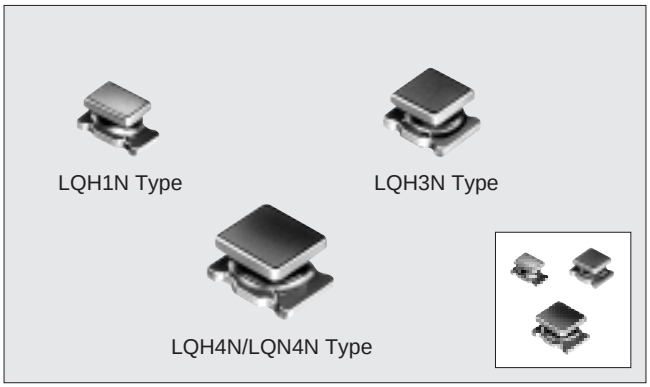
CHIP COIL

Standard Chip Coil **LQH1N/LQH3N/LQH(N)4N** Series

Wire Wound Chip Coil with High Q Value at High Frequencies and Low DC Resistance

The chip coil LQH/LQN series consists of miniature chip inductors wound on a special ferrite core and are made possible by an automatic winding technique developed by Murata. These inductors have a high Q at high frequencies and low DC resistance, making them very well suited to enhancing the performance of electronic circuits in video, communications, and audio equipment.



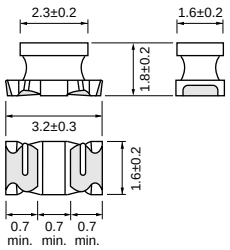
■FEATURES

1. There are three different inductor types: the LQH1N,LQH3N and LQH(N)4N series. These three series cover a wide inductance range (from 0.1µH to 2.2mH).
2. The series has outstanding frequency characteristics and a high Q value at high frequencies.
3. The low DC resistance permits high current flow.
4. The series has excellent solder heat resistance. Both flow and reflow soldering methods can be employed.

- LQH1N
  Miniature size (3.2×1.6×1.8mm) allows parallel mounting at 2.5mm pitch. The series is suitable for portable audio-visual equipment.
- LQH3N
  A high Q value makes this series suitable for circuits up to 100MHz in frequency. The series is excellent for video equipment.
- LQH(N)4N
  This series offers high inductance values and high current capacity. At 10µH, up to 450mA designs are possible, resulting in excellent performance when the inductors are used as choke coils.

■DIMENSIONS

LQH1N Type



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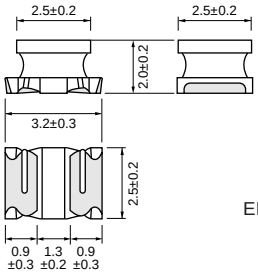
LQH3N Type



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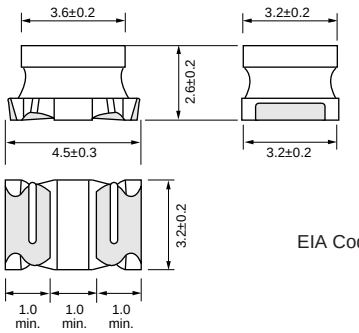
LQH4N/LQN4N Type



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(in mm)

■SPECIFICATIONS

LQH1N

Part Number	Inductance			Q		DC Resistance (Ω)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range
	Nominal Value(μH)	Tolerance (%)	Test Frequency	Nominal Value(min.)	Test Frequency				
LQH1NR15K04	0.15	±10	1MHz	20	25MHz	0.39±40%	250	250	−25 to +85℃
LQH1NR22K04	0.22					0.43±40%		240	
LQH1NR33K04	0.33			30		0.45±40%		230	
LQH1NR47K04	0.47					0.83±40%	200	215	
LQH1NR56K04	0.56					0.61±40%	180	200	
LQH1NR68K04	0.68					0.67±40%	160	190	
LQH1NR82K04	0.82					0.73±40%	120	185	
LQH1N1R0K04	1.0			35	10MHz	0.49±30%	100	175	
LQH1N1R2K04	1.2					0.9 ±30%	90	165	
LQH1N1R5K(J)04	1.5	±10 (±5)				1.0 ±30%	75	155	
LQH1N1R8K(J)04	1.8					1.6 ±30%	60	150	
LQH1N2R2K(J)04	2.2					0.7 ±30%	50	140	
LQH1N2R7K(J)04	2.7					0.55±30%	43	135	
LQH1N3R3K(J)04	3.3				8MHz	0.61±30%	38	130	
LQH1N3R9K(J)04	3.9					1.5 ±30%	35	125	
LQH1N4R7K(J)04	4.7					1.7 ±30%	31	120	
LQH1N5R6K(J)04	5.6					1.8 ±30%	28	115	
LQH1N6R8K(J)04	6.8					2.0 ±30%	25	110	
LQH1N8R2K(J)04	8.2					2.2 ±30%	23	105	
LQH1N100K(J)04	10				5MHz	2.5 ±30%	20	100	
LQH1N120K(J)04	12					2.7 ±30%	18	95	
LQH1N150K(J)04	15					3.0 ±30%	16	90	
LQH1N180K(J)04	18					3.4 ±30%	15	85	
LQH1N220K(J)04	22			40	2.5MHz	3.1 ±30%	14		
LQH1N270K(J)04	27					3.4 ±30%	13		
LQH1N330K(J)04	33					3.8 ±30%	12	80	
LQH1N390K(J)04	39					7.2 ±30%	11	55	
LQH1N470K(J)04	47					8.0 ±30%	10		
LQH1N560K(J)04	56					8.9 ±30%	9.0	50	
LQH1N680K(J)04	68					9.9 ±30%	8.5		
LQH1N820K(J)04	82					11 ±30%	7.5	45	
LQH1N101K(J)04	100					12 ±30%	7.0		

LQH3N

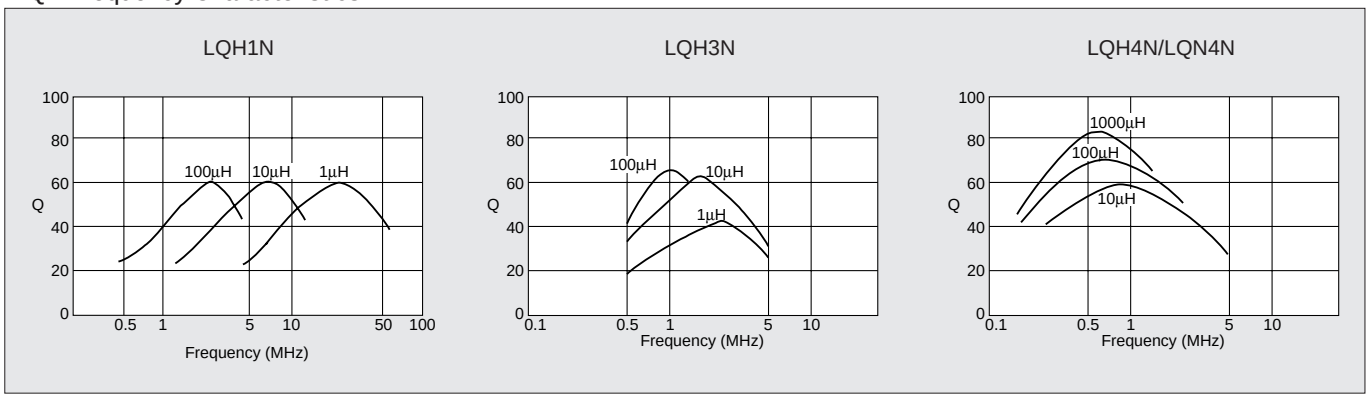
Part Number	Inductance			Q		DC Resistance (Ωmax.)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range
	Nominal Value(μH)	Tolerance (%)	Test Frequency	Nominal Value(min.)	Test Frequency				
LQH3NR10M34	0.10	±20	1MHz	20	25.2MHz	0.25	200	700	−25 to +85℃
LQH3NR18M34	0.18							650	
LQH3NR27M34	0.27			25				600	
LQH3NR39M34	0.39							530	
LQH3NR56M34	0.56			30			160		
LQH3NR68M34	0.68							470	
LQH3NR82M34	0.82						120	450	
LQH3N1R0M34	1.0			20	1MHz	0.5	100	445	
LQH3N1R2M34	1.2					0.6		425	
LQH3N1R5K34	1.5	±10					75	400	
LQH3N1R8K34	1.8					0.7	60	390	
LQH3N2R2K34	2.2					0.8	50	370	
LQH3N2R7K34	2.7					0.9	43	320	
LQH3N3R3K34	3.3					1.0	38	300	
LQH3N3R9K34	3.9					1.1	35	290	
LQH3N4R7K34	4.7					1.2	31	270	
LQH3N5R6K34	5.6					1.3	28	250	
LQH3N6R8K34	6.8					1.5	25	240	
LQH3N8R2K34	8.2					1.6	23	225	
LQH3N100K(J)34	10	±10 (±5)		35		1.8	20	190	
LQH3N120K(J)34	12					2.0	18	180	
LQH3N150K(J)34	15					2.2	16	170	
LQH3N180K(J)34	18					2.5	15	165	
LQH3N220K(J)34	22					2.8	14	150	
LQH3N270K(J)34	27					3.1	13	125	
LQH3N330K(J)34	33			40		3.5	12	115	
LQH3N390K(J)34	39					3.9	11	110	
LQH3N470K(J)34	47					4.3		100	
LQH3N560K(J)34	56					4.9	10	85	
LQH3N680K(J)34	68					5.5	9.0	80	
LQH3N820K(J)34	82					6.2	8.5	70	
LQH3N101K(J)34	100				796kHz	7.0	8.0	80	
LQH3N121K(J)34	120					8.0	7.5	75	
LQH3N151K(J)34	150					9.3	7.0	70	
LQH3N181K(J)34	180					10.2	6.0	65	
LQH3N221K(J)34	220					11.8	5.5		
LQH3N271K(J)34	270					12.5	5.0		
LQH3N331K(J)34	330					13.0			
LQH3N391K(J)34	390			50		22.0		50	
LQH3N471K(J)34	470		1kHz			25.0		45	
LQH3N561K(J)34	560					28.0		40	

LQH4N/LQN4N

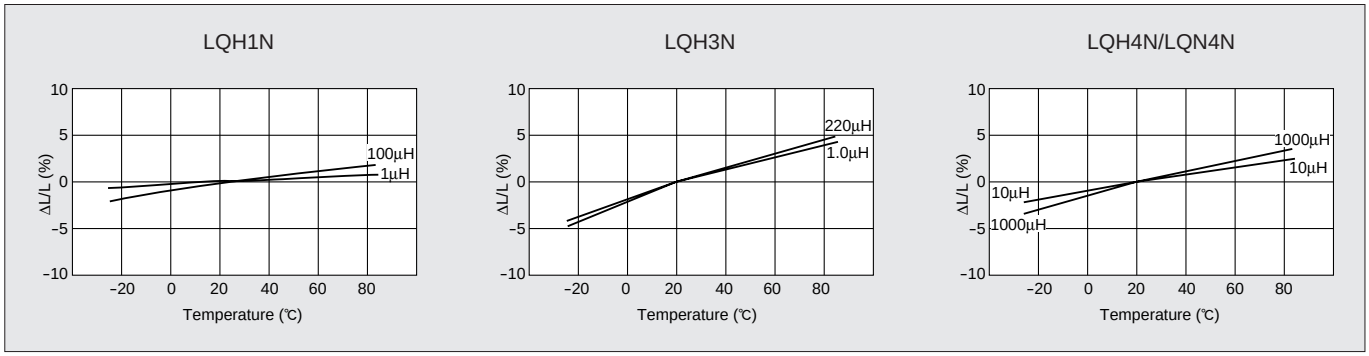
Part Number	Inductance			Q		DC Resistance (Ωmax.)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range
	Nominal Value(μH)	Tolerance (%)	Test Frequency	Nominal Value(min.)	Test Frequency				
LQH4N1R0M04	1.0	±20	1MHz	20	1MHz	0.20	120	500	−25 to +85℃
LQH4N1R2M04	1.2						100		
LQH4N1R5M04	1.5					0.30	85		
LQH4N1R8M04	1.8						75		
LQH4N2R2M04	2.2						62		
LQH4N2R7M04	2.7					0.32	53		
LQH4N3R3M04	3.3					0.35	47		
LQH4N3R9M04	3.9					0.38	41		
LQH4N4R7K04	4.7	±10		30		0.40	38		
LQH4N5R6K04	5.6					0.47	33		
LQH4N6R8K04	6.8					0.50	31	450	
LQH4N8R2K04	8.2					0.56	27		
LQH4N100K(J)04	10	±10 (±5)		35			23	400	
LQH4N120K(J)04	12					0.62	21	380	
LQH4N150K(J)04	15					0.73	19	360	
LQH4N180K(J)04	18					0.82	17	340	
LQH4N220K(J)04	22					0.94	15	320	
LQH4N270K(J)04	27					1.1	14	300	
LQH4N330K(J)04	33					1.2	12	270	
LQH4N390K(J)04	39					1.4	11	240	
LQH4N470K(J)04	47					1.5	10	220	
LQH4N560K(J)04	56					1.7	9.3	200	
LQH4N680K(J)04	68					1.9	8.4	180	
LQH4N820K(J)04	82					2.2	7.5	170	
LQH4N101K(J)04	100			40	796kHz	2.5	6.8	160	
LQH4N121K(J)04	120					3.0	6.2	150	
LQH4N151K(J)04	150					3.7	5.5	130	
LQH4N181K(J)04	180					4.5	5.0	120	
LQH4N221K(J)04	220					5.4	4.5	110	
LQH4N271K(J)04	270					6.8	4.0	100	
LQH4N331K(J)04	330					8.2	3.6	95	
LQH4N391K(J)04	390					9.7	3.3	90	
LQH4N471K(J)04	470		1kHz			11.8	3.0	80	
LQH4N561K(J)04	560					14.5	2.7	70	
LQH4N681K(J)04	680					17.0	2.5	65	
LQH4N821K(J)04	820					20.5	2.2	60	
LQH4N102K(J)04	1000				252kHz	25.0	2.0	50	
LQH4N122K(J)04	1200					30.0	1.8	45	
LQH4N152K(J)04	1500					37.0	1.6	40	
LQN4N182K(J)04	1800					45.0	1.5	35	
LQN4N222K(J)04	2200					50.0	1.3	30	

■TYPICAL ELECTRICAL CHARACTERISTICS

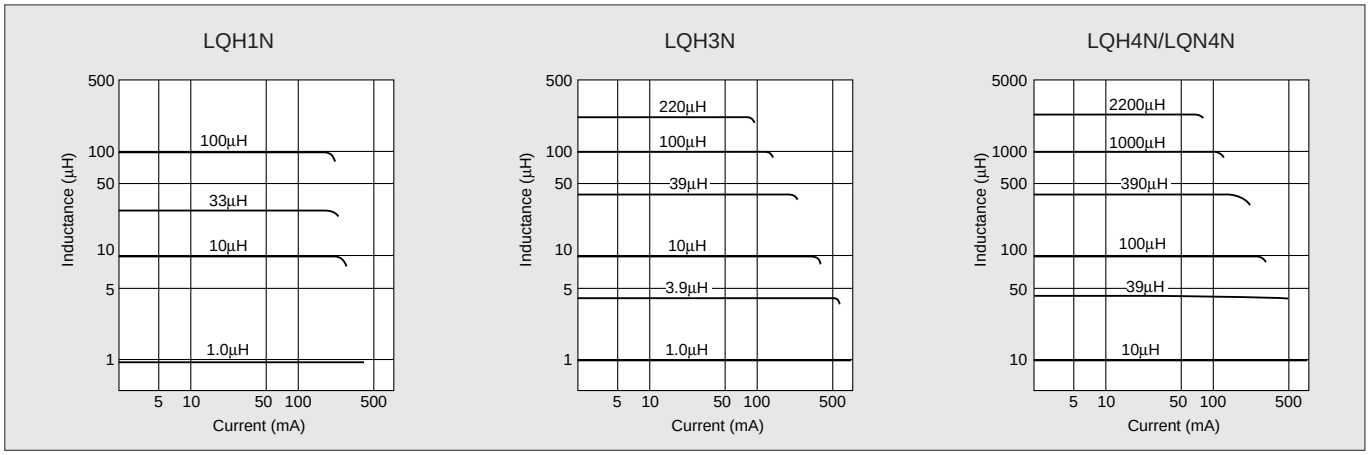
● Q - Frequency Characteristics



● Inductance - Temperature Characteristics



● Inductance - Current Characteristics



● Coupling Coefficient