Data Sheet

Customer:	
Product:	**Wire Wound Chip Inductor(Ferrite) –NLV Series**
Sizes.:	**1008/1210**
Issued Date:	**6-May-13**
Edition:	**REV.A**

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Wire Wound Chip Inductor (Ferrite)

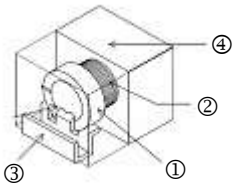
■Features

－Very strong solderability by flow soldering, soldering iron or wave soldering
－Highly accurate dimensions, can be mounted automatically
－Terminals are highly resistant to pull forces
－Highly resistant to mechanical shocks and pressure
－Highly reliable in environments of sudden temperature change and humidity.
Super Q characteristics

■Applications

－Micro Televisions, Liquid Crystal Televisions, Video Cameras, Portable VCRs, Car Radios,
Car Stereos, Thin Tape Radios, Television Tuners, Mobile Telephones, Radio and Other Electronic Devices

■Construction



①	Ferrite core	③	Electrode (Tinned Copper Wire)
②	Polyurethane wire	④	Thermoplastic resin

■Part Numbering

NLV	08	M	T	C	1R0
Product Type	Dimensions (LxW)	Inductance Tolerance	Packaging Code	Current	Inductance
	08: 1008 10: 1210	J: ±5% K: ±10% M: ±20%	T: Taping Reel	: Standard C: Large Current	10N: 10nH R27: 270nH 2R7: 2700nH 100: 10μH

■Dimensions

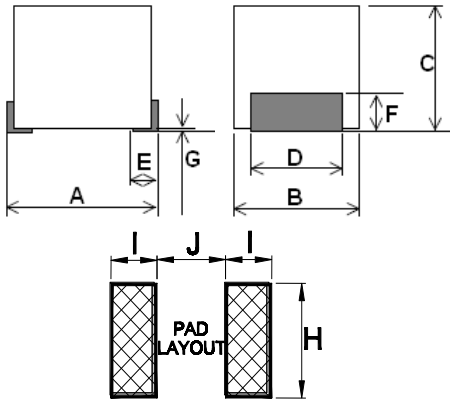


Figure 1

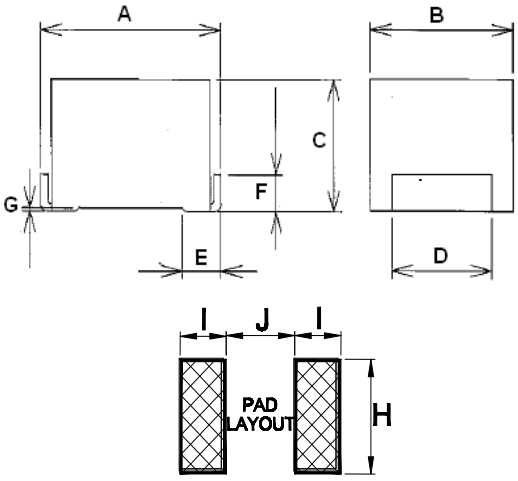


Figure 2

Unit: mm

Type	Size (Inch)	Figure	A	B	C	D	E	F	G	H	I	J
NLV08	1008	1	2.5±0.2	2.0±0.1	1.8±0.1	1.4±0.1	0.4	0.5	0.01~0.1	1.5	1.0	1.5
NLV10	1210	1	3.2±0.2	2.5±0.2	2.2±0.2	1.9±0.1	0.4	0.5	0.01~0.1	2.0	1.2	2.0
NLV08(C)	1008	2	2.5±0.2	2.0±0.1	1.8±0.1	1.4±0.1	0.4	0.5	0.01~0.1	1.5	1.0	1.5
NLV10(C)	1210	1	3.2±0.2	2.5±0.2	2.2±0.2	1.9±0.1	0.4	0.5	0.01~0.1	2.0	1.2	2.0

■Standard Electrical Specifications

NLV08 Wire Wound Chip Inductors (Ferrite / Molding Type) / Standard Type

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
10N	0.010	±5%	15	100	2150	0.26	530
12N	0.012	±5%	15	100	2050	0.27	500
15N	0.015	±5%	15	100	2000	0.29	480
18N	0.018	±5%	15	100	1850	0.31	450
22N	0.022	±5%	15	100	1650	0.37	420
27N	0.027	±5%	15	100	1550	0.40	410
33N	0.033	±5%	20	100	1450	0.42	400
39N	0.039	±5%	20	100	1350	0.45	380
47N	0.047	±5%	20	100	1200	0.50	360
56N	0.056	±5%	20	100	1100	0.60	340
68N	0.068	±5%	20	100	1050	0.65	320
82N	0.082	±5%	20	100	900	0.75	300
R10	0.10	±5%	20	100	800	0.80	280
R12	0.12	±5%	30	25.2	700	0.30	550
R15	0.15	±5%	30	25.2	550	0.35	500
R18	0.18	±5%	30	25.2	500	0.40	475
R22	0.22	±5%	30	25.2	450	0.50	450
R27	0.27	±5%	30	25.2	425	0.55	425
R33	0.33	±5%	30	25.2	400	0.60	400
R39	0.39	±5%	30	25.2	375	0.65	375
R47	0.47	±5%	30	25.2	350	0.68	350
R56	0.56	±5%	30	25.2	325	0.75	325
R68	0.68	±5%	30	25.2	300	0.85	300
R82	0.82	±5%	30	25.2	260	1.00	260

NLV08 Wire Wound Chip Inductors (Ferrite / Molding Type) / Standard Type

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
1R0	1.0	±5%	30	7.96	245	1.10	245
1R2	1.2	±5%	30	7.96	230	1.20	230
1R5	1.5	±5%	30	7.96	182	1.30	220
1R8	1.8	±5%	30	7.96	135	1.45	210
2R2	2.2	±5%	30	7.96	105	1.55	200
2R7	2.7	±5%	30	7.96	70	1.70	195
3R3	3.3	±5%	30	7.96	55	1.90	185
3R9	3.9	±5%	30	7.96	48	2.10	180
4R7	4.7	±5%	30	7.96	43	2.30	175
5R6	5.6	±5%	25	7.96	42	2.50	170
6R8	6.8	±5%	25	7.96	39	2.70	165
8R2	8.2	±5%	25	7.96	36	3.05	160
100	10	±5%	25	2.52	33	3.50	155
120	12	±5%	25	2.52	30	3.80	150
150	15	±5%	25	2.52	26	4.40	140
180	18	±5%	25	2.52	24	4.80	130
220	22	±5%	25	2.52	22	5.50	125
270	27	±5%	25	2.52	21	6.30	115
330	33	±5%	25	2.52	20	7.10	110
390	39	±5%	20	2.52	18	9.50	90
470	47	±5%	20	2.52	17	11.10	80
560	56	±5%	20	2.52	16	12.10	75
680	68	±5%	20	2.52	15	16.60	70
820	82	±5%	20	2.52	13	19.00	66
101	100	±5%	15	0.796	12	21.00	60

■ Operating Temperature Range: -40~+105°C

NLV10 Wire Wound Chip Inductors (Ferrite / Molding Type) / Standard Type

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
10N	0.010	±5%	15	100	2500	0.13	450
12N	0.012	±5%	17	100	2300	0.14	450
15N	0.015	±5%	19	100	2100	0.16	450
18N	0.018	±5%	21	100	1900	0.18	450
22N	0.022	±5%	23	100	1700	0.20	450
27N	0.027	±5%	23	100	1500	0.22	450
33N	0.033	±5%	25	100	1400	0.24	450
39N	0.039	±5%	25	100	1300	0.27	450
47N	0.047	±5%	26	100	1200	0.30	450
56N	0.056	±5%	26	100	1100	0.33	450
68N	0.068	±5%	27	100	1000	0.36	450
82N	0.082	±5%	27	100	900	0.40	450
R10	0.10	±5%	28	100	700	0.44	450
R12	0.12	±5%	30	25.2	500	0.22	450
R15	0.15	±5%	30	25.2	450	0.25	450
R18	0.18	±5%	30	25.2	400	0.28	450
R22	0.22	±5%	30	25.2	350	0.32	450
R27	0.27	±5%	30	25.2	320	0.36	450
R33	0.33	±5%	30	25.2	300	0.40	450
R39	0.39	±5%	30	25.2	250	0.45	450

Wire Wound Chip Inductor (Ferrite)

NLV10 Wire Wound Chip Inductors (Ferrite / Molding Type) / Standard Type

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
R47	0.47	±5%	30	25.2	220	0.50	450
R56	0.56	±5%	30	25.2	180	0.55	450
R68	0.68	±5%	30	25.2	160	0.60	450
R82	0.82	±5%	30	25.2	140	0.65	450
1R0	1.0	±5%	30	7.96	120	0.70	400
1R2	1.2	±5%	30	7.96	100	0.75	390
1R5	1.5	±5%	30	7.96	85	0.85	370
1R8	1.8	±5%	30	7.96	80	0.90	350
2R2	2.2	±5%	30	7.96	75	1.00	320
2R7	2.7	±5%	30	7.96	70	1.10	290
3R3	3.3	±5%	30	7.96	60	1.20	260
3R9	3.9	±5%	30	7.96	55	1.30	250
4R7	4.7	±5%	30	7.96	50	1.50	220
5R6	5.6	±5%	30	7.96	45	1.60	200
6R8	6.8	±5%	30	7.96	40	1.80	180
8R2	8.2	±5%	30	7.96	35	2.00	170
100	10	±5%	30	2.52	30	2.10	150
120	12	±5%	30	2.52	20	2.50	140
150	15	±5%	30	2.52	20	2.80	130
180	18	±5%	30	2.52	20	3.30	120
220	22	±5%	30	2.52	20	3.70	110
270	27	±5%	30	2.52	20	5.00	80
330	33	±5%	30	2.52	17	5.60	70
390	39	±5%	30	2.52	16	6.40	65
470	47	±5%	30	2.52	15	7.00	60
560	56	±5%	30	2.52	13	8.00	55
680	68	±5%	30	2.52	12	9.00	50
820	82	±5%	30	2.52	11	10.00	45
101	100	±5%	20	0.796	10	10.00	40
121	120	±5%	20	0.796	10	11.00	70
151	150	±5%	20	0.796	8	15.00	65
181	180	±5%	20	0.796	7	17.00	60
221	220	±5%	20	0.796	7	21.00	50
271	270	±5%	20	0.796	6	28.00	45
331	330	±5%	20	0.796	5	34.00	40
391	390	±5%	20	0.796	5	36.00	35
471	470	±5%	20	0.796	4	40.00	25

■ Operating Temperature Range: -40~+105°C

■Large Current Electrical Specifications

NLV08 Wire Wound Chip Inductors (Ferrite / Molding Type) / **Large Current Type**

Codes	Inductance (μH)	Tolerance	Q ref.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) ±30%.	IDC (mA) max.
1R0	1.0	±20%	20	7.96	200	0.34	475
1R5	1.5	±20%	20	7.96	165	0.42	435
2R2	2.2	±20%	20	7.96	95	0.50	390
3R3	3.3	±20%	20	7.96	55	0.65	340
4R7	4.7	±20%	20	7.96	43	0.80	285
6R8	6.8	±20%	20	7.96	39	1.00	275
100	10	±10%	30	2.52	32	1.69	210
150	15	±10%	30	2.52	21	2.20	175
220	22	±10%	30	2.52	18	2.80	160
330	33	±10%	30	2.52	16	4.20	120

■ Operating Temperature Range: -40~+85°C

NLV10 Wire Wound Chip Inductors (Ferrite / Molding Type) / **Large Current Type**

Codes	Inductance (μH)	Tolerance	Q ref.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) ±30%.	IDC (mA) max.
1R0	1.0	±20%	10	7.96	100	0.06	1000
1R5	1.5	±20%	10	7.96	80	0.11	830
2R2	2.2	±20%	10	7.96	68	0.13	770
3R3	3.3	±20%	10	7.96	54	0.16	690
4R7	4.7	±20%	15	7.96	46	0.20	620
6R8	6.8	±20%	15	7.96	38	0.27	530
100	10	±10%	15	2.52	30	0.36	450
150	15	±10%	15	2.52	26	0.56	370
220	22	±10%	15	2.52	21	0.77	300
330	33	±10%	15	2.52	17	1.10	240
470	47	±10%	15	2.52	14	1.64	180
680	68	±10%	15	2.52	12	2.80	140
101	100	±10%	15	0.796	10	3.70	120
151	150	±10%	20	0.796	8	6.10	100
221	220	±10%	20	0.796	7	8.40	80
331	330	±10%	20	0.796	6	12.30	70

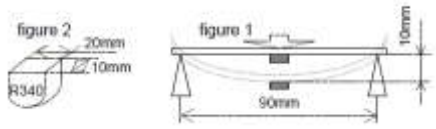
■ Operating Temperature Range: -40~+105°C

■Environmental Characteristics

Electrical Performance Test

Item	Requirement	Test Method
Inductance	Refer to standard electrical characteristic spec.	HP4291
Q		HP4291
SRF		HP4291
DC Resistance DCR		Agilent 34401A
Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value

Mechanical Performance Test

Item	Requirement	Test Method
Solderability	The electrodes shall be at least 90% covered with new solder coating	Lead-free inductor: after fluxing(alpha 100 or equiv), inductor shall be dipped in a melted solder bath at 230±5°C, 5±0.5 seconds
Resistance to Soldering Heat	Appearance: No mechanical damage L change: within±5%	Pre-heating: 150°C, 1min. Solder Temperature: 260±5°C Immersion Time: 10±1 seconds
Vibration	Appearance: No mechanical damage L change: within±3%	The sample shall be soldered onto the PCB, then the vibration having the frequency of 10 to 55Hz/min. and amplitude of 1.52mm Should be applied
Lead Tensile Strength	There should be no abnormality	A tensile rod of 4.9N is applied horizontally to both leads of the sample
Flexibility		The sample shall be soldered onto PCB as showen in figure 1 and a load applied until the flexure in the arrow direction is made almost 10mm(figure 2 it used). Then it should be returned to its Original position. Then this operation should be repeated 5 times 
Drop	Appearance: No mechanical damage L change: within±3%	The sample shall be dropped once naturally onto a concrete floor form a height of 1 meter
Insulation Resistance	More than $1X10^8\Omega$	DC 250V voltage shall be applied for 30 seconds across the band and the leads
Dielectric Withstanding Voltage	There should be no abnormality	AC 100V voltage shall be applied for 1 minute across the body and the leads

Climatic Test

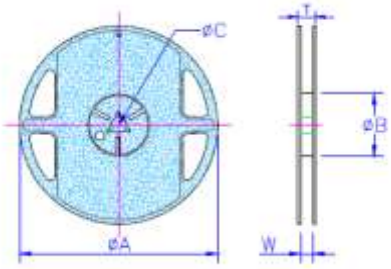
Item	Requirement	Test Method
Temperature Cycle	Appearance: No mechanical damage L change: within±5%	For NLV08/NLV10/NLV10C Series : The sample should be soldered onto the PCB, then it shall be left into 100 cycles of temperature cycling for -40°C~105°C,30 minutes each as For NLV08C Series: The sample should be soldered onto the PCB, then it shall be left into 100 cycles of temperature cycling for -40°C~85°C,30 minutes each as Measured after exposure in the room condition for 24 hrs
Moisture Storage	Appearance: No mechanical damage L change: within±5% Q change: within±30%	Temperature: 60±2°C Relative Humidity: 90 ~ 95% Time: 1000 hrs Measured after exposure in the room condition for 24 hrs
High Temperature Storage	Appearance: No mechanical damage L change: within±5% Q change: within±30%	For NLV08/NLV10/NLV10C Series : Temperature: 105±2°C, Time: 1000 hrs For NLV08C Series: Temperature: 85±2°C, Time: 1000 hrs Measured after exposure in the room condition for 24 hrs
Low Temperature Storage	Appearance: No mechanical damage L change: within±5% Q change: within±20%	Temperature: -40±2°C Time: 1000 hrs Measured after exposure in the room condition for 24 hrs

■ Storage Temperature: 25±3°C; Humidity < 80%RH

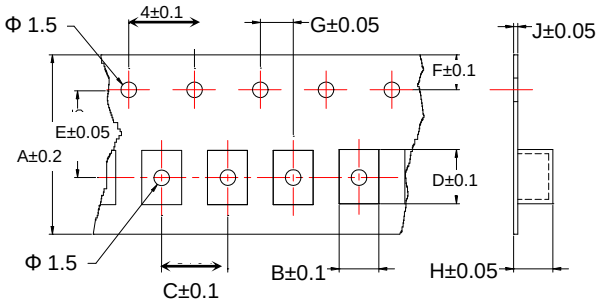
■Packaging

Packaging Quantity & Reel Specifications

Type	ΦA	ΦB	ΦC	W	T	Quantity (EA)
NLV08	178±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2000
NLV10	178±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2000



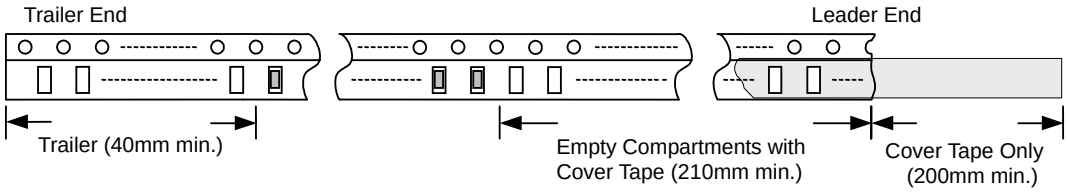
Embossed Plastic Tape Specifications



Unit: mm

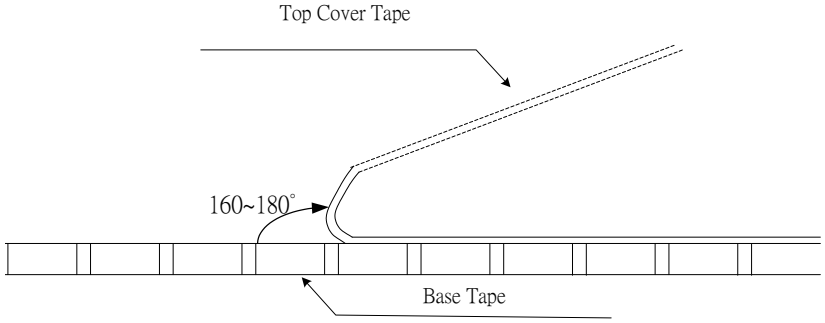
Type	A	B	C	D	E	F	G	H	J
NLV08	8	2.3	4.0	2.7	3.5	1.75	2.0	2.0	0.4
NLV10	8	2.8	4.0	3.5	3.5	1.75	2.0	2.3	0.4

Leader / Trailer Tape



Cover Tape Peel Strength

The force for tearing off cover tape is 0.1～0.7（N）in the arrow direction at the following conditions:
Temperature: 5～35℃
Humidity:45～85%



■Soldering Conditions