some chip coils are constructed like an open magnetic circuit, narrow spacing between coils may cause magnetic coupling.

The LQG and LQM series have a magnetically shielded structure. The structure makes their coupling coefficient smaller than that of conventional chip coils.



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Monolithic And Film Type Notice(Soldering and Mounting)

Continued from the preceding page.

3) PCB Warping

Arrange chip coils to minimize stress caused by PCB warping.

The arrangement shown in Fig.2 is more effective in preventing stress than that shown in Fig.1.

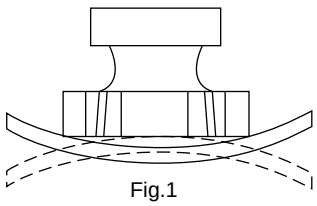


Fig.1

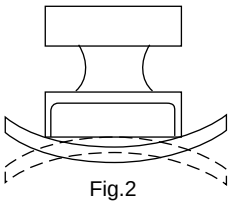
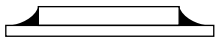


Fig.2

4) Amount of Solder Paste

Excessive solder causes electrode corrosion, while insufficient solder causes low electrode bonding strength. Adjust the amount of solder paste so that solder is applied as shown in the right.

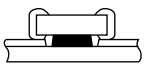
Standard thickness of solder paste : 100 to 150µm



LQP/LQG/LQM

5) Amount of Adhesive

If too much adhesive is applied, then it may overflow into the land or termination areas and yield poor solderabillity. In contrast, if insufficient adhesive is applied, or if the adhesive is not sufficiently hardened, then the chip may become detached during flow soldering. Apply the adhesive in accordance with the following conditions.

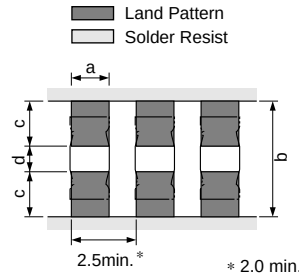


Part Number	Typical Application Amount (in:mg)		
	MR-8153RA	NF-3000	UVS-50R-2
LQM18N	0.05-0.06	0.06-0.07	0.06-0.07
LQM21N/21D/21F	0.15-0.20	0.20-0.25	0.20-0.25
LQM31F	0.20-0.25	0.25-0.30	0.25-0.30

Winding Type Notice(Soldering and Mounting)

1. STANDARD LAND DIMENSIONS

A high Q value is achieved when the PCB electrode land pattern is designed so that it does not project beyond the chip coil electrode.



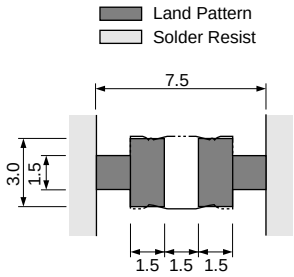
* 2.0 min. (LQW15A/18A)

Part Number	a	b	c	d
LQH31M/31C/31H **LQW31H**	1.5	4.5	1.75	1.0
LQW2BH	1.2	3.0	1.1	0.8
LQW18A	0.7-1.0	1.8-2.0	0.6-0.7	0.6-0.8
LQW15A	0.65	1.2	0.35	0.50

in mm

If mounted at 2.5 (2.0) mm intervals as indicated in the diagram, attention should be paid to potential magnetic coupling effects when using the coil as a resonator.

LQH43M
LQH43N
LQH43C



in mm

Continued on the following page.

Winding Type Notice(Soldering and Mounting)

Continued from the preceding page.

2. STANDARD SOLDERING CONDITIONS

1) Soldering method

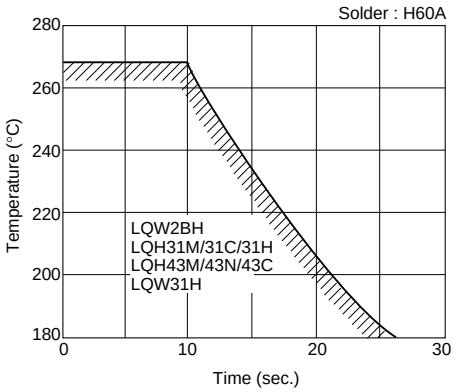
Chip coils can be flow or reflow soldered.
Please contact Murata regarding other soldering methods.
Reflow soldering should be applied for LQW15A/18A.

2) Soldering Temperature and Time

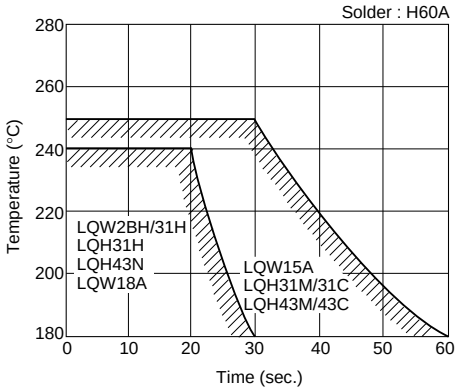
Solder whithin the temperature and time combinations indicated by the slanted lines in the following graphs. If soldering is repeated, please note that the allowed time is the accumulated time.

Solder : Use H60A,H63A(JIS Z 3282) or equivalent.
Flux : Use rosin-based flux, but not strongly acidic flux. (with chlorine content exceeding 0.2wt%)
Do not use water-soluble flux.

Allowable Flow Soldering Temperature and Time

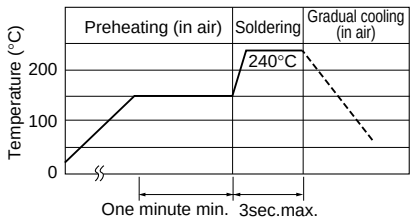


Allowable Reflow Soldering Temperature and Time

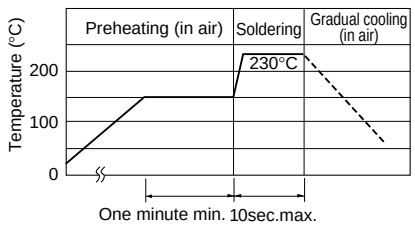


3) Standard Soldering Conditions

Flow Solder



Reflow Solder



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Winding Type Notice(Soldering and Mounting)

Continued from the preceding page.

4) Reworking with Soldering Iron

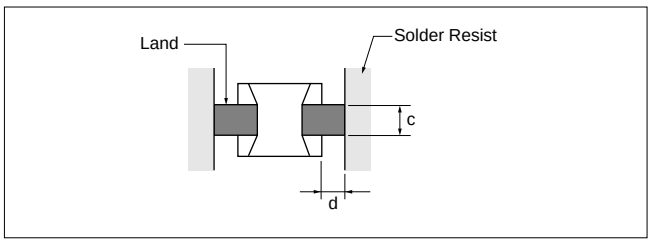
Preheating at 150°C for 1 minute is required. Do not directry touch the ceramic element with the tip of the soldering iron. The reworking soldering conditions are as follows.

Soldering iron power output	: 30W Max.
Temperature of soldering iron tip	: 280°C
Diameter of soldering iron end	: 3.0mm Max.
Soldering time	: within 3 second

3. MOUNTING INSTRUCTIONS

1) Land Pattern Dimensions

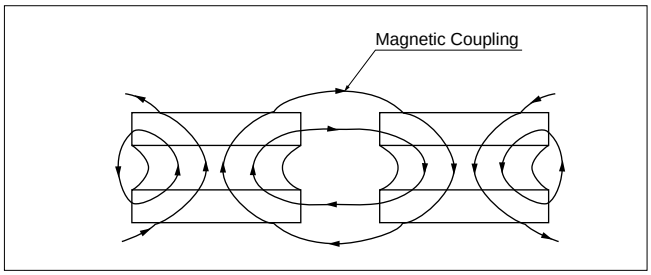
Large lands reduce Q of the mounted chip. Also, large protruding land areas (bordered by lines having dimensions 'c' and 'd' shown bellow) cause floating and electrode cracks.



2) Magnetic Coupling

Since some chip coils are constructed like an open magnetic circuit, narrow spacing between coils may cause magnetic coupling.

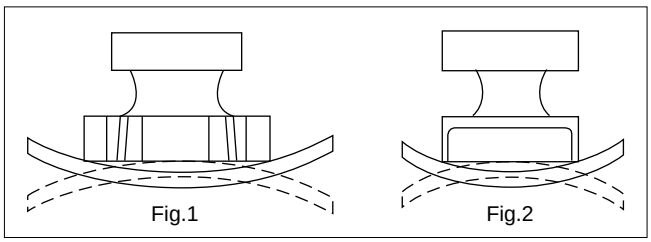
The LQH series have a magnetically shielded structure. The structure makes their coupling coefficient smaller than that of conventional chip coils.



3) PCB Warping

Arrange chip coils to minimize stress caused by PCB warping.

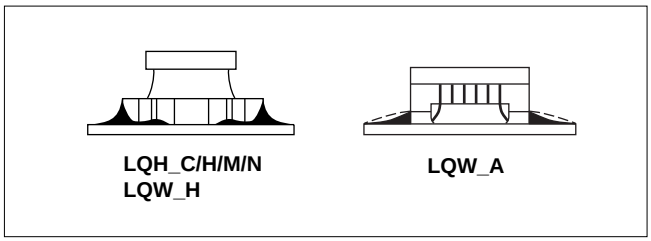
The arrangement shown in Fig.2 is more effective in preventing stress than that shown in Fig.1.



4) Amount of Solder Paste

Excessive solder causes electrode corrosion, while insufficient solder causes low electrode bonding strength. Adjust the amount of solder paste so that solder is applied as shown in the right.

Standard thickness of solder paste: 200µm to 300µm (LQW15A/18A : 100 to 150µm)



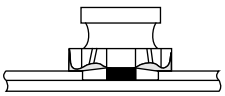
Continued on the following page.

Winding Type Notice(Soldering and Mounting)

Continued from the preceding page.

5) Amount of Adhesive

If too much adhesive is applied, then it may overflow into the land or termination areas and yield poor solderabillity. In contrast, if insufficient adhesive is applied, or if the adhesive is not sufficiently hardened, then the chip may become detached during flow soldering. Apply the adhesive in accordance with the following conditions.



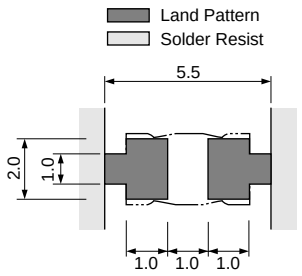
Part Number	Typical Application Amount (in:mg)		
	MR-8153RA	NF-3000	UVS-50R-2
LQW2BH	0.16-0.18	0.20-0.25	0.21-0.23
LQH31M/31C/31H **LQW31H**	0.18-0.20	0.20-0.25	0.20-0.25
LQH43M(N) **LQH43C**	0.45-0.50	0.60-0.80	0.60-0.80

Winding And Mgnetic Shielded Type Notice(Soldering and Mounting)

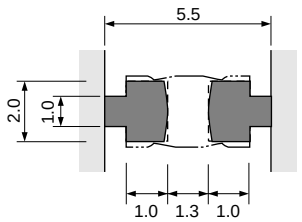
1. STANDARD LAND DIMENSIONS

A high Q value is achieved when the PCB electrode land pattern is designed so that it does not project beyond the chip coil electrode.

LQH32M_11/32C_11
LQH3ER



LQH32M_21/32C_21/32C_51
LQH3KS



in mm

2. STANDARD SOLDERING CONDITIONS

1) Soldering method

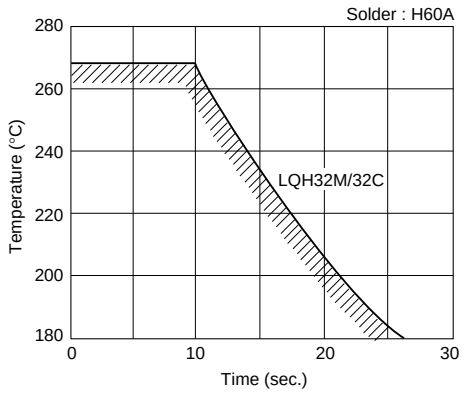
Chip coils can be flow or reflow soldered.
Please contact Murata regarding other soldering methods.
Reflow soldering should be applied for LQH3ER/3KS.

2) Soldering Temperature and Time

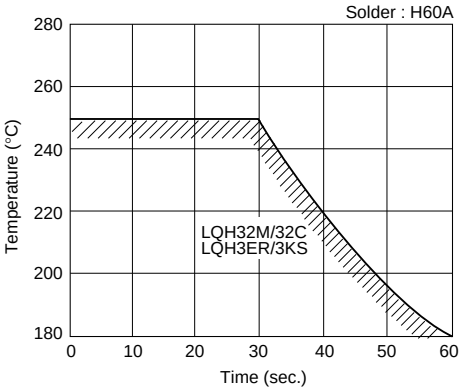
Solder whithin the temperature and time combinations indicated by the slanted lines in the following graphs. If soldering is repeated, please note that the allowed time is the accumulated time.

Solder : Use H60A,H63A(JIS Z 3282) or equivalent.
Flux : Use rosin-based flux, but not strongly acidic flux. (with chlorine content exceeding 0.2wt%)
Do not use water-soluble flux.

Allowable Flow Soldering Temperature and Time



Allowable Reflow Soldering Temperature and Time



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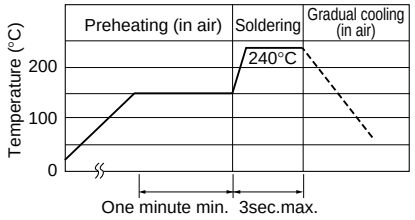
Winding And Mgnetic Shielded Type Notice(Soldering and Mounting)

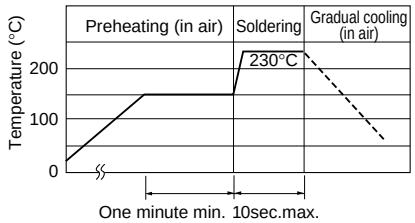
Continued from the preceding page.

3) Standard Soldering Conditions

Flow Solder



Reflow Solder



4) Reworking with Soldering Iron

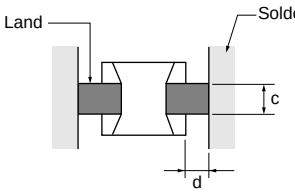
Preheating at 150°C for 1 minute is required. Do not directry touch the ceramic element with the tip of the soldering iron. The reworking soldering conditions are as follows.

Soldering iron power output	: 30W Max.
Temperature of soldering iron tip	: 280°C
Diameter of soldering iron end	: 3.0mm Max.
Soldering time	: within 3 second

3. MOUNTING INSTRUCTIONS

1) Land Pattern Dimensions

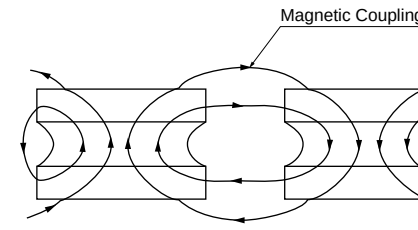
Large lands reduce Q of the mounted chip. Also, large protruding land areas (bordered by lines having dimensions 'c' and 'd' shown bellow) cause floating and electrode cracks.



2) Magnetic Coupling

Since some chip coils are constructed like an open magnetic circuit, narrow spacing between coils may cause magnetic coupling.

The LQH_R/S series have a magnetically shielded structure. The structure makes their coupling coefficient smaller than that of conventional chip coils. In particular, the LQH3ER series has a very small coupling coefficient.



Continued on the following page.

Winding And Mgnetic Shielded Type Notice(Soldering and Mounting)

Continued from the preceding page.

3) PCB Warping

Arrange chip coils to minimize stress caused by PCB warping.

The arrangement shown in Fig.2 is more effective in preventing stress than that shown in Fig.1.

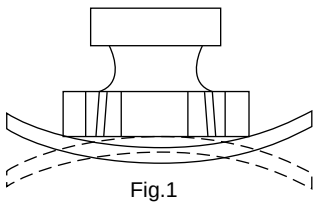


Fig.1

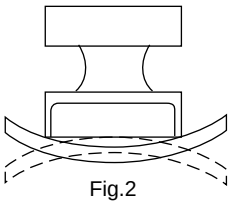
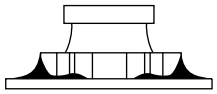


Fig.2

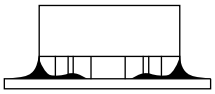
4) Amount of Solder Paste

Excessive solder causes electrode corrosion, while insufficient solder causes low electrode bonding strength. Adjust the amount of solder paste so that solder is applied as shown in the right.

Standard thickness of solder paste: 200μm to 300μm



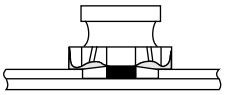
LQH_C/D/H/M/N



LQH_R/S

5) Amount of Adhesive

If too much adhesive is applied, then it may overflow into the land or termination areas and yield poor solderabillity. In contrast, if insufficient adhesive is applied, or if the adhesive is not sufficiently hardened, then the chip may become detached during flow soldering. Apply the adhesive in accordance with the following conditions.



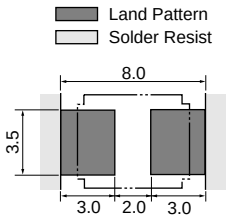
Part Number	Typical Application Amount (in:mg)		
	MR-8153RA	NF-3000	UVS-50R-2
LQH32M/32C	0.20-0.23	0.27-0.35	0.27-0.35

Larege-current Type Notice(Soldering and Mounting)

1. STANDARD LAND DIMENSIONS

A high Q value is achieved when the PCB electrode land pattern is designed so that it does not project beyond the chip coil electrode.

LQH55D
LQH66S



in mm

2. STANDARD SOLDERING CONDITIONS

1) Soldering method

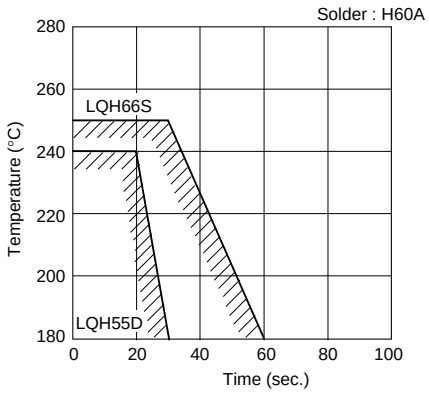
Reflow soldering should be applied for LQH55D/66S.

2) Soldering Temperature and Time

Solder whithin the temperature and time combinations indicated by the slanted lines in the following graphs. If soldering is repeated, please note that the allowed time is the accumulated time.

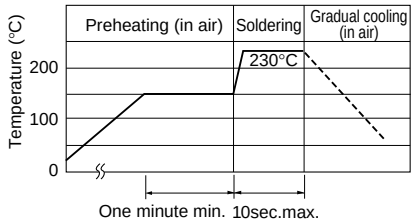
Solder : Use H60A,H63A(JIS Z 3282) or equivalent.
Flux : Use rosin-based flux, but not strongly acidic flux. (with chlorine content exceeding 0.2wt%) Do not use water-soluble flux.

Allowable Reflow Soldering Temperature and Time



3) Standard Soldering Conditions

Reflow Solder



4) Reworking with Soldering Iron

Preheating at 150°C for 1 minute is required. Do not directry touch the ceramic element with the tip of the soldering iron. The reworking soldering conditions are as follows.

Soldering iron power output : 30W Max.
Temperature of soldering iron tip : 280°C
Diameter of soldering iron end : 3.0mm Max.
Soldering time : within 3 second

Continued on the following page.

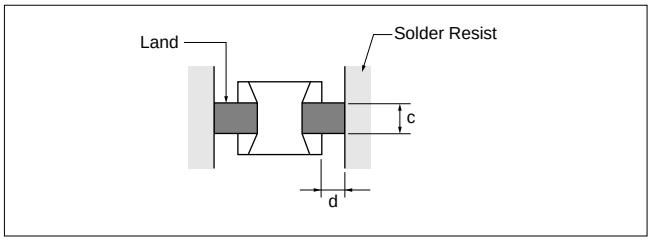
Larege-current Type Notice(Soldering and Mounting)

Continued from the preceding page.

3. MOUNTING INSTRUCTIONS

1) Land Pattern Dimensions

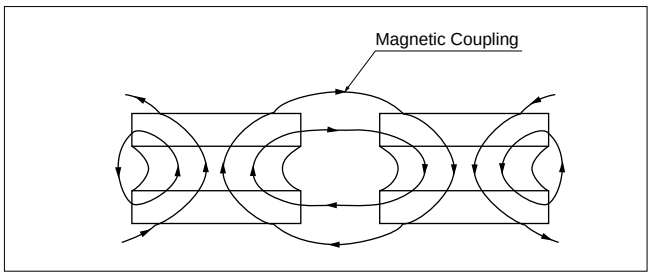
Large lands reduce Q of the mounted chip. Also, large protruding land areas (bordered by lines having dimensions 'c' and 'd' shown bellow) cause floating and electrode cracks.



2) Magnetic Coupling

Since some chip coils are constructed like an open magnetic circuit, narrow spacing between coils may cause magnetic coupling.

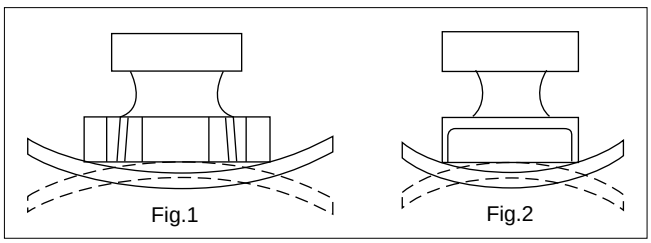
The LQH_S series have a magnetically shielded structure. The structure makes their coupling coefficient smaller than that of conventional chip coils.



3) PCB Warping

Arrange chip coils to minimize stress caused by PCB warping.

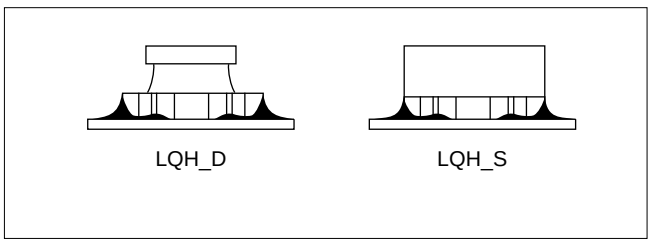
The arrangement shown in Fig.2 is more effective in preventing stress than that shown in Fig.1.



4) Amount of Solder Paste

Excessive solder causes electrode corrosion, while insufficient solder causes low electrode bonding strength. Adjust the amount of solder paste so that solder is applied as shown bellow

Standard thickness of solder paste: 200µm to 300µm



Notice

■ Notice (Storage and Operating Conditions)

< OPERATING ENVIRONMENT >

Do not use products in chemical atmosphere such as chlorine gas, acid or sulfide gas.

< STORAGE REQUIREMENTS >

1. Storage Period

   Products should be used within 12 months reckon from the date of our out-going inspection. Solderability should be verified if this period is exceeded. (LQH3ER/3KS series should be used within 6 months.)

2. Storage conditions

   a) Store products in a warehouse in compliance with the following conditions :
   Temperature : -10 to 40C.
   Humidity : 30 to 70% (relative humidity)
   Do not subject products to rapid changes in temperature and humidity.
   Do not store them in chemical atmosphere such as one containing sulfurous acid gas or alkaline gas. This will prevent electrode oxidation which causes poor solderability and possible corrosion of coils.

   b) Do not store products in bulk packaging to prevent collision among coils which causes core chipping and wire breakage.

   c) Store products on pallets to protect from humidity, dust, etc.

   d) Avoid heat shock, vibration, direct sunlight, etc.

■ Notice (Soldering and Mounting)

< CLEANING >

The following conditions should be observed when cleaning chip coils.

1. Cleaning Temperature : 60C. max. (40C. max. for CFC alternatives and alcohol cleaning agents)
2. Ultrasonic
   Output : 20W/l max.
   Duration : 5 minutes max.
   Frequency : 28kHz to 40kHz
   Care should be taken not to cause resonance of the PCB and mounted products.
3. Cleaning agent
   The following cleaning agents have been tested on individual components. Evaluation in complete assembly should be done prior to production.
   a) CFC alternatives and alcohol cleaning agents
      • Isopropyl alcohol (IPA)
      • HCFC-225
   b) Aqueous cleaning agents
      • Surface active agent (Clean Thru 750H)
      • High grade alcohol (Pine Alpha ST-100S)
      • Hydrocarbon (Techno Cleaner 335)
      • Alkaline Saponifier (Aqua Cleaner 240 -cleaner should be diluted to 20% using deionized water.)
      LQH_R/S series : Aqueous agents should not be used because they may cause quality deterioration.
      LQH series : Surface active agent and high grade alcohol can be used.
4. Ensure that flux residue is completely removed.
   Component should be thoroughly dried after aqueous agents have been removed with deionized water.
   For additional cleaning methods, please contact Murata.

Notice

■ Notice (Handling)

This item is designed to have sufficient strength, but handle with care not to make it chipped or broken due to its ceramic structure.

LQW_A series

- Sharp material, such as tweezers, shall not touch to the winding portion to prevent the breaking of wire.
- Do not give excessive Mechanical shock should not be applied to the products mounted on the board to prevent thebreaking of the core.
- In some mounting machines,when picking up components,support pin pushes up the components from the bottom of base tape. In this case,please remove the support pin. The support pin may damage the components and break wire.

LQH_C/D/H/M/N, LQW_H series

- Sharp material, such as tweezers, shall not touch to the winding portion to prevent the breaking of wire.
- Do not give excessive Mechanical shock should not be applied to the products mounted on the board to prevent thebreaking of the core.

LQP series

- The pattern of the chip coil is covered with the protection film. But the handling the chip coil shall be taken care so that the chip coil would not be damaged with the pick-up nozzle, the sharp substance and so on.

LQM series

- There is possibility that the inductance value change due to magnetism. Do not use a magnet or tweezers with magnetism when chip coil are handled. (The tip of the tweezers should be molded with resin or pottery.)

< HANDLING >

1. Avoid applying excessive stress to products to prevent damage.
2. Do not touch winding with sharp objects such as tweezers to prevent wire breakage.
3. Do not apply excessive force to products mounted on boards to prevent core breakage.

< TRANSPORTATIONS >

Do not apply excessive vibration or mechanical shock to products.

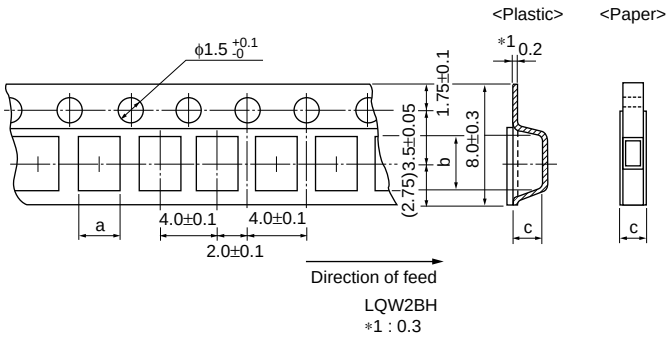
< RESIN COATING >

When coating products with resin, the relatively high resin curing stress may change inductance values.

For exterior coating, select resin carefully so that electrical and mechanical performance of the product is not affected.

Packaging

■ Minimum Quantity and 8mm Width Taping Dimension



Paper Tape

Part Number	Dimensions (in mm)			Minimum QTY. (pcs.)		
	a	b	c	φ180mm reel	φ330mm reel	Bulk
LQM21NN (0.1-2.2μH)	1.45	2.25	1.1	4000	10000	1000
LQM21DN (1-10μH)						
LQM21FN (1-2.2μH)						
LQG18H	1.05	1.85	1.0			
LQM18N			1.1			
LQW18A	1.00	1.80	0.95			-

Plastic Tape

Part Number	Dimensions (in mm)			Minimum QTY. (pcs.)		
	a	b	c	φ180mm reel	φ330mm reel	Bulk
LQM21NN (2.7-4.7μH)	1.45	2.25	1.3	4000	10000	1000
LQM21DN (22-47μH)						
LQM21FN (4.7-47μH)						
LQM31F	1.9	3.5	1.3	3000		
LQH31M/31C/31H, LQW31H	1.9	3.6	2.0	2000	7500	-
LQW2BH	1.75	2.3				
LQH32M/LQH32C	2.9	3.6	2.1			
LQH32CN_51			1.7			

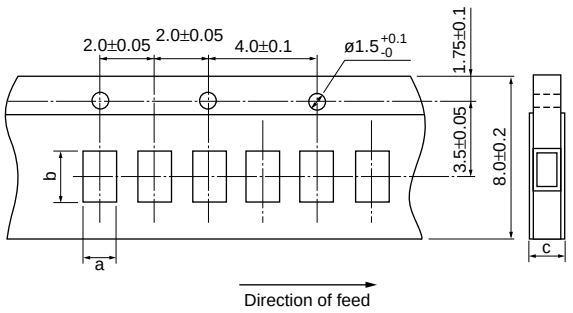
(in mm)

Continued on the following page.

Packaging

Continued from the preceding page.

■ Minimum Quantity and 8mm Width Taping Dimension

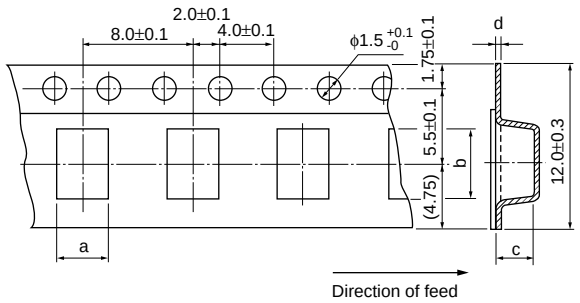


Paper Tape

Part Number	Dimensions (in mm)			Minimum QTY. (pcs.)		
	a	b	c	ϕ180mm reel	ϕ330mm reel	Bulk
LQG15H	0.62	1.12	1.0	10000	50000	1000
LQP03T	0.38	0.68			-	-
LQP15M	0.70	1.20				500
LQW15A			0.8			

(in mm)

■ Minimum Quantity and 12mm Width Plastic Taping Dimension



Part Number	Dimensions (in mm)				Minimum QTY. (pcs.)	
	a	b	c	d	ϕ180mm reel	ϕ330mm reel
LQH3ER, LQH3KS	3.9	3.7	1.9	0.3	1000	-
LQH43M(N)	3.6	4.9	2.7		500	2500
LQH43C						-
LQH55D	5.4	6.1	5.0	0.4	350	1500
LQH66S	6.7	6.7	5.6			-

(in mm)

Design Kits

●EKLM12UB (High-frequency Winding Type)

No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
1	**LQW2BHN3N3D01**	20	3.3	±0.5nH	910
2	**LQW2BHN6N8D01**	20	6.8	±0.5nH	680
3	**LQW2BHN8N2D01**	20	8.2	±0.5nH	630
4	**LQW2BHN10NJ01**	20	10	±5%	1320
5	**LQW2BHN12NJ01**	20	12	±5%	680
6	**LQW2BHN15NJ01**	20	15	±5%	630
7	**LQW2BHN18NJ01**	20	18	±5%	690
8	**LQW2BHN22NJ01**	20	22	±5%	720
9	**LQW2BHN27NJ01**	20	27	±5%	540
10	**LQW2BHN33NJ01**	20	33	±5%	570
11	**LQW2BHN39NJ01**	20	39	±5%	730
12	**LQW2BHN47NJ01**	20	47	±5%	450
13	**LQW2BHN56NJ01**	20	56	±5%	430
14	**LQW2BHN68NJ01**	20	68	±5%	460
15	**LQW2BHN82NJ01**	20	82	±5%	320
16	**LQW2BHNR10J01**	20	100	±5%	350
17	**LQW2BHNR12J01**	20	120	±5%	320
18	**LQW2BHNR15J01**	20	150	±5%	390
19	**LQW2BHNR18J01**	20	180	±5%	250
20	**LQW2BHNR22J01**	20	220	±5%	240
21	**LQW2BHNR27K01**	20	270	±10%	190
22	**LQW2BHNR33K01**	20	330	±10%	180
23	**LQW2BHNR39K01**	20	390	±10%	170
24	**LQW2BHNR47K01**	20	470	±10%	160
25	**LQW2BHN2N7D11**	20	2.7	±0.5nH	1900
26	**LQW2BHN3N1D11**	20	3.1	±0.5nH	1800
27	**LQW2BHN3N3D11**	20	3.3	±0.5nH	1700
28	**LQW2BHN5N6D11**	20	5.6	±0.5nH	1500
29	**LQW2BHN6N8D11**	20	6.8	±0.5nH	1400
30	**LQW2BHN8N6D11**	20	8.6	±0.5nH	1300
31	**LQW2BHN10NJ11**	20	10	±5%	1320
32	**LQW2BHN12NK11**	20	12	±10%	1100
33	**LQW2BHN15NK11**	20	15	±10%	1000
34	**LQW2BHN18NK11**	20	18.8	±10%	1000
35	**LQW2BHN21NK11**	20	21	±10%	950
36	**LQW2BHN27NK11**	20	27	±10%	900

●EKLM13UB (High-frequency Monolithic Type)

No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
1	**LQG18HN1N2S00**	20	1.2	±0.3nH	300
2	**LQG18HN1N5S00**	20	1.5	±0.3nH	300
3	**LQG18HN1N8S00**	20	1.8	±0.3nH	300
4	**LQG18HN2N2S00**	20	2.2	±0.3nH	300
5	**LQG18HN2N7S00**	20	2.7	±0.3nH	300
6	**LQG18HN3N3S00**	20	3.3	±0.3nH	300
7	**LQG18HN3N9S00**	20	3.9	±0.3nH	300
8	**LQG18HN4N7S00**	20	4.7	±0.3nH	300
9	**LQG18HN5N6S00**	20	5.6	±0.3nH	300
10	**LQG18HN6N8J00**	20	6.8	±5%	300
11	**LQG18HN8N2J00**	20	8.2	±5%	300
12	**LQG18HN10NJ00**	20	10	±5%	300
13	**LQG18HN12NJ00**	20	12	±5%	300
14	**LQG18HN15NJ00**	20	15	±5%	300
15	**LQG18HN18NJ00**	20	18	±5%	300
16	**LQG18HN22NJ00**	20	22	±5%	300
17	**LQG18HN27NJ00**	20	27	±5%	300
18	**LQG18HN33NJ00**	20	33	±5%	300
19	**LQG18HN39NJ00**	20	39	±5%	300
20	**LQG18HN47NJ00**	20	47	±5%	300
21	**LQG18HN56NJ00**	20	56	±5%	300
22	**LQG18HN68NJ00**	20	68	±5%	300
23	**LQG18HN82NJ00**	20	82	±5%	300
24	**LQG18HNR10J00**	20	100	±5%	300

●EKLM14UC (High-frequency Flim Type)

No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
1	**LQP15MN1N0B00**	20	1.0	±0.1nH	400
2	**LQP15MN1N1B00**	20	1.1	±0.1nH	390
3	**LQP15MN1N2B00**	20	1.2	±0.1nH	390
4	**LQP15MN1N3B00**	20	1.3	±0.1nH	280
5	**LQP15MN1N5B00**	20	1.5	±0.1nH	280
6	**LQP15MN1N6B00**	20	1.6	±0.1nH	220
7	**LQP15MN1N8B00**	20	1.8	±0.1nH	280
8	**LQP15MN2N0B00**	20	2.0	±0.1nH	220
9	**LQP15MN2N2B00**	20	2.2	±0.1nH	220
10	**LQP15MN2N4B00**	20	2.4	±0.1nH	220
11	**LQP15MN2N7B00**	20	2.7	±0.1nH	220
12	**LQP15MN3N0B00**	20	3.0	±0.1nH	190
13	**LQP15MN3N3B00**	20	3.3	±0.1nH	190
14	**LQP15MN3N6B00**	20	3.6	±0.1nH	170
15	**LQP15MN3N9B00**	20	3.9	±0.1nH	170
16	**LQP15MN4N3B00**	20	4.3	±0.1nH	160
17	**LQP15MN4N7B00**	20	4.7	±0.1nH	160
18	**LQP15MN5N1B00**	20	5.1	±0.1nH	140
19	**LQP15MN5N6B00**	20	5.6	±0.1nH	140
20	**LQP15MN6N2B00**	20	6.2	±0.1nH	130
21	**LQP15MN6N8B00**	20	6.8	±0.1nH	130
22	**LQP15MN7N5B00**	20	7.5	±0.1nH	110
23	**LQP15MN8N2B00**	20	8.2	±0.1nH	110
24	**LQP15MN9N1B00**	20	9.1	±0.1nH	100

Continued on the following page.

Design Kits

Continued from the preceding page.

No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
25	**LQP15MN10NG00**	20	10	±2%	100
26	**LQP15MN12NG00**	20	12	±2%	90
27	**LQP15MN15NG00**	20	15	±2%	90
28	**LQP15MN18NG00**	20	18	±2%	80
29	**LQP15MN22NG00**	20	22	±2%	70
30	**LQP15MN27NG00**	20	27	±2%	70
31	**LQP15MN33NG00**	20	33	±2%	60

●EKLM15UB (High-frequency Monolithic Type)

No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
1	**LQG15HN1N2S00**	20	1.2	±0.3nH	200
2	**LQG15HN1N5S00**	20	1.5	±0.3nH	200
3	**LQG15HN1N8S00**	20	1.8	±0.3nH	200
4	**LQG15HN2N2S00**	20	2.2	±0.3nH	200
5	**LQG15HN2N7S00**	20	2.7	±0.3nH	200
6	**LQG15HN3N3S00**	20	3.3	±0.3nH	200
7	**LQG15HN3N9S00**	20	3.9	±0.3nH	200
8	**LQG15HN4N7S00**	20	4.7	±0.3nH	200
9	**LQG15HN5N6S00**	20	5.6	±0.3nH	200
10	**LQG15HN6N8J00**	20	6.8	±5%	200
11	**LQG15HN8N2J00**	20	8.2	±5%	200
12	**LQG15HN10NJ00**	20	10	±5%	200
13	**LQG15HN12NJ00**	20	12	±5%	200
14	**LQG15HN15NJ00**	20	15	±5%	200
15	**LQG15HN18NJ00**	20	18	±5%	200
16	**LQG15HN22NJ00**	20	22	±5%	200
17	**LQG15HN27NJ00**	20	27	±5%	200
18	**LQG15HN33NJ00**	20	33	±5%	200

●EKLM16UB (High-frequency Winding Type)

No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
1	**LQW18AN3N6C00**	20	3.6	±0.2nH	850
2	**LQW18AN3N9C00**	20	3.9	±0.2nH	850
3	**LQW18AN4N3C00**	20	4.3	±0.2nH	850
4	**LQW18AN5N6C00**	20	5.6	±0.2nH	750
5	**LQW18AN6N2C00**	20	6.2	±0.2nH	750
6	**LQW18AN6N8C00**	20	6.8	±0.2nH	750
7	**LQW18AN10NG00**	20	10	±2%	650
8	**LQW18AN11NG00**	20	11	±2%	650
9	**LQW18AN12NG00**	20	12	±2%	600
10	**LQW18AN13NG00**	20	13	±2%	600
11	**LQW18AN15NG00**	20	15	±2%	600
12	**LQW18AN16NG00**	20	16	±2%	550
13	**LQW18AN18NG00**	20	18	±2%	550
14	**LQW18AN20NG00**	20	20	±2%	550
15	**LQW18AN22NG00**	20	22	±2%	500
16	**LQW18AN24NG00**	20	24	±2%	500
17	**LQW18AN27NG00**	20	27	±2%	440
18	**LQW18AN30NG00**	20	30	±2%	420
19	**LQW18AN33NG00**	20	33	±2%	420
20	**LQW18AN36NG00**	20	36	±2%	400

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No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
21	**LQW18AN39NG00**	20	39	±2%	400
22	**LQW18AN43NG00**	20	43	±2%	380
23	**LQW18AN47NG00**	20	47	±2%	380
24	**LQW18AN51NG00**	20	51	±2%	370
25	**LQW18AN56NG00**	20	56	±2%	360
26	**LQW18AN62NG00**	20	62	±2%	280
27	**LQW18AN68NG00**	20	68	±2%	340
28	**LQW18AN72NG00**	20	72	±2%	270
29	**LQW18AN75NG00**	20	75	±2%	270
30	**LQW18AN82NG00**	20	82	±2%	250
31	**LQW18AN91NG00**	20	91	±2%	230
32	**LQW18ANR10G00**	20	100	±2%	220
33	**LQW18ANR11G00**	20	110	±2%	200
34	**LQW18ANR12G00**	20	120	±2%	180
35	**LQW18ANR13G00**	20	130	±2%	170
36	**LQW18ANR15G00**	20	150	±2%	160
37	**LQW18ANR16G00**	20	160	±2%	150
38	**LQW18ANR18G00**	20	180	±2%	140
39	**LQW18ANR20G00**	20	200	±2%	120
40	**LQW18ANR22G00**	20	220	±2%	120

●EKLM17UB (High-frequency Winding Type)

No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
1	**LQW18AN2N2D00**	20	2.2	±0.5nH	700
2	**LQW18AN3N6D00**	20	3.6	±0.5nH	850
3	**LQW18AN3N9D00**	20	3.9	±0.5nH	850
4	**LQW18AN4N3D00**	20	4.3	±0.5nH	850
5	**LQW18AN4N7D00**	20	4.7	±0.5nH	850
6	**LQW18AN5N6D00**	20	5.6	±0.5nH	750
7	**LQW18AN6N2D00**	20	6.2	±0.5nH	750
8	**LQW18AN6N8D00**	20	6.8	±0.5nH	750
9	**LQW18AN7N5D00**	20	7.5	±0.5nH	750
10	**LQW18AN8N2D00**	20	8.2	±0.5nH	650
11	**LQW18AN8N7D00**	20	8.7	±0.5nH	650
12	**LQW18AN9N1D00**	20	9.1	±0.5nH	650
13	**LQW18AN9N5D00**	20	9.5	±0.5nH	650
14	**LQW18AN10NJ00**	20	10	±5%	650
15	**LQW18AN11NJ00**	20	11	±5%	650
16	**LQW18AN12NJ00**	20	12	±5%	600
17	**LQW18AN13NJ00**	20	13	±5%	600
18	**LQW18AN15NJ00**	20	15	±5%	600
19	**LQW18AN16NJ00**	20	16	±5%	550
20	**LQW18AN18NJ00**	20	18	±5%	550
21	**LQW18AN20NJ00**	20	20	±5%	550
22	**LQW18AN22NJ00**	20	22	±5%	500
23	**LQW18AN24NJ00**	20	24	±5%	500
24	**LQW18AN27NJ00**	20	27	±5%	440
25	**LQW18AN30NJ00**	20	30	±5%	420
26	**LQW18AN33NJ00**	20	33	±5%	420
27	**LQW18AN36NJ00**	20	36	±5%	400
28	**LQW18AN39NJ00**	20	39	±5%	400
29	**LQW18AN43NJ00**	20	43	±5%	380
30	**LQW18AN47NJ00**	20	47	±5%	380

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Design Kits

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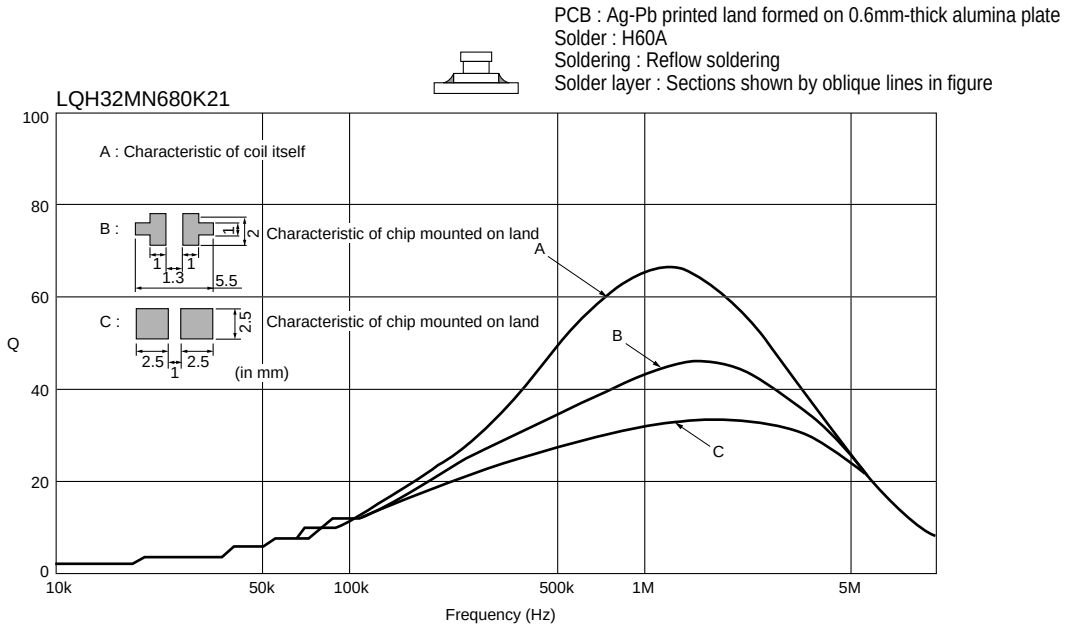
No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance	Rated Current (mA)
31	**LQW18AN51NJ00**	20	51	±5%	370
32	**LQW18AN56NJ00**	20	56	±5%	360
33	**LQW18AN62NJ00**	20	62	±5%	280
34	**LQW18AN68NJ00**	20	68	±5%	340
35	**LQW18AN72NJ00**	20	72	±5%	270
36	**LQW18AN75NJ00**	20	75	±5%	270
37	**LQW18AN82NJ00**	20	82	±5%	250
38	**LQW18AN91NJ00**	20	91	±5%	230
39	**LQW18ANR10J00**	20	100	±5%	220
40	**LQW18ANR11J00**	20	110	±5%	200
41	**LQW18ANR12J00**	20	120	±5%	180
42	**LQW18ANR13J00**	20	130	±5%	170
43	**LQW18ANR15J00**	20	150	±5%	160
44	**LQW18ANR16J00**	20	160	±5%	150
45	**LQW18ANR18J00**	20	180	±5%	140
46	**LQW18ANR20J00**	20	200	±5%	120
47	**LQW18ANR22J00**	20	220	±5%	120

●EKLM21UB (for General Use/ for Choke Monolithic Type)

No.	Part Number	Quantiy (pcs.)	Inductance (nH)	Inductance Tolerance (%)	Rated Current (mA)
1	**LQM21NNR10K10**	20	0.1	±10	250
2	**LQM21NNR12K10**	20	0.12	±10	250
3	**LQM21NNR15K10**	20	0.15	±10	250
4	**LQM21NNR18K10**	20	0.18	±10	250
5	**LQM21NNR22K10**	20	0.22	±10	250
6	**LQM21NNR27K10**	20	0.27	±10	250
7	**LQM21NNR33K10**	20	0.33	±10	250
8	**LQM21NNR39K10**	20	0.39	±10	200
9	**LQM21NNR47K10**	20	0.47	±10	200
10	**LQM21NNR56K10**	20	0.56	±10	150
11	**LQM21NNR68K10**	20	0.68	±10	150
12	**LQM21NNR82K10**	20	0.82	±10	150
13	**LQM21NN1R0K10**	20	1.0	±10	50
14	**LQM21NN1R2K10**	20	1.2	±10	50
15	**LQM21NN1R5K10**	20	1.5	±10	50
16	**LQM21NN1R8K10**	20	1.8	±10	50
17	**LQM21NN2R2K10**	20	2.2	±10	30
18	**LQM21NN2R7K10**	20	2.7	±10	30
19	**LQM21NN3R3K10**	20	3.3	±10	30
20	**LQM21NN3R9K10**	20	3.9	±10	30
21	**LQM21NN4R7K10**	20	4.7	±10	30
22	**LQM21DN1R0N00**	20	1.0	±30	60
23	**LQM21DN2R2N00**	20	2.2	±30	40
24	**LQM21DN4R7N00**	20	4.7	±30	30
25	**LQM21DN100N00**	20	10	±30	15
26	**LQM21DN220N00**	20	22	±30	13
27	**LQM21DN470N00**	20	47	±30	7
28	**LQM21FN1R0N00**	20	1.0	±30	220
29	**LQM21FN2R2N00**	20	2.2	±30	150
30	**LQM21FN4R7N00**	20	4.7	±30	80
31	**LQM21FN100N00**	20	10	±30	60
32	**LQM21FN220N00**	20	22	±30	13
33	**LQM21FN470N00**	20	47	±30	7

Information

1. Land Area and Q-F Characteristics



2. Coupling coefficient versus Coil-to-coil Spacing