

FEATURES

- Monolithic structure for high reliability
- High self-resonant frequency
- Excellent solderability and high heat resistance
- Operate temperature range -55℃ ~ +125℃ (Including self temp. rise)
- RoHS compliant

APPLICATIONS

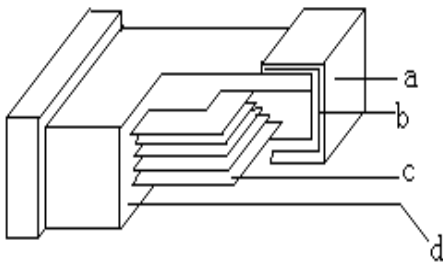
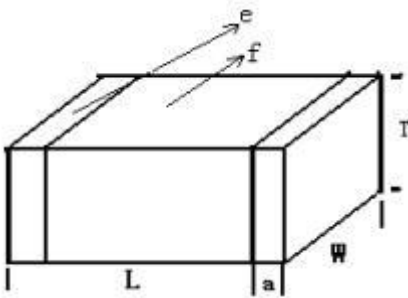
- RF circuit in telecommunication and other equipments

Explanation of Part Number

LQG 1608 HS 10N J I E
① ② ③ ④ ⑤ ⑥ ⑦

- ① Product Series:Chip Ceramic Inductor
- ② External Dimensions (L×W) (mm) 1608 [0603] 1.6×0.8
- ③ Material Code:H
- ④ Nominal Inductance 3N9:3.9nH
- ⑤ Inductance Tolerance B ±0.1nH C ±0.2nH S ±0.3nH H ±3% J ±5% K ±10%
- ⑥ Packing Tape & Reel
- ⑦ Hazardous Substance Free Products

SHAPE AND DIMENSIONS



- a.Ni/Sn plating
- b. Ag layer
- c.Inner electrode
- d.Body

Unit: mm [inch]

Size	L	W	T	e
1608	1.6±0.20	0.8±0.20	0.8±0.20	0.3±0.2
(0603)	(0.063±0.008)	(0.031±0.008)	(0.031±0.008)	(0.012±0.008)

Specification

Part NO.	Inductance nH	Q (min)	Test frequency (MHz)	Test voltage (mV)	SRF(MHz) min	RDC (Ω) max	Rated current (mA)max
LQG1608HS1N0□T	1.0	8	100	50	10000	0.05	600
LQG1608HS1N2□T	1.2	8	100	50	10000	0.05	600
LQG1608HS1N5□T	1.5	8	100	50	6000	0.10	600
LQG1608HS1N8□T	1.8	8	100	50	6000	0.10	600
LQG1608HS2N0□T	2.0	8	100	50	6000	0.10	600
LQG1608HS2N2□T	2.2	8	100	50	6000	0.10	600
LQG1608HS2N4□T	2.4	8	100	50	6000	0.12	600
LQG1608HS2N7□T	2.7	10	100	50	6000	0.12	600
LQG1608HS3N3□T	3.3	10	100	50	6000	0.15	600
LQG1608HS3N6□T	3.6	10	100	50	6000	0.16	600
LQG1608HS3N9□T	3.9	10	100	50	6000	0.16	600
LQG1608HS4N3□T	4.3	10	100	50	6000	0.18	600
LQG1608HS4N7□T	4.7	10	100	50	6000	0.20	600
LQG1608HS5N1□T	5.1	10	100	50	5500	0.25	600
LQG1608HS5N6□T	5.6	10	100	50	5000	0.25	500
LQG1608HS6N8□T	6.8	10	100	50	5000	0.30	500
LQG1608HS7N5□T	7.5	10	100	50	4500	0.35	500
LQG1608HS8N2□T	8.2	10	100	50	4500	0.35	500
LQG1608HS9N1□T	9.1	10	100	50	3500	0.40	500
LQG1608HS10N□T	10	12	100	50	3500	0.40	500
LQG1608HS12N□T	12	12	100	50	3000	0.45	400
LQG1608HS15N□T	15	12	100	50	2300	0.50	400
LQG1608HS18N□T	18	12	100	50	2200	0.55	400
LQG1608HS22N□T	22	12	100	50	2000	0.60	400
LQG1608HS24N□T	24	12	100	50	2000	0.60	400
LQG1608HS27N□T	27	12	100	50	1700	0.65	400
LQG1608HS33N□T	33	12	100	50	1500	0.70	400

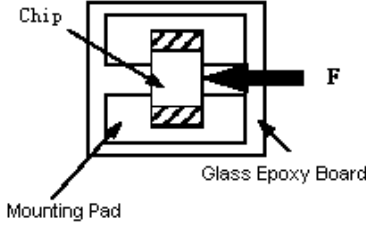
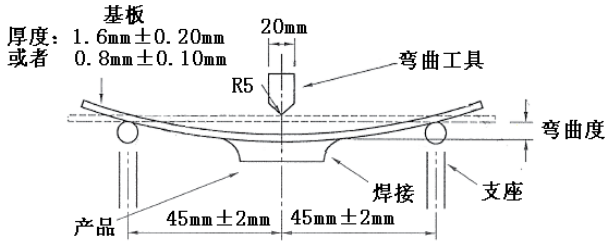
Part NO.	Inductance nH	Q (min)	frequency (MHz)	Test voltage (mV)	SRF(MHz) min	RDC (Ω) max	current (mA)max
LQG1608HS36N□T	36	12	100	50	1400	0.70	400
LQG1608HS39N□T	39	12	100	50	1400	0.70	400
LQG1608HS47N□T	47	12	100	50	1200	0.70	400
LQG1608HS56N□T	56	12	100	50	1100	0.75	300
LQG1608HS68N□T	68	12	100	50	900	0.85	300
LQG1608HS82N□T	82	8	100	50	800	1.00	300
LQG1608HSR10□T	100	8	100	50	700	1.20	300
LQG1608HSR12□T	120	8	50	50	600	1.40	200
LQG1608HSR15□T	150	8	50	50	500	1.60	200
LQG1608HSR18□T	180	8	50	50	400	1.90	200
LQG1608HSR22□T	220	8	50	50	350	2.40	200
LQG1608HSR27□T	270	8	50	50	350	2.60	150
LQG1608HSR33□T	330	8	50	50	350	2.80	150
LQG1608HSR39□T	390	8	50	50	300	3.20	150
LQG1608HSR43□T	430	8	50	50	280	3.40	150
LQG1608HSR47□T	470	8	50	50	250	3.60	150

Represents inductance tolerance: $L_s \leq 6.2\text{nH}$, □Please select "B/C/S" level, $L_s > 6.2\text{nH}$, □Please select "G/H/J" level;

B ($\pm 0.1\text{nH}$), C ($\pm 0.2\text{nH}$), S ($\pm 0.3\text{nH}$), G ($\pm 2\%$), H ($\pm 3\%$), J ($\pm 5\%$) level.

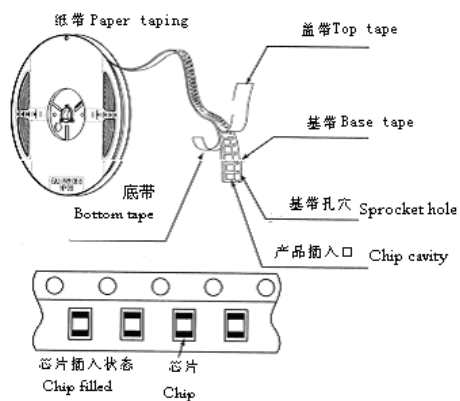
Reliability Testing Items

No.	Items	Requirements	Test Methods and Remarks
1	Operating Temperature Range	-55°C ~ +125°C	
2	Solder ability	At least 95% of terminal electrode should be covered with solder	Preheating temperature: 120°C to 150°C Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: $245 \pm 5^\circ\text{C}$ Immersion tin depth: 10mm Duration : $5 \pm 1\text{s}$ Dip performance to a flux of about: 3 ~ 5 s
3	Resistance to Soldering	At least 95% of terminal electrode should be covered with solder. No mechanical damage. Inductance : HQ : change within $\pm 10\%$ Q value change(ceramic): within $\pm 20\%$	Preheating temperature: 120°C to 150°C Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: $260^\circ\text{C} \pm 5^\circ\text{C}$ Immersion tin depth: 10mm Duration : $10 \pm 1\text{s}$ Dip performance to a flux of about: 3 ~ 5 s

No.	Items	Requirements	Test Methods and Remarks
4	Adhesion of electrode	The termination and body should be no damage.	Applied force: 5N force for 1005 series. Keep time : 10 ± 1 S  Chip Mounting Pad Glass Epoxy Board F
5	Low temperature resistance	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ceramic): within $\pm 20\%$	Temperature: $-55 \pm 2^\circ\text{C}$ $+24$ Testing time: 1000^{-0} h
6	Bending strength	No mechanical damage	Testing board: glass epoxy-resin substrate For 0.5 mm/s compression speed, curvature: 2mm, hold time $20\text{s} \pm 1\text{s}$  基板 厚度: $1.6\text{mm} \pm 0.20\text{mm}$ 或者 $0.8\text{mm} \pm 0.10\text{mm}$ 20mm R5 弯曲工具 弯曲度 焊接 支座 产品 $45\text{mm} \pm 2\text{mm}$ $45\text{mm} \pm 2\text{mm}$
7	Vibration	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ceramic): within $\pm 20\%$	Amplitude modulation: 1.5mm Test time: A period of 2h in each of 3 mutually perpendicular directions. Frequency range: 10Hz to 55Hz to 10Hz for 1min.

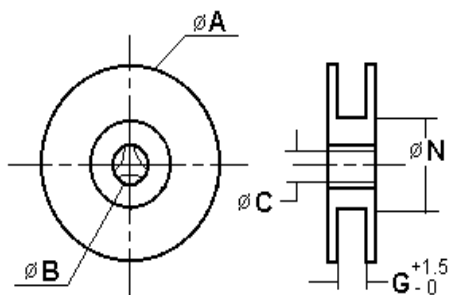
Packaging

1) Taping drawings

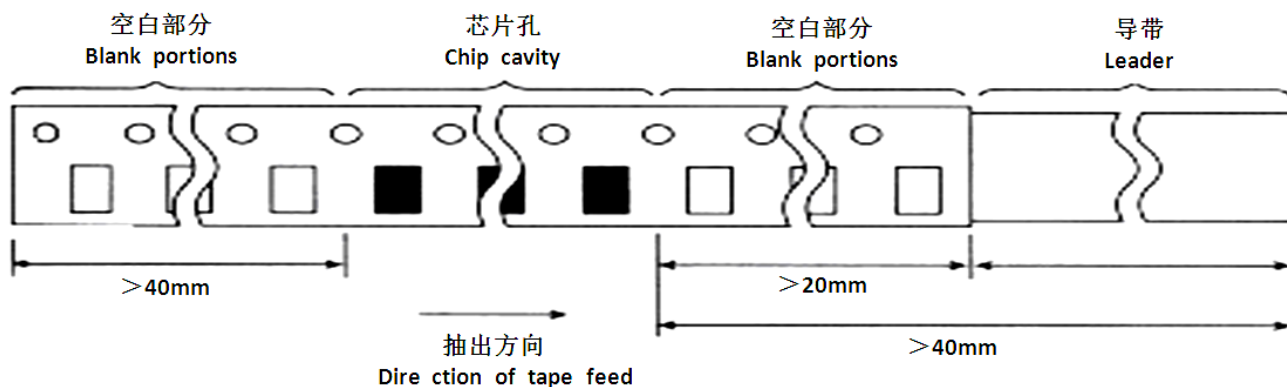


2) Reel dimensions (Unit: mm)

Size	A	B	C	N	G
CF-8	178±2.0	22.0±2.0	12.5±1.5	57±2.0	8

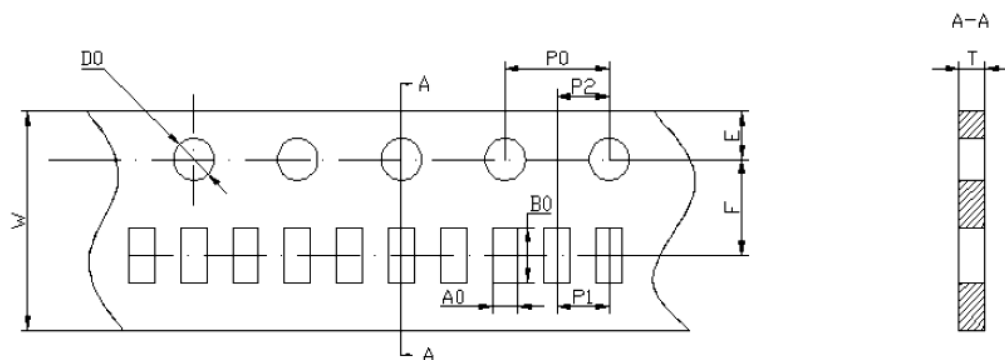


3) Leader and blank portion



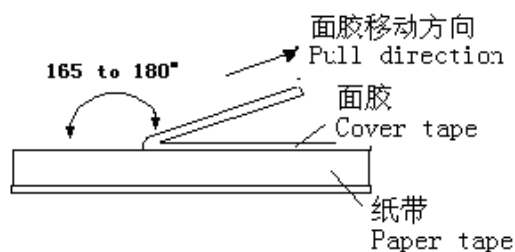
4) Taping dimensions (Unit: mm)

● Paper tape



Size	A0	B0	W	F	E	P1	P2	P0	D0	T
160808	1.10±0.2	1.90±0.2	8.0±0.2	3.5±0.1	1.75±0.2	4.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.95±0.1

5) Peeling off force



- ① Peeling force should be 0.1~0.7N pulling in the direction of arrow.
- ② Speed of peeling off: 300mm/min.
- ③ The cover bond should not be damaged and bond the tape when it peeled off.

6) Packaging number (Unit: Pcs)

Size	160808
REEL	4000
BOX	40000
CASE	240000

Recommend Soldering Conditions

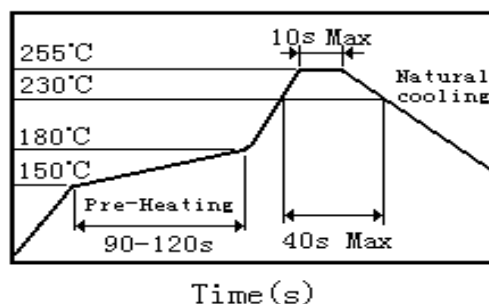
1) Soldering Conditions

Products can be applied to reflow soldering.

① Soldering conditions

- Pre-heating should be in such a way that the temperature difference between solder and ferrite surface is limited to 150°C max. Also cooling into solvent after soldering should be in such way that the temperature difference is limited to 100°C max. Un-enough pre-heating may cause cracks on the ferrite, resulting in the deterioration of product quality.
- Products should be soldered within the following allowable range indicated by the slanted line. The excessive soldering conditions may cause the corrosion of the electrode. When soldering is repeated, allowable time is the accumulated time.

2) Reflow soldering profile



3) Iron soldering

Perform soldering at 350°C on 30W max.

Soldering Time: < 5S (Take care not to apply the tip of the soldering iron to the terminal electrodes)。



Cleaning

1) Cleaning Conditions

Cleaning temperature : 60°C max

Cleaning time: 1 minute min.

Ultrasonic output power: 200W max

Storage Requirements

1) Storage period

Products which inspected inductor company over 1 year ago should be examined and used, which can be Confirmed with inspection No. marked on the container. Solder ability should be checked if this period is exceeded.

2) Storage conditions

(1) Products should be storage in the warehouse on the following conditions:

Temperature : -10~+40°C Humidity: 30~70% relative humidity

(2) Don't keep products in corrosive gases such as sulfur, chlorine gas or acid , or it may case oxidization of Electrodes resulting in poor solder ability.

(3) Products should be stored on the palette for the prevention of the influence from humidity, dust and so on.

(4) Products should be stored in the warehouse without heat shock, vibration, direct sunlight and so on.

(5) Products should be stored under the airtight packaged condition.

Notes

(1) If the parcel label on product is "Unitary lead free" that indicate the products in accord with ROHS appointed requests.

(2) This product specification guarantees the quality of our product as a single unit, Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.

(3) We can't warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.