

# 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

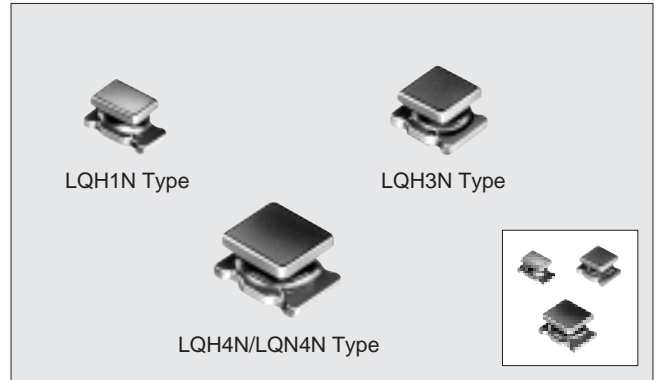
Miniature size (3.2×1.6×1.8mm) allows parallel mounting at 2.5mm pitch. The series is suitable for portable audio-visual equipment.

#### ● LQH3N

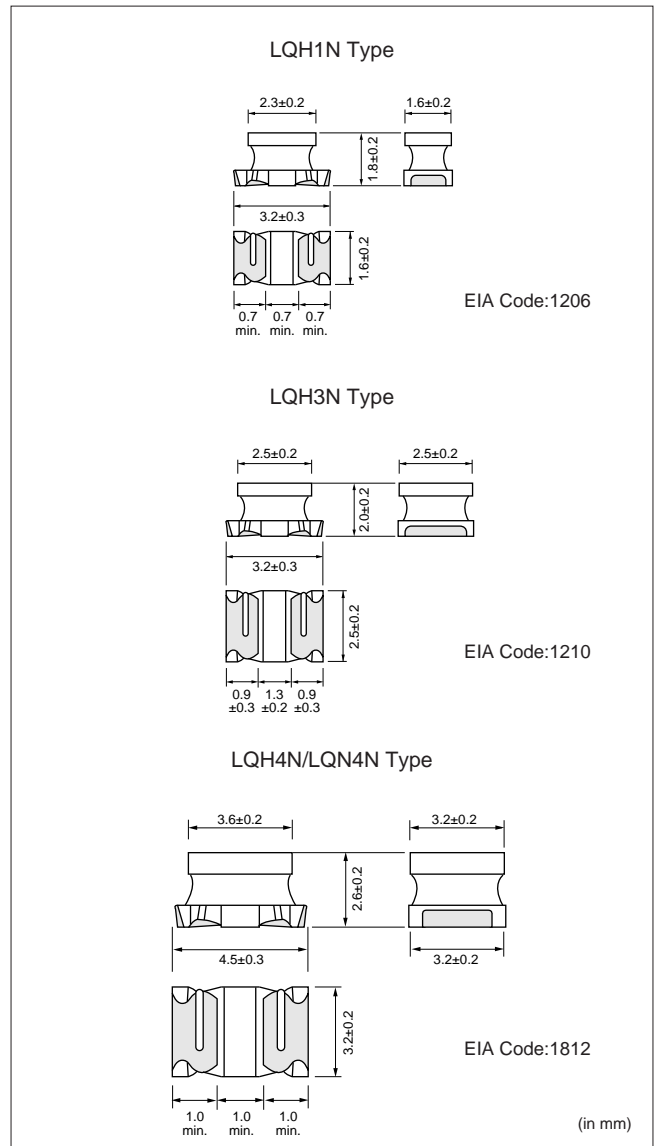
A high Q value makes this series suitable for circuits up to 100MHz in frequency. The series is excellent for video equipment.

#### ● 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



■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°C
LQH1NR22K04	0.22					0.43±40%		240	
LQH1NR33K04	0.33					0.45±40%		230	
LQH1NR47K04	0.47					0.83±40%		215	
LQH1NR56K04	0.56			0.61±40%		200			
LQH1NR68K04	0.68			0.67±40%		180			
LQH1NR82K04	0.82			0.73±40%		160			
LQH1N1R0K04	1.0			120		185			
LQH1N1R2K04	1.2	±10	1MHz	30	10MHz	0.49±30%	100	175	
LQH1N1R5K(J)04	1.5					0.9 ±30%	90	165	
LQH1N1R8K(J)04	1.8					1.0 ±30%	75	155	
LQH1N2R2K(J)04	2.2					1.6 ±30%	60	150	
LQH1N2R7K(J)04	2.7					0.7 ±30%	50	140	
LQH1N3R3K(J)04	3.3			0.55±30%	43	135			
LQH1N3R9K(J)04	3.9			35	8MHz	0.61±30%	38	130	
LQH1N4R7K(J)04	4.7					1.5 ±30%	35	125	
LQH1N5R6K(J)04	5.6					1.7 ±30%	31	120	
LQH1N6R8K(J)04	6.8					1.8 ±30%	28	115	
LQH1N8R2K(J)04	8.2	2.0 ±30%	25			110			
LQH1N100K(J)04	10	±10 (±5)	1MHz	35	5MHz	2.2 ±30%	23	105	
LQH1N120K(J)04	12					2.5 ±30%	20	100	
LQH1N150K(J)04	15					2.7 ±30%	18	95	
LQH1N180K(J)04	18					3.0 ±30%	16	90	
LQH1N220K(J)04	22					3.4 ±30%	15	85	
LQH1N270K(J)04	27			40	2.5MHz	3.1 ±30%	14	85	
LQH1N330K(J)04	33					3.4 ±30%	13	80	
LQH1N390K(J)04	39					3.8 ±30%	12	80	
LQH1N470K(J)04	47					7.2 ±30%	11	55	
LQH1N560K(J)04	56					8.0 ±30%	10	55	
LQH1N680K(J)04	68	40	2.5MHz	8.9 ±30%	9.0	50			
LQH1N820K(J)04	82			9.9 ±30%	8.5	50			
LQH1N101K(J)04	100			11 ±30%	7.5	45			
				12 ±30%	7.0	45			

LQH3N

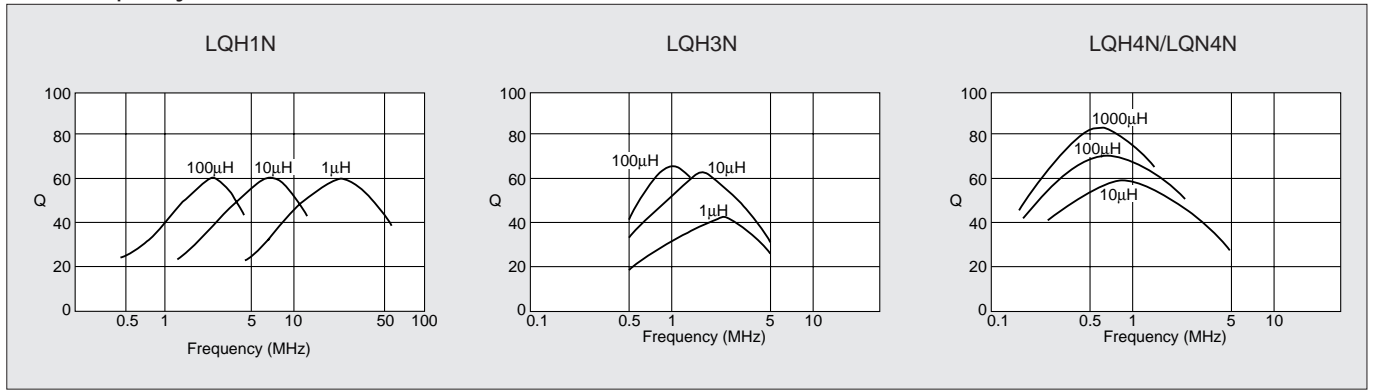
Part Number	Inductance			Q		DC Resistance (Ωmax.)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range
	Nominal Value(μH)	Tolerance (%)	Test Frequency	Nominal Value(min.)	Test Frequency				
LQH3NR10M34	0.10	±20	1MHz	20	25.2MHz	0.25	200	700	-25 to +85°C
LQH3NR18M34	0.18							650	
LQH3NR27M34	0.27			600					
LQH3NR39M34	0.39							530	
LQH3NR56M34	0.56			160					
LQH3NR68M34	0.68							470	
LQH3NR82M34	0.82			120					
LQH3N1R0M34	1.0							100	
LQH3N1R2M34	1.2			425					
LQH3N1R5K34	1.5							±10	
LQH3N1R8K34	1.8	400							
LQH3N2R2K34	2.2	390							
LQH3N2R7K34	2.7	370							
LQH3N3R3K34	3.3	320							
LQH3N3R9K34	3.9	300							
LQH3N4R7K34	4.7	290							
LQH3N5R6K34	5.6	270							
LQH3N6R8K34	6.8	250							
LQH3N8R2K34	8.2	240							
LQH3N100K(J)34	10	±10 (±5)	35	1MHz	0.6	75	225		
LQH3N120K(J)34	12						190		
LQH3N150K(J)34	15						180		
LQH3N180K(J)34	18						170		
LQH3N220K(J)34	22						165		
LQH3N270K(J)34	27						165		
LQH3N330K(J)34	33						150		
LQH3N390K(J)34	39						125		
LQH3N470K(J)34	47						115		
LQH3N560K(J)34	56						110		
LQH3N680K(J)34	68	40	796kHz	1MHz	0.7	60	100		
LQH3N820K(J)34	82						85		
LQH3N101K(J)34	100						80		
LQH3N121K(J)34	120						80		
LQH3N151K(J)34	150						75		
LQH3N181K(J)34	180						70		
LQH3N221K(J)34	220						70		
LQH3N271K(J)34	270						65		
LQH3N331K(J)34	330						65		
LQH3N391K(J)34	390						65		
LQH3N471K(J)34	470	50	1kHz	796kHz	0.8	50	50		
LQH3N561K(J)34	560						45		
								40	

LQH4N/LQN4N

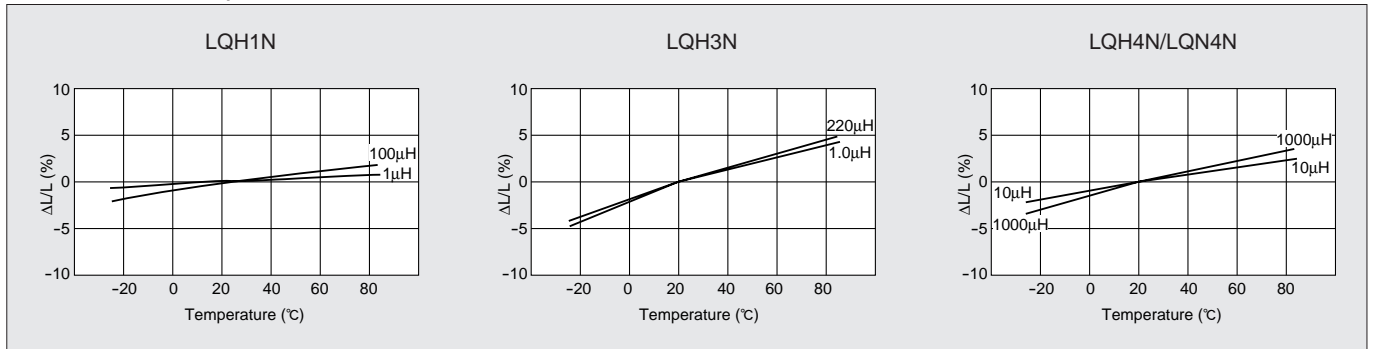
Part Number	Inductance			Q		DC Resistance (Ωmax.)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range	
	Nominal Value(μH)	Tolerance (%)	Test Frequency	Nominal Value(min.)	Test Frequency					
LQH4N1R0M04	1.0	±20	1MHz	20	1MHz	0.20	120	500	-25 to +85°C	
LQH4N1R2M04	1.2						100			
LQH4N1R5M04	1.5					0.30	85			
LQH4N1R8M04	1.8						75			
LQH4N2R2M04	2.2					0.32	62			
LQH4N2R7M04	2.7						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			
LQH4N8R2K04	8.2					0.56	27			
LQH4N100K(J)04	10	±10 (±5)		35		796kHz	0.56	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		252kHz		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	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	1kHz	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

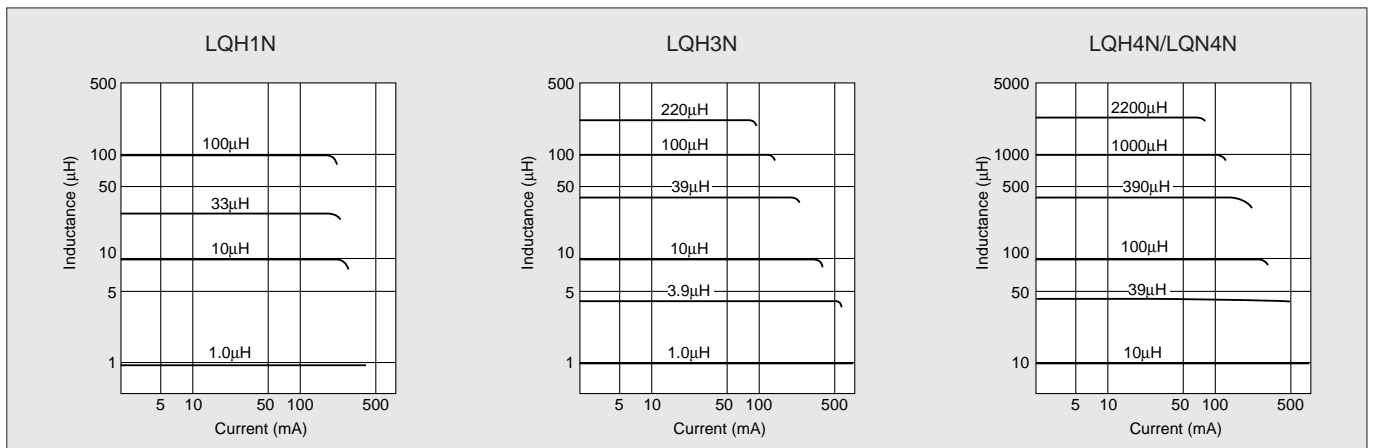
● Q - Frequency Characteristics



● Inductance - Temperature Characteristics



● Inductance - Current Characteristics



● Coupling Coefficient

