



# SMD Power Inductors-LQH Series



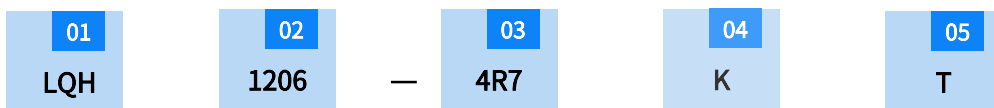
## FEATURES

- ROHS, Halogen free and REACH Compliance.
- Miniature chip inductors wound on a special ferrite core.
- High Q value at high frequencies and low D.C Resistance.
- Excellent solder heat resistance.

## APPLICATIONS

- Personal, cordless phone, High freq communication products, GPS and other electronic equipment.

## PRODUCT IDENTIFICATION



01 TyPe	
LQH	SMD Power Inductor

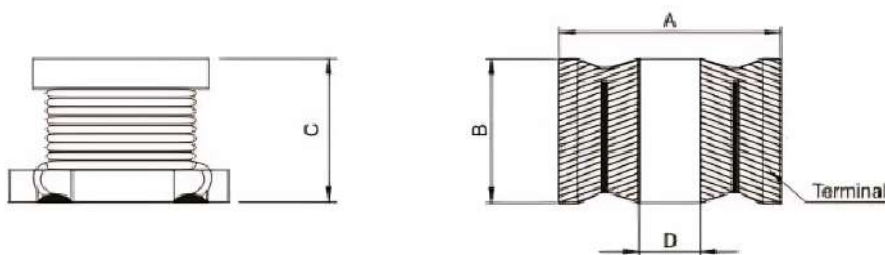
02 External Dimensions (LxW)(mm)	
1206	3.2x 1.2
1210	3.2x 2.5
1812	4.5x 3.2

03 Nominal Inductance	
Example	Nominal value
4R7	4.7uH
470	47uH
471	470uH

04 Tolerance	
J	±5%
K	±10%
M	±20%

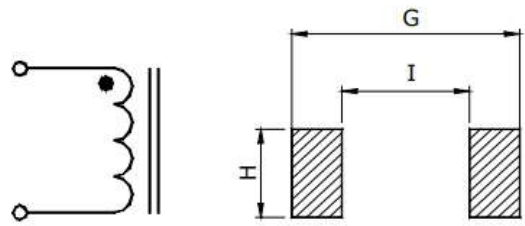
05 Packing	
T	Tape & Reel

## SHAPE AND DIMENSIONS



Part Number	Dimensions(mm)			
	A	B	C	D
LQH1206	3.2±0.3	1.6±0.3	1.8±0.3	0.7REF
LQH1210	3.2±0.3	2.5±0.3	2.0±0.3	1.0REF
LQH1812	4.5±0.3	3.2±0.3	2.6±0.3	1.0REF

## RECOMMENDED PC BOARD PATTERN



Part Number	Dimensions(mm)		
	G	I	H
LQH1206	3.70	0.70	2.00
LQH1210	3.70	1.10	2.90
LQH1812	5.00	1.50	3.70

## SPECIFICATIONS

### ● LQH1206 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (A)
LQH1206-R15	0.15	M	100/0.25	0.10	1.00
LQH1206-R22	0.22		100/0.25	0.11	0.95
LQH1206-R33	0.33		100/0.25	0.13	0.90
LQH1206-R47	0.47		100/0.25	0.15	0.85
LQH1206-R56	0.56		100/0.25	0.16	0.80
LQH1206-R68	0.68		100/0.25	0.17	0.75
LQH1206-R82	0.82		100/0.25	0.18	0.65



Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (A)
LQH1206-1R0	1.0	K、M	100/0.25	0.20	0.59
LQH1206-1R5	1.5		100/0.25	0.28	0.53
LQH1206-1R8	1.8		100/0.25	0.30	0.45
LQH1206-2R7	2.7		100/0.25	0.40	0.41
LQH1206-3R3	3.3		100/0.25	0.42	0.39
LQH1206-3R9	3.9		100/0.25	0.50	0.36
LQH1206-4R7	4.7		100/0.25	0.62	0.34
LQH1206-5R6	5.6		100/0.25	0.75	0.30
LQH1206-6R8	6.8		100/0.25	0.80	0.27
LQH1206-8R2	8.2		100/0.25	2.30	0.25
LQH1206-100	10		100/0.25	2.60	0.20
LQH1206-120	12		100/0.25	2.8	0.20
LQH1206-150	15		100/0.25	3.18	0.18
LQH1206-180	18		100/0.25	3.5	0.17
LQH1206-220	22		100/0.25	3.60	0.15
LQH1206-270	27		100/0.25	3.7	0.14
LQH1206-330	33		100/0.25	3.90	0.13
LQH1206-390	39		100/0.25	6.10	0.12
LQH1206-470	47		100/0.25	7.0	0.11
LQH1206-560	56		100/0.25	8.0	0.10
LQH1206-680	68	100/0.25	9.0	0.09	
LQH1206-820	82	100/0.25	10.0	0.08	
LQH1206-101	100	100/0.25	12	0.07	

**Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、M: ±20%;**

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current



● LQH1206 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (A)
LQH1210-R12	0.12	K、M	100/0.25	0.08	1.5
LQH1210-1R0	1.0		100/0.25	0.5	0.89
LQH1210-1R2	1.2		100/0.25	0.6	0.84
LQH1210-1R5	1.5		100/0.25	0.7	0.65
LQH1210-1R8	1.8		100/0.25	0.85	0.63
LQH1210-2R7	2.7		100/0.25	0.9	0.58
LQH1210-3R3	3.3		100/0.25	1.0	0.54
LQH1210-3R9	3.9		100/0.25	1.1	0.50
LQH1210-4R7	4.7		100/0.25	1.26	0.47
LQH1210-5R6	5.6		100/0.25	1.38	0.42
LQH1210-6R8	6.8		100/0.25	1.5	0.38
LQH1210-8R2	8.2		100/0.25	1.6	0.34
LQH1210-100	10		100/0.25	1.8	0.31
LQH1210-120	12		100/0.25	2.0	0.30
LQH1210-150	15		100/0.25	2.2	0.28
LQH1210-180	18		100/0.25	2.5	0.23
LQH1210-220	22		100/0.25	2.8	0.21
LQH1210-270	27		100/0.25	3.1	0.19
LQH1210-330	33		100/0.25	3.5	0.17
LQH1210-390	39		100/0.25	3.9	0.15
LQH1210-470	47		100/0.25	4.3	0.14
LQH1210-560	56		100/0.25	4.9	0.12
LQH1210-680	68		100/0.25	5.5	0.115
LQH1210-820	82		100/0.25	6.2	0.11
LQH1210-101	100		100/0.25	4.0	0.10
LQH1210-121	120		100/0.25	8.0	0.089
LQH1210-151	150		100/0.25	9.3	0.079
LQH1210-181	180		100/0.25	10.2	0.068
LQH1210-221	220		100/0.25	11.8	0.065
LQH1210-271	270		100/0.25	12.5	0.055



Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (A)
LQH1210-331	330	K、M	100/0.25	13.0	0.05
LQH1210-391	390		100/0.25	22.0	0.048
LQH1210-471	470		100/0.25	25.0	0.045
LQH1210-561	560		100/0.25	28.0	0.04

**Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、M: ±20%;**

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● **LQH1812 TYPE**

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (A)
LQH1812-R12	0.12	M	100/0.25	0.035	4.00
LQH1812-R27	0.27		100/0.25	0.04	3.80
LQH1812-R47	0.47		100/0.25	0.05	3.50
LQH1812-1R0	1.0	K、M	100/0.25	0.06	3.20
LQH1812-1R5	1.5		100/0.25	0.065	2.8
LQH1812-2R2	2.2		100/0.25	0.08	2.60
LQH1812-3R3	3.3		100/0.25	0.115	2.3
LQH1812-4R7	4.7		100/0.25	0.17	2.00
LQH1812-6R8	6.8		100/0.25	0.20	1.50
LQH1812-100	10		100/0.25	0.22	1.20
LQH1812-150	15		100/0.25	0.45	0.80
LQH1812-220	22		100/0.25	0.45	0.80
LQH1812-330	33		100/0.25	0.85	0.60
LQH1812-470	47		100/0.25	1.20	0.50
LQH1812-680	68		100/0.25	1.50	0.40
LQH1812-820	82		100/0.25	1.60	0.35
LQH1812-101	100		100/0.25	2.20	0.30
LQH1812-151	150		100/0.25	4.0	0.20
LQH1812-221	220	100/0.25	4.5	0.18	



Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (A)
LQH1812-331	330	K、 M	100/0.25	6.00	0.15
LQH1812-471	470		100/0.25	9.5	0.12
LQH1812-681	680		100/0.25	17.00	0.10
LQH1812-102	1000		100/0.25	19.00	0.06
LQH1812-222	2200		100/0.25	75.00	0.04
LQH1812-472	4700		100/0.25	120.00	0.03
LQH1812-502	5000		100/0.25	130.00	0.02

**Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、 M: ±20%;**

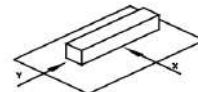
1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

## DETAIL ELECTRICAL CHARACTERISTICS

1. Operating temperature range: -40 to + 105°C(Includes temperature when the coil is heated) .
2. External appearance: On visual inspection, the coil has no external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y

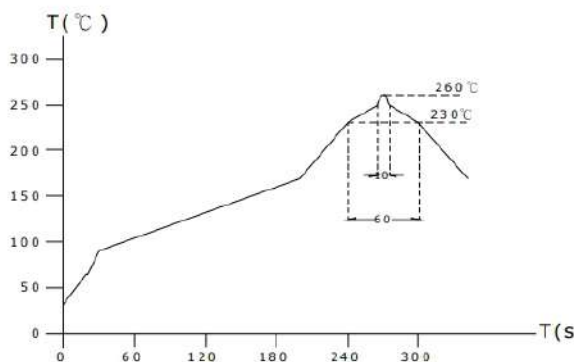
withstanding at below conditions.



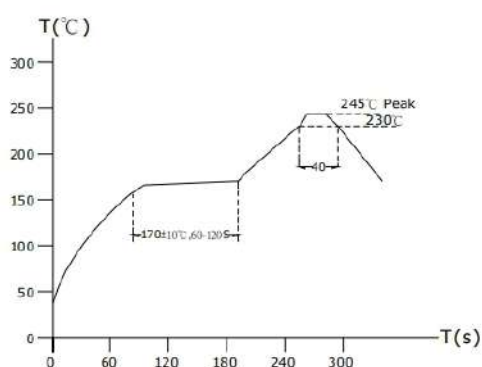
Terminal should not peel off. (refer to figure at right) 5. 0N 60 sec.

4. Insulating resistance: Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength: No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics: Inductance coefficient  $(0\sim 2,000)\times 10^{-6}/^{\circ}\text{C}$  (-25~+80°C degree Celsius), inductance deviation within  $\pm 5.0\%$ , after 96 hours.
7. Humidity characteristics(Moisture Resistance): Inductance deviation within  $\pm 5\%$ , after 96 hours in 90~95% relative humidity at  $40 \pm 2^{\circ}\text{C}$  and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within  $\pm 5\%$ , after vibration for 1 hour. In each of three orientations at sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance: Inductance deviation within  $\pm 5\%$ , after being dropped once with 981m/s<sup>2</sup> (100G) shock attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds(See attached recommend reflow) .
11. Storage condition: Temperature Range: 0°C ~ 35°C; -40°C ~ 105°C (after PCB), Humidity Range: 50% ~ 70% RH.
12. Use components within 12 months. If 12 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:

Lead-free heat endurance test



Lead-free the recommended reflow condition

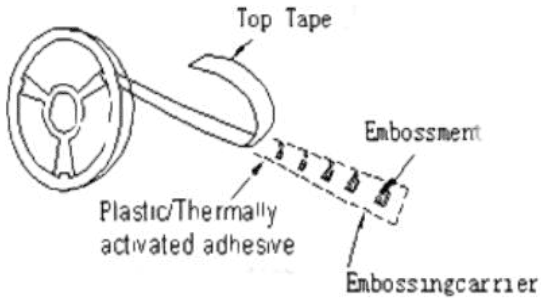




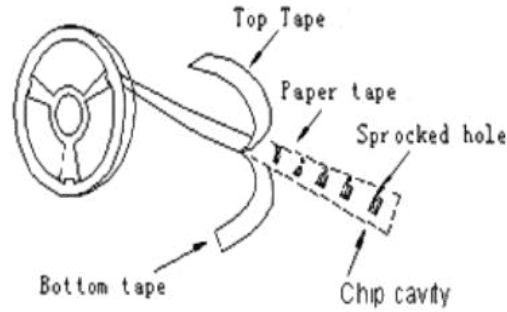
## PACKAGING STYLE

### • Taping Material

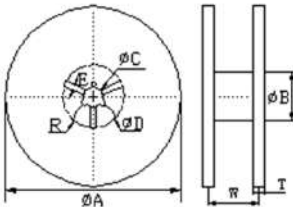
Embossing Tape



Paper Tape



### • Reel Dimensions(mm)



Tape Width	A	B	C	D	E	W	T	R
8mm	178±2	60±1	13±0.5	21±0.8	2±0.5	10±1	1.5±0.5	1
12mm	178±2	60±1	13±0.5	21±0.8	2±0.5	14±1	1.5±0.5	1

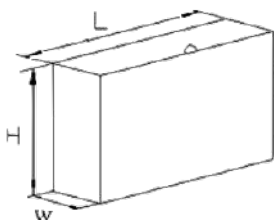
## STORAGE

### • Quantity

Type	PCS/REEL	PCS/INNERBOX	PCS/OUTERBOX
1206	2000	10000	50000
1210	500	2000	10000
1812	1000	3000	60000

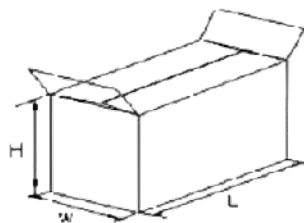
### • Packing Dimensions(mm)

Inner Box Dimensions



L	W	H	THICK
180±3	70±3	190±3	2±0.8

Outer Box Dimensions



L	W	H	THICK
370±3	200±3	210±3	2±0.8

### • Storage

Please be sure to the parts at 40°C, or less, 70%RH or less, and isolate the parts from sulphic and chloric atmosphere.

