



CHIP COIL



Wire Wound Chip Coil **LQN21A/LQN1A** Series for High Frequency

Small Winding-type Air-core Chip Coil with High Q value at High Frequencies and Low DC Resistance

The LQN21A/LQN1A series consists of air-core chip coil using a sub-miniature alumina core as a bobbin. The high Q value at high frequencies and high self-resonant frequencies make this coil perfect for use in the high frequency circuits of communications equipment.

FEATURES

1. LQN21A series covers inductance range from 3.3nH to 470nH.
2. Their high self-resonant frequency characteristic yields a high Q value and highly stable inductance at high frequencies.
3. Low DC resistance design enables to handle higher allowable current.
4. The series has excellent solder heat resistance. Both flow and reflow soldering methods can be employed.

● LQN21Axxxx04

Inductance tolerance $\pm 0.5\text{nH}$ (8.2nH max.), $\pm 5\%$ (10nH to 220nH) and $\pm 10\%$ (270nH to 470nH) are realized. The sub miniature dimensions (2.0X1.5mm) allow high density mounting.

● LQN21A (Tight inductance tolerance)

Tight inductance tolerance of $\pm 2\%$ is available.

● LQN21Axxxx44

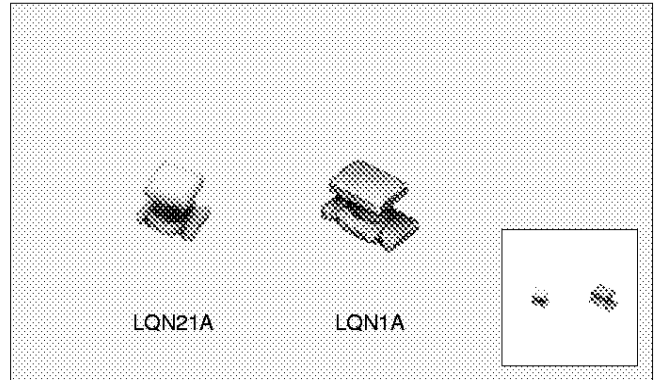
LQN21Axxxx44 using thick wire ($\phi 0.12\text{mm}$) has higher Q value than existing LQN21A series. Low DC resistance design enables to handle higher current. LQN21Axxxx44 covers inductance range from 2.7nH to 27nH.

● LQN1A

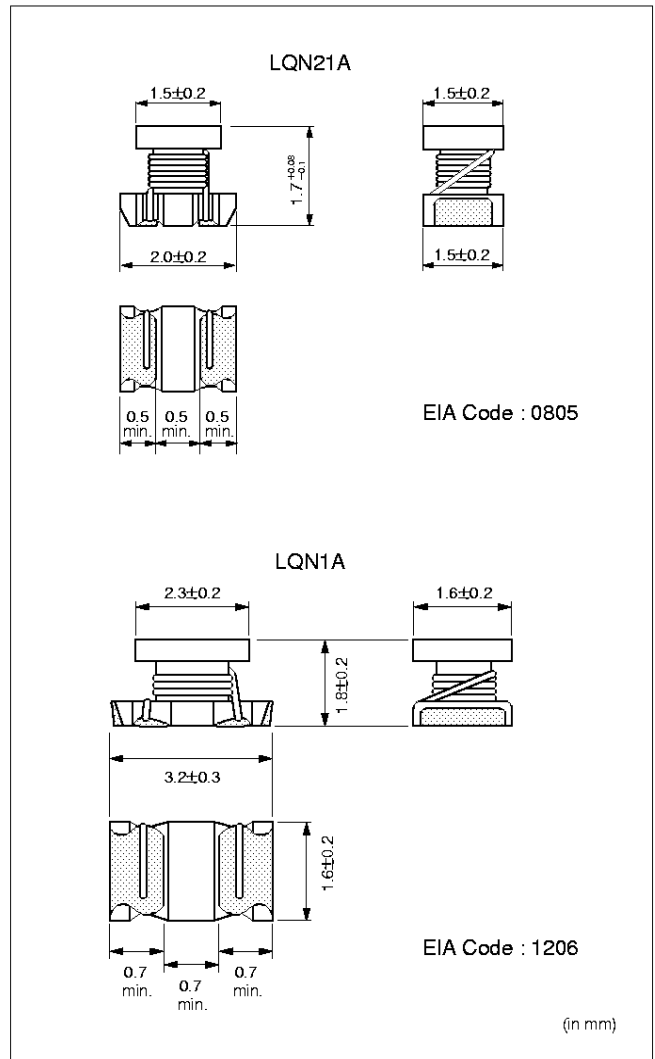
Miniature size (3.2X1.6X1.8mm) allows parallel mounting at 2.5mm pitch. Inductance tolerance $\pm 5\%$ realized.

APPLICATIONS

- High frequency circuit in telecommunication equipment, such as DECT, PHS, PCS, PCN, GSM and CDMA.
- Impedance Matching—Power-AMP Module (PA), SAW filter
- Resonance circuits—VCO



DIMENSIONS



■SPECIFICATIONS

LQN21Axxxx04

Part Number	Inductance			Q			DC Resistance (Ω max.)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range	
	Nominal Value (nH)	Tolerance	Test Frequency (MHz)	Peak Value (Typ.)	Min. Value	Test Frequency (MHz)					
LQN21A3N3D04	3.3	±0.5nH	100	70	10	250	0.05	6000	910	-25 to +85°C	
LQN21A6N8D(K)04	6.8	±0.5nH			20		0.11	5400	680		
LQN21A8N2D(K)04	8.2	(±10%)			30		70	0.12	3900		630
LQN21A10NJ(K)04	10	±5% (±10%)						0.03	3300		1320
LQN21A12NJ(K)04	12							0.11	3200		680
LQN21A15NJ(K)04	15							0.12	2700		630
LQN21A18NJ(K)04	18							0.10	2600		690
LQN21A22NJ(K)04	22							0.09	2100		720
LQN21A27NJ(K)04	27							0.17	2300		540
LQN21A33NJ(K)04	33							0.15	1900		570
LQN21A39NJ(K)04	39							0.09	1700		730
LQN21A47NJ(K)04	47							0.23	1600		450
LQN21A56NJ(K)04	56				0.26		1500	430			
LQN21A68NJ(K)04	68	0.23			1200		460				
LQN21A82NJ(K)04	82	0.42			1100		320				
LQN21AR10J(K)04	100	0.38			900		350				
LQN21AR12J(K)04	120	0.40			750		320				
LQN21AR15J(K)04	150	0.45			350		390				
LQN21AR18J(K)04	180	0.71			700		250				
LQN21AR22J(K)04	220	0.70			500		240				
LQN21AR27K04	270	±10%	10	50	15	25.2	2.00	550	190		
LQN21AR33K04	330						2.20	500	180		
LQN21AR39K04	390						2.50	400	170		
LQN21AR47K04	470						2.80	350	160		

LQN21A (Tight inductance tolerance)

Part Number	Inductance			Q			DC Resistance (Ω max.)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range	
	Nominal Value (nH)	Tolerance	Test Frequency (MHz)	Peak Value (Typ.)	Min. Value	Test Frequency (MHz)					
LQN21A33NG04	33	±2%	100	65	40	250	0.15	1900	570	-25 to +85°C	
LQN21A39NG04	39			80			0.09	1700	730		
LQN21A47NG04	47			65			0.23	1600	450		
LQN21A56NG04	56			70			0.26	1500	430		
LQN21A68NG04	68			65			0.23	1200	460		
LQN21A82NG04	82			60			0.42	1100	320		
LQN21AR10G04	100			55			0.55	900	270		
LQN21AR12G04	120			50			0.40	750	320		
LQN21AR15G04	150			55			0.68	350	260		
LQN21AR18G04	180			50			35	0.71	700		250
LQN21AR22G04	220							0.70	500		240

*1 Measured with LCR meter YHP4191A, measuring tap 16193A.

*2 Measured with Network Analyzer HP8753C.

LQN21Axxxx44

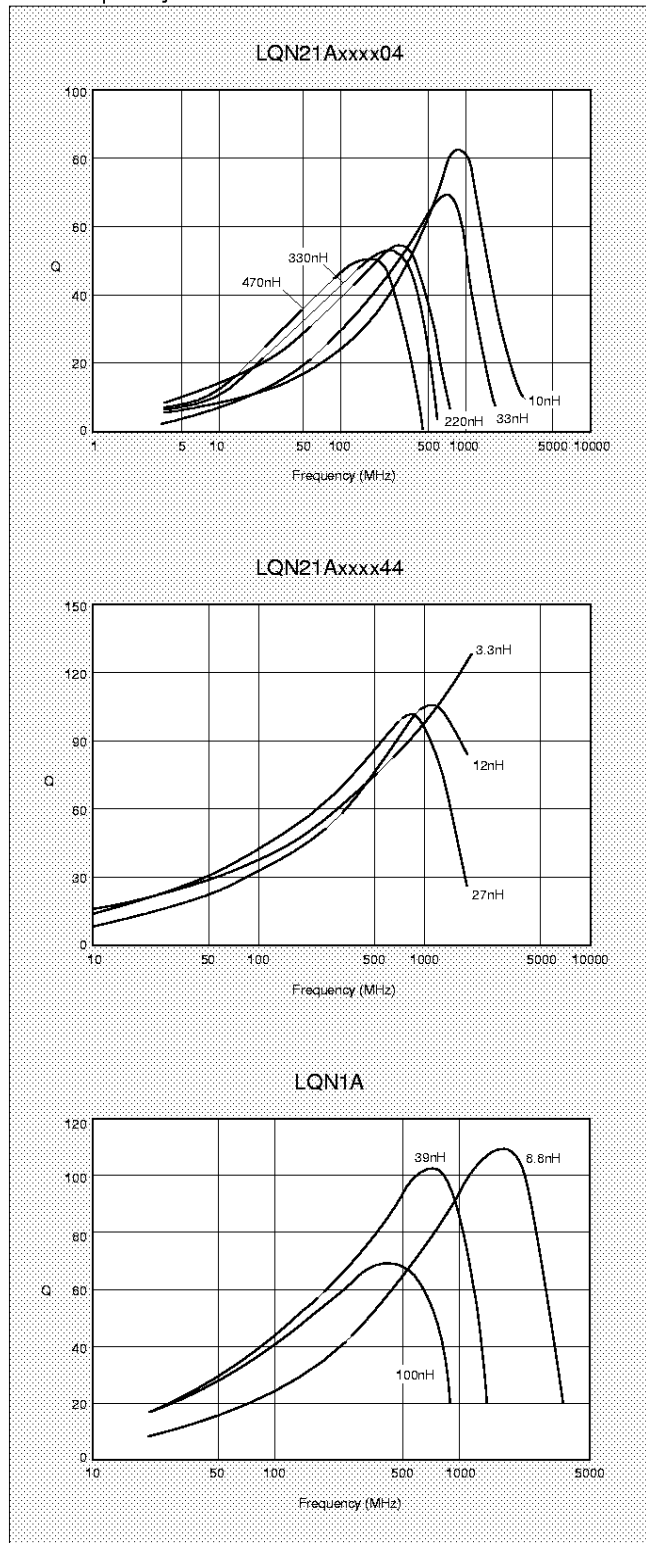
Part Number	Inductance			Q				DC Resistance (Ω max.)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range	
	Nominal Value (nH)	Tolerance	Test Frequency (MHz)	Nominal Value (min.)	Test Frequency (MHz)	800MHz (Typ.)	1.5GHz (Typ.)					
LQN21A2N7D44	2.7	±0.5nH	100	20	250	85	120	0.02	6000	1900	-25 to +85°C	
LQN21A3N1D44	3.1						1800					
LQN21A3N3D44	3.3						1700					
LQN21A5N6D44	5.6						1500					
LQN21A6N8D44	6.8						5400			1400		
LQN21A8N6D44	8.6									1300		
LQN21A10NJ44	10	±5%	40	250	105	75	85	0.03	3300			
LQN21A12NK44	12	±10%					100		90	0.04		3200
LQN21A15NK44	15											3100
LQN21A18NK44	18.8											2600
LQN21A21NK44	21											2200
LQN21A27NK44	27											900

LQN1A

Part Number	Inductance			Q			DC Resistance (Ω)	Self-resonant Frequency (MHz min.)	Allowable Current (mA)	Operating Temp. Range
	Nominal Value (nH)	Tolerance (%)	Test Frequency	Peak Value (Typ.)	Min. Value	Test Frequency				
LQN1A8N8J(K)04	8.8	±5 (±10)	100MHz	100	60	436MHz	0.029±40%	1000	750	-25 to +85°C
LQN1A15NJ(K)04	14.7						0.035±40%		680	
LQN1A17NJ(K)04	17						0.037±40%		650	
LQN1A23NJ(K)04	23						0.046±40%		590	
LQN1A27NJ(K)04	27						0.051±40%		560	
LQN1A33NJ(K)04	33						0.057±40%		530	
LQN1A39NJ(K)04	39						0.067±40%		490	
LQN1A47NJ(K)04	47						0.110±40%		380	
LQN1A56NJ(K)04	56						0.140±40%		330	
LQN1A64NJ(K)04	64						0.180±40%		290	
LQN1A84NJ(K)04	84						0.280±40%		240	
LQN1AR10J(K)04	100						0.300±40%		230	

■ TYPICAL ELECTRICAL CHARACTERISTICS

● Q-Frequency Characteristics



● Inductance-Frequency Characteristics

