Data Sheet

Customer:	
Product:	**Multilayer Chip Inductor – CL-S Series**
Sizes.:	**01005/0201/0402/0603**
Issued Date:	**25-Jul-25**
Edition:	**REV.B**

RoHS Compliant

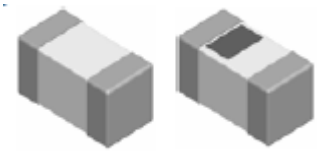
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Multilayer Chip Inductor



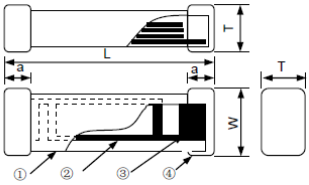
■Features

- Monolithic structure for high reliability
- High self-resonant frequency
- Excellent solderability and high heat resistance

■Applications

- RF circuit in telecommunication and other equipments

■Construction



①	Ceramic Material	③	Pull Out Electrode
②	Internal Electrode	④	End-termination

■Dimensions

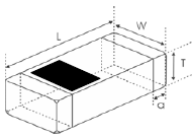


Figure1

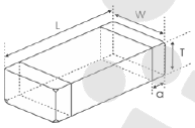


Figure2

Standard Unit: mm

Type	Size (Inch)	Figure	L	W	T	a
CLE5-S	01005	1	0.40±0.02	0.20±0.02	0.20±0.02	0.095±0.025
CL02-S (<12nH)	0402	1	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
CL02-S (≧12nH)	0402	1&2	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
CL03-S (<560nH)	0603	2	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.20
CL03-S (≧560nH)	0603	2	1.65±0.20	0.80±0.20	0.80±0.20	0.30±0.20

High Q Unit: mm

Type	Size (Inch)	Figure	L	W	T	a
CL01-S	0201	1	0.60±0.05	0.30±0.05	0.30±0.05	0.15±0.05
CL02-S01	0402	1	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
CL02-S02	0402	1	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10

High Frequency Unit: mm

Type	Size (Inch)	Figure	L	W	T	a
CL02-S	0402	2	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
CL03-S	0603	2	1.60±0.15	0.80±0.15	0.80±0.15	0.30±0.20

■Part Numbering

CL	02	J	T		1N0	-S
Product Type	Dimensions	Inductance Tolerance	Packaging Code	Appearance	Inductance	Internal Code
	E5: 01005 01: 0201 02: 0402 03: 0603	B: ±0.1nH C: ±0.2nH S: ±0.3nH G: ±2% H: ±3% J: ±5% K: ±10%	T: Taping Reel	: Standard Q: High Q F: High Frequency	1N0: 1.0nH 39N: 39nH R10: 100nH	-S: Standard -S01: 01 -S02: 02

■Standard Electrical Specifications

CLE5-S Multilayer Chip Inductors / Standard Type

Inductance (nH)	Tolerance	Quality Factor min.	Test Condition	SRF (GHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
0.2	±0.1, 0.2, 0.3nH	-	500MHz, 50mV	20.00	0.1	350
0.3	±0.1, 0.2, 0.3nH	-	500MHz, 50mV	20.00	0.2	350
0.4	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	18.00	0.2	350
0.5	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	18.00	0.2	350
0.6	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	17.00	0.3	320
0.7	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	16.50	0.3	320
0.8	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	13.00	0.4	320
0.9	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	13.00	0.4	320
1.0	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	13.00	0.4	250
1.1	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	12.50	0.5	250
1.2	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	12.50	0.5	250
1.3	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	11.50	0.6	250
1.4	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	11.50	0.6	250
1.5	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	9.50	0.6	220
1.6	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	9.50	0.6	220
1.7	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	9.50	0.6	200
1.8	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	9.00	0.6	200
1.9	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	9.00	0.6	200
2.0	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	9.00	0.6	200
2.1	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	9.00	0.6	200
2.2	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.7	200
2.3	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.8	200
2.4	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.8	200
2.5	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.8	200
2.6	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.8	200
2.7	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.8	200
2.8	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.8	200
2.9	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.8	200
3.0	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.8	200
3.1	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	0.9	200
3.2	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.0	200
3.3	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.1	180
3.4	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.1	180
3.5	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.1	180
3.6	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.1	180
3.7	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.1	180
3.8	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.1	180
3.9	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.2	180
4.0	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.2	180
4.1	±0.1, 0.2, 0.3nH	8	500MHz, 50mV	7.50	1.2	180
4.3	±0.3nH, ±3, 5%	8	500MHz, 50mV	7.00	1.2	180
4.7	±0.3nH, ±3, 5%	8	500MHz, 50mV	6.50	1.3	160
5.1	±0.3nH, ±3, 5%	8	500MHz, 50mV	6.50	1.4	160
5.6	±3, 5%	8	500MHz, 50mV	6.00	1.5	140
6.2	±3, 5%	8	500MHz, 50mV	5.50	1.5	140
6.8	±3, 5%	8	500MHz, 50mV	5.50	1.6	140
7.5	±3, 5%	8	500MHz, 50mV	4.50	1.7	140
8.2	±3, 5%	8	500MHz, 50mV	4.50	1.8	140
9.1	±3, 5%	8	500MHz, 50mV	4.00	1.8	140
10	±3, 5%	8	500MHz, 50mV	4.00	2.1	140
11	±3, 5%	7	500MHz, 50mV	3.50	2.8	140
12	±3, 5%	7	500MHz, 50mV	3.50	2.8	140
13	±3, 5%	7	500MHz, 50mV	3.00	3.2	140
15	±3, 5%	7	500MHz, 50mV	2.50	3.2	140
18	±3, 5%	7	500MHz, 50mV	2.50	3.5	140
20	±3, 5%	6	500MHz, 50mV	2.30	5.0	130
22	±3, 5%	6	500MHz, 50mV	2.30	5.0	130
24	±3, 5%	6	500MHz, 50mV	2.00	5.5	120
27	±3, 5%	6	500MHz, 50mV	2.00	5.5	120
30	±3, 5%	6	500MHz, 50mV	1.80	6.5	120
33	±3, 5%	4	300MHz, 50mV	1.80	6.5	120
36	±3, 5%	4	300MHz, 50mV	1.60	7.0	90
39	±3, 5%	4	300MHz, 50mV	1.60	7.0	90

■Operating temperature range: -55~+125℃

■L/Q Test equipment: E4991+16196D

■Test compensation: Short bar residual inductance 0.11nH

■Standard Electrical Specifications

CL02-S Multilayer Chip Inductors / Standard Type

Inductance (nH)	Tolerance	Quality Factor /min.	Test Condition	SRF (GHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
1.0	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	10.00	0.06	1000
1.1	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	10.00	0.07	1000
1.2	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	10.00	0.07	1000
1.3	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	10.00	0.07	1000
1.5	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.08	1000
1.6	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.08	1000
1.8	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.08	900
2.0	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.09	900
2.2	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.09	900
2.4	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.10	800
2.7	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.12	800
3.0	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.12	800
3.3	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	6.00	0.13	800
3.6	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	4.00	0.15	700
3.9	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	4.00	0.16	700
4.3	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	4.00	0.16	700
4.7	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	4.00	0.16	700
5.1	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	4.00	0.16	600
5.6	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	4.00	0.20	600
6.2	±0.1, 0.2, 0.3nH	8	100MHz, 50mV	3.90	0.20	600
6.8	±2, 3, 5%	8	100MHz, 50mV	3.90	0.20	600
7.5	±2, 3, 5%	8	100MHz, 50mV	3.70	0.24	500
8.2	±2, 3, 5%	8	100MHz, 50mV	3.60	0.24	500
9.1	±2, 3, 5%	8	100MHz, 50mV	3.40	0.26	500
10	±2, 3, 5%	8	100MHz, 50mV	3.20	0.26	500
12	±2, 3, 5%	8	100MHz, 50mV	2.70	0.50	400
15	±2, 3, 5%	8	100MHz, 50mV	2.30	0.50	400
18	±2, 3, 5%	8	100MHz, 50mV	2.10	0.60	350
20	±2, 3, 5%	8	100MHz, 50mV	2.00	0.60	350
22	±2, 3, 5%	8	100MHz, 50mV	1.90	0.60	350
27	±2, 3, 5%	8	100MHz, 50mV	1.60	0.70	300
33	±2, 3, 5%	8	100MHz, 50mV	1.30	0.80	300
39	±2, 3, 5%	8	100MHz, 50mV	1.20	1.00	250
43	±2, 3, 5%	8	100MHz, 50mV	1.10	1.10	250
47	±2, 3, 5%	8	100MHz, 50mV	1.00	1.10	250
56	±2, 3, 5%	8	100MHz, 50mV	0.75	1.20	200
68	±2, 3, 5%	8	100MHz, 50mV	0.75	1.40	200
82	±2, 3, 5%	8	100MHz, 50mV	0.75	1.60	200
100	±2, 3, 5%	8	100MHz, 50mV	0.70	2.00	200
120	±2, 3, 5%	8	100MHz, 50mV	0.60	2.50	150
150	±2, 3, 5%	8	100MHz, 50mV	0.55	3.00	150
180	±2, 3, 5%	8	100MHz, 50mV	0.50	3.50	150
220	±2, 3, 5%	8	100MHz, 50mV	0.45	3.70	100
270	±2, 3, 5%	8	100MHz, 50mV	0.40	4.50	100
330	±2, 3, 5%	6	50MHz, 50mV	0.35	5.00	80
360	±2, 3, 5%	6	50MHz, 50mV	0.30	6.00	80

■Operating temperature range: -55~+125℃

■Standard Electrical Specifications

CL03-S Multilayer Chip Inductors / Standard Type

Inductance (nH)	Tolerance	Quality Factor /min.	Test Condition	Test Voltage (mV)	SRF (GHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
1.0	±0.3nH	8	100MHz, 50mV	50	10.00	0.05	500
1.2	±0.3nH	8	100MHz, 50mV	50	10.00	0.05	500
1.5	±0.3nH	8	100MHz, 50mV	50	6.00	0.10	500
1.8	±0.3nH	8	100MHz, 50mV	50	6.00	0.10	500
2.0	±0.3nH	8	100MHz, 50mV	50	6.00	0.10	500
2.2	±0.3nH	8	100MHz, 50mV	50	6.00	0.10	500
2.4	±0.3nH	8	100MHz, 50mV	50	6.00	0.12	500
2.7	±0.3nH	10	100MHz, 50mV	50	6.00	0.12	500
3.3	±0.3nH	10	100MHz, 50mV	50	6.00	0.15	500
3.6	±0.3nH	10	100MHz, 50mV	50	6.00	0.16	500
3.9	±0.3nH	10	100MHz, 50mV	50	6.00	0.16	500
4.3	±0.3nH	10	100MHz, 50mV	50	6.00	0.18	500
4.7	±0.3nH	10	100MHz, 50mV	50	6.00	0.20	500
5.1	±0.3nH	10	100MHz, 50mV	50	5.50	0.25	500
5.6	±0.3nH	10	100MHz, 50mV	50	5.00	0.25	500
6.8	±5, 10%	10	100MHz, 50mV	50	5.00	0.30	500
7.5	±5, 10%	10	100MHz, 50mV	50	4.50	0.35	500
8.2	±5, 10%	10	100MHz, 50mV	50	4.50	0.35	500
9.1	±5, 10%	10	100MHz, 50mV	50	3.50	0.40	500
10	±5, 10%	12	100MHz, 50mV	50	3.50	0.40	300
12	±5, 10%	12	100MHz, 50mV	50	3.00	0.45	300
15	±5, 10%	12	100MHz, 50mV	50	2.30	0.50	300
18	±5, 10%	12	100MHz, 50mV	50	2.20	0.55	300
22	±5, 10%	12	100MHz, 50mV	50	2.00	0.60	300
24	±5, 10%	12	100MHz, 50mV	50	2.00	0.60	300
27	±5, 10%	12	100MHz, 50mV	50	1.70	0.65	300
33	±5, 10%	12	100MHz, 50mV	50	1.50	0.70	300
36	±5, 10%	12	100MHz, 50mV	50	1.40	0.70	300
39	±5, 10%	12	100MHz, 50mV	50	1.40	0.70	300
47	±5, 10%	12	100MHz, 50mV	50	1.20	0.70	300
56	±5, 10%	12	100MHz, 50mV	50	1.10	0.75	300
68	±5, 10%	12	100MHz, 50mV	50	0.90	0.85	300
82	±5, 10%	8	100MHz, 50mV	50	0.80	1.00	300
100	±5, 10%	8	100MHz, 50mV	50	0.70	1.20	300
120	±5, 10%	8	50MHz, 50mV	50	0.60	1.40	200
150	±5, 10%	8	50MHz, 50mV	50	0.50	1.60	200
180	±5, 10%	8	50MHz, 50mV	50	0.40	1.90	200
220	±5, 10%	8	50MHz, 50mV	50	0.35	2.40	200
270	±5, 10%	8	50MHz, 50mV	50	0.35	2.60	150
330	±5, 10%	8	50MHz, 50mV	50	0.35	2.80	150
390	±5, 10%	8	50MHz, 50mV	50	0.30	3.20	150
430	±5, 10%	8	50MHz, 50mV	50	0.28	3.40	150
470	±5, 10%	8	50MHz, 50mV	50	0.25	3.60	150
560	±3, 5, 10%	8	50	-	0.25	4.00	100
680	±3, 5, 10%	8	50	-	0.25	4.50	100

■Operating temperature range: -40~+85℃

■High Q Electrical Specifications

CL01-S Multilayer Chip Inductors / High Q Type

Inductance (nH)	Tolerance	Quality Factor /min.	Test Condition	SRF (GHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
0.6	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.05	1000
0.7	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.05	1000
0.8	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.06	1000
0.9	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.06	800
1.0	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.07	800
1.1	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.07	800
1.2	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.10	800
1.3	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.10	700
1.4	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.10	700
1.5	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.10	650
1.6	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.10	650
1.7	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	10.00	0.10	650
1.8	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	9.00	0.15	650
2.0	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	8.50	0.15	650
2.2	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	7.50	0.15	650
2.4	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	7.50	0.15	550
2.6	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	7.50	0.20	550
2.7	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	7.50	0.20	550
2.8	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	7.50	0.20	500
3.0	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	7.50	0.20	450
3.3	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	7.50	0.25	450
3.6	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	6.50	0.25	400
3.9	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	6.50	0.25	400
4.3	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	6.00	0.35	350
4.7	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	6.00	0.40	350
5.1	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	5.50	0.40	350
5.6	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	5.00	0.40	350
6.2	±0.1, 0.2, 0.3nH	14	500MHz, 50mV	5.00	0.40	300
6.8	±3, 5%	14	500MHz, 50mV	4.50	0.50	300
7.5	±3, 5%	14	500MHz, 50mV	4.00	0.50	300
8.2	±3, 5%	14	500MHz, 50mV	4.00	0.50	250
9.1	±3, 5%	14	500MHz, 50mV	4.00	0.70	250
10	±3, 5%	14	500MHz, 50mV	4.00	0.70	250
12	±3, 5%	13	500MHz, 50mV	3.50	0.70	250
15	±3, 5%	13	500MHz, 50mV	3.20	0.85	250
18	±3, 5%	13	500MHz, 50mV	3.00	1.00	200
20	±3, 5%	13	500MHz, 50mV	2.20	1.10	150
22	±3, 5%	13	500MHz, 50mV	2.20	1.20	150
27	±3, 5%	13	500MHz, 50mV	2.20	1.50	140
33	±3, 5%	12	300MHz, 50mV	1.80	1.80	120
36	±3, 5%	12	300MHz, 50mV	1.70	2.00	120
39	±3, 5%	12	300MHz, 50mV	1.60	2.00	120
43	±3, 5%	12	300MHz, 50mV	1.60	2.20	100
47	±3, 5%	12	300MHz, 50mV	1.50	2.20	100
56	±3, 5%	12	300MHz, 50mV	1.20	2.50	100
68	±3, 5%	12	300MHz, 50mV	1.00	3.20	100
75	±3, 5%	11	300MHz, 50mV	1.00	3.60	100
82	±3, 5%	11	300MHz, 50mV	1.00	3.80	100
91	±3, 5%	11	300MHz, 50mV	0.90	3.80	80
100	±3, 5%	11	300MHz, 50mV	0.80	4.00	80
120	±3, 5%	10	300MHz, 50mV	0.80	5.00	80

■Operating temperature range: -55~+125℃

■L/Q Test equipment: E4991b+16196A

■Test compensation: Short bar residual inductance 0.48nH

CL02-S01 Multilayer Chip Inductors / High Q Type

Inductance (nH)	Tolerance	Q min.	Test Frequency (MHz)	Test Voltage (mV)	SRF (MHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
1.0	±0.1nH	13	500	50	6000	0.1	400
1.1	±0.1nH	13	500	50	6000	0.1	390
1.2	±0.1nH	13	500	50	6000	0.1	390
1.3	±0.1nH	13	500	50	6000	0.2	280
1.4	±0.1nH	13	500	50	6000	0.2	280
1.5	±0.1nH	13	500	50	6000	0.2	280
1.6	±0.1nH	13	500	50	6000	0.3	220
1.7	±0.1nH	13	500	50	6000	0.3	280
1.8	±0.1nH	13	500	50	6000	0.3	280
1.9	±0.1nH	13	500	50	6000	0.3	220
2.0	±0.1nH	13	500	50	6000	0.3	220
2.1	±0.1nH	13	500	50	6000	0.3	220
2.2	±0.1nH	13	500	50	6000	0.3	220
2.3	±0.1nH	13	500	50	6000	0.3	220
2.4	±0.1nH	13	500	50	6000	0.3	220
2.5	±0.1nH	13	500	50	6000	0.3	220
2.6	±0.1nH	13	500	50	6000	0.3	220
2.7	±0.1nH	13	500	50	6000	0.3	220
2.8	±0.1nH	13	500	50	6000	0.4	190
2.9	±0.1nH	13	500	50	6000	0.4	190
3.0	±0.1nH	13	500	50	6000	0.4	190
3.1	±0.1nH	13	500	50	6000	0.4	190
3.2	±0.1nH	13	500	50	6000	0.4	190
3.3	±0.1nH	13	500	50	6000	0.5	190
3.4	±0.1nH	13	500	50	6000	0.5	190
3.5	±0.1nH	13	500	50	6000	0.5	190
3.6	±0.1nH	13	500	50	6000	0.5	190
3.7	±0.1nH	13	500	50	6000	0.5	190
3.8	±0.1nH	13	500	50	6000	0.5	170
3.9	±0.1nH	13	500	50	6000	0.5	170
4.3	±0.1nH	13	500	50	6000	0.6	160
4.7	±0.1nH	13	500	50	6000	0.6	160
5.1	±0.1nH	13	500	50	6000	0.7	140
5.6	±0.1nH	13	500	50	6000	0.7	140
6.2	±0.1nH	13	500	50	6000	0.9	130
6.8	±0.1nH	13	500	50	6000	0.9	130
7.5	±0.1nH	13	500	50	5500	1.1	110
8.2	±0.1nH	13	500	50	5500	1.1	110
9.1	±0.1nH	13	500	50	4500	1.3	100
10	±2%	13	500	50	4500	1.3	100
12	±2%	13	500	50	3700	1.6	90
15	±2%	13	500	50	3300	1.8	90
18	±2%	13	500	50	3100	2.0	80
22	±2%	13	500	50	2800	2.6	70
27	±2%	13	500	50	2500	3.8	60
33	±2%	13	500	50	2100	3.8	60

■Operating temperature range: -40~+85°C

■Keysight E4991B+Testing fixture 16197A.Short bar residual inductance=0.556nH

CL02-S02 Multilayer Chip Inductors / High Q Type

Inductance (nH)	Tolerance	L Test Frequency (MHz)	Q min.	Q Test Frequency (MHz)	Test Voltage (mV)	SRF (MHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
0.6	±0.1nH, ±0.2nH, ±0.3nH	100	-	250	50	15000	0.01	1200
0.7	±0.1, ±0.2, ±0.3nH	100	-	250	50	15000	0.02	1200
0.8	±0.1, ±0.2, ±0.3nH	100	-	250	50	15000	0.02	1200
0.9	±0.1, ±0.2, ±0.3nH	100	-	250	50	15000	0.03	1200
1.0	±0.1, ±0.2, ±0.3nH	100	23	250	50	15000	0.03	1200
1.1	±0.1, ±0.2, ±0.3nH	100	23	250	50	14000	0.03	1200
1.2	±0.1, ±0.2, ±0.3nH	100	23	250	50	13000	0.03	1200
1.3	±0.1, ±0.2, ±0.3nH	100	23	250	50	12000	0.03	1200
1.4	±0.1, ±0.2, ±0.3nH	100	23	250	50	13000	0.04	1200
1.5	±0.1, ±0.2, ±0.3nH	100	23	250	50	11000	0.04	1000
1.6	±0.1, ±0.2, ±0.3nH	100	23	250	50	10000	0.04	1000
1.7	±0.1, ±0.2, ±0.3nH	100	23	250	50	10000	0.04	1000
1.8	±0.1, ±0.2, ±0.3nH	100	23	250	50	9000	0.04	1000
1.9	±0.1, ±0.2, ±0.3nH	100	23	250	50	8000	0.05	1000
2.0	±0.1, ±0.2, ±0.3nH	100	23	250	50	8000	0.05	1000
2.1	±0.1, ±0.2, ±0.3nH	100	23	250	50	8000	0.06	1000
2.2	±0.1, ±0.2, ±0.3nH	100	23	250	50	8000	0.06	1000
2.3	±0.1, ±0.2, ±0.3nH	100	23	250	50	7000	0.07	1000
2.4	±0.1, ±0.2, ±0.3nH	100	23	250	50	6500	0.07	1000
2.5	±0.1, ±0.2, ±0.3nH	100	23	250	50	6500	0.06	900
2.6	±0.1, ±0.2, ±0.3nH	100	23	250	50	6500	0.07	900
2.7	±0.1, ±0.2, ±0.3nH	100	23	250	50	6500	0.07	900
2.8	±0.1, ±0.2, ±0.3nH	100	23	250	50	6500	0.07	900
2.9	±0.1, ±0.2, ±0.3nH	100	23	250	50	6500	0.08	900
3.0	±0.1, ±0.2, ±0.3nH	100	23	250	50	6000	0.09	900
3.1	±0.1, ±0.2, ±0.3nH	100	23	250	50	6000	0.09	900
3.2	±0.1, ±0.2, ±0.3nH	100	23	250	50	6000	0.09	900
3.3	±0.1, ±0.2, ±0.3nH	100	23	250	50	6000	0.08	900
3.4	±0.1, ±0.2, ±0.3nH	100	23	250	50	6000	0.09	900
3.5	±0.1, ±0.2, ±0.3nH	100	23	250	50	5800	0.09	900
3.6	±0.1, ±0.2, ±0.3nH	100	23	250	50	5500	0.09	900
3.7	±0.1, ±0.2, ±0.3nH	100	23	250	50	5500	0.10	900
3.8	±0.1, ±0.2, ±0.3nH	100	23	250	50	5000	0.10	900
3.9	±0.1, ±0.2, ±0.3nH	100	23	250	50	5000	0.09	800
4.1	±0.1, ±0.2, ±0.3nH	100	23	250	50	5000	0.10	800
4.3	±0.1, ±0.2, ±0.3nH	100	23	250	50	5000	0.10	800
4.7	±0.1, ±0.2, ±0.3nH	100	23	250	50	5000	0.11	800
4.9	±0.1, ±0.2, ±0.3nH	100	23	250	50	5000	0.11	800
5.1	±0.1, ±0.2, ±0.3nH	100	23	250	50	4500	0.12	800
5.4	±0.1, ±0.2, ±0.3nH	100	23	250	50	4500	0.13	800
5.6	±0.1, ±0.2, ±0.3nH	100	23	250	50	4500	0.13	800
5.8	±0.1, ±0.2, ±0.3nH	100	23	250	50	4000	0.13	700
6.0	±0.1, ±0.2, ±0.3nH	100	23	250	50	4000	0.13	700
6.2	±0.1, ±0.2, ±0.3nH	100	23	250	50	4000	0.13	700
6.5	±2%, ±3%, ±5%	100	23	250	50	4000	0.14	700
6.8	±2%, ±3%, ±5%	100	23	250	50	4000	0.14	700
7.3	±2%, ±3%, ±5%	100	23	250	50	4000	0.16	600
7.5	±2%, ±3%, ±5%	100	23	250	50	4000	0.16	600
8.2	±2%, ±3%, ±5%	100	23	250	50	3600	0.16	550
8.7	±2%, ±3%, ±5%	100	23	250	50	3500	0.17	550
9.1	±2%, ±3%, ±5%	100	23	250	50	3400	0.17	550
9.5	±2%, ±3%, ±5%	100	23	250	50	3300	0.21	500
10	±2%, ±3%, ±5%	100	23	250	50	3300	0.19	500
11	±2%, ±3%, ±5%	100	23	250	50	3000	0.22	450
12	±2%, ±3%, ±5%	100	23	250	50	2800	0.24	450
13	±2%, ±3%, ±5%	100	23	250	50	2800	0.26	400
15	±2%, ±3%, ±5%	100	23	250	50	2300	0.28	400

Inductance (nH)	Tolerance	L Test Frequency (MHz)	Q min.	Q Test Frequency (MHz)	Test Voltage (mV)	SRF (MHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
16	±2%, ±3%, ±5%	100	20	250	50	2300	0.80	260
18	±2%, ±3%, ±5%	100	20	250	50	2300	0.80	260
19	±2%, ±3%, ±5%	100	20	250	50	2300	0.80	260
20	±2%, ±3%, ±5%	100	20	250	50	2100	1.10	260
22	±2%, ±3%, ±5%	100	20	250	50	2100	1.10	230
23	±2%, ±3%, ±5%	100	20	250	50	2000	1.10	230
24	±2%, ±3%, ±5%	100	20	250	50	2000	1.20	230
27	±2%, ±3%, ±5%	100	20	250	50	1700	1.30	230
30	±2%, ±3%, ±5%	100	20	250	50	1700	1.30	220
33	±2%, ±3%, ±5%	100	20	250	50	1600	1.50	220
36	±2%, ±3%, ±5%	100	20	250	50	1600	1.50	190
39	±2%, ±3%, ±5%	100	20	250	50	1400	1.50	190
40	±2%, ±3%, ±5%	100	20	250	50	1400	1.50	190
43	±2%, ±3%, ±5%	100	22	250	50	1400	1.60	190
47	±2%, ±3%, ±5%	100	22	250	50	1300	1.60	190
51	±2%, ±3%, ±5%	100	22	250	50	1300	1.80	190
56	±2%, ±3%, ±5%	100	22	250	50	1200	1.80	180
62	±2%, ±3%, ±5%	100	22	250	50	1100	1.90	180
68	±2%, ±3%, ±5%	100	22	250	50	1100	2.00	160
72	±2%, ±3%, ±5%	100	22	250	50	1100	2.20	160
75	±2%, ±3%, ±5%	100	22	250	50	1100	2.20	160
82	±2%, ±3%, ±5%	100	22	250	50	900	2.30	160
91	±2%, ±3%, ±5%	100	22	250	50	900	2.30	160
100	±2%, ±3%, ±5%	100	22	250	50	900	2.50	150
110	±2%, ±3%, ±5%	100	22	250	50	800	2.70	150
120	±2%, ±3%, ±5%	100	22	250	50	800	2.70	140
130	±2%, ±3%, ±5%	100	22	250	50	800	3.00	110
150	±2%, ±3%, ±5%	100	22	250	50	800	3.00	110
160	±2%, ±3%, ±5%	100	22	250	50	700	5.80	90
180	±2%, ±3%, ±5%	100	18	250	50	600	6.00	90
200	±2%, ±3%, ±5%	100	18	250	50	600	6.20	80
220	±2%, ±3%, ±5%	100	18	250	50	600	6.60	80
240	±2%, ±3%, ±5%	100	18	250	50	600	6.80	80
270	±2%, ±3%, ±5%	100	18	250	50	600	7.00	80
300	±2%, ±3%, ±5%	50	13	100	50	480	7.80	80
330	±2%, ±3%, ±5%	50	13	100	50	480	8.20	80
360	±2%, ±3%, ±5%	50	13	100	50	450	8.40	80
390	±2%, ±3%, ±5%	50	13	100	50	450	8.80	70
430	±2%, ±3%, ±5%	50	13	100	50	380	9.60	70
470	±2%, ±3%, ±5%	50	13	100	50	380	9.60	70
510	±2%, ±3%, ±5%	50	13	100	50	360	10.2	70
560	±2%, ±3%, ±5%	50	13	100	50	360	10.6	70

■Operating temperature range: -55~+125℃

■L/Q testing equipment: Keysight E4991B+16197A.Short bar residual inductance=0.556nH

■High Frequency Electrical Specifications

CL02-S Multilayer Chip Inductors / High Frequency Type

Inductance (nH)	Tolerance	Quality Factor /min.	L/Q Freq. (MHz)	Q(Typical) Freq.(MHz)						SRF min. (GHz)	RDC (Ω) max.	IDC (mA) max.
				100	300	500	800	1000	1800			
1.0	±0.3nH	5	100	9	16	20	25	28	31	>8.50	0.10	500
1.2	±0.3nH	5	100	9	15	18	24	27	31	>8.50	0.12	500
1.5	±0.3nH	5	100	7	12	16	20	21	29	>8.50	0.15	500
1.8	±0.3nH	5	100	7	12	16	20	21	29	>8.50	0.17	500
2.2	±0.3nH	5	100	7	12	16	20	21	30	>8.50	0.17	500
2.7	±0.3nH	5	100	7	12	16	20	21	29	>8.50	0.20	500
3.3	±0.3nH	5	100	7	12	15	19	20	27	>8.50	0.22	400
3.9	±0.3nH	5	100	7	12	15	20	21	28	7.50	0.25	400
4.7	±0.3nH	5	100	7	12	15	19	20	27	6.50	0.28	400
5.6	±0.3nH	5	100	8	12	15	20	22	30	6.50	0.30	400
6.8	±5%, ±10%	5	100	8	12	15	20	22	30	6.50	0.35	400
8.2	±5%, ±10%	5	100	8	12	15	19	21	30	6.50	0.38	350
10	±5%, ±10%	5	100	8	13	16	21	23	32	4.70	0.42	350
12	±5%, ±10%	5	100	8	13	16	20	23	27	4.30	0.47	350
15	±5%, ±10%	5	100	8	12	15	19	22	28	4.00	0.50	300
18	±5%, ±10%	5	100	8	13	16	21	24	32	4.00	0.60	250
22	±5%, ±10%	5	100	8	13	17	22	26	31	3.50	0.70	200
27	±5%, ±10%	5	100	8	14	18	23	26	32	3.00	0.80	200
33	±5%, ±10%	5	100	8	14	17	23	27	32	2.50	0.90	200
39	±5%, ±10%	5	100	8	14	18	23	27	32	2.00	1.00	200
47	±5%, ±10%	7	100	9	14	18	22	24	29	2.40	2.20	100
56	±5%, ±10%	7	100	9	14	18	23	24	29	2.30	2.50	100
68	±5%, ±10%	7	100	9	14	17	22	24	29	2.20	2.70	100
82	±5%, ±10%	7	100	8	13	17	20	20	16	2.10	2.90	100
100	±5%, ±10%	7	100	8	13	17	20	20	13	2.00	3.20	100

■Operating temperature range: -55~+125℃

CL03-S Multilayer Chip Inductors / High Frequency Type

Inductance (nH)	Tolerance	Quality Factor /min.	L/Q Freq. (MHz)	Q(Typical) Freq.(MHz)						SRF min. (GHz)	RDC (Ω) max.	IDC (mA) max.
				100	300	500	800	1000	1800			
10	±5%	8	100	10	22	28	35	39	45	>6.00	0.6	500
12	±5%	8	100	10	18	23	26	32	42	6.00	0.7	500
15	±5%	8	100	12	22	28	35	39	42	5.50	0.8	500
18	±5%	8	100	10	18	22	25	30	43	5.20	0.9	300
22	±5%	8	100	12	21	27	34	37	37	5.00	1.0	300
27	±5%	8	100	10	18	24	26	32	38	4.80	1.2	300
33	±5%	8	100	12	21	27	33	35	31	4.50	1.4	300
39	±5%	8	100	11	20	26	32	34	29	4.00	1.5	200
47	±5%	8	100	12	20	26	31	34	27	3.50	1.6	200
56	±5%	8	100	11	20	26	31	34	24	3.00	1.8	200
68	±5%	8	100	10	18	21	24	28	20	2.80	2.0	200
82	±5%	8	100	10	19	22	26	26	15	2.50	2.2	200
100	±5%	8	100	10	19	24	27	25	-	2.00	2.5	150
120	±5%	8	100	10	19	23	26	24	-	1.60	2.8	150
150	±5%	8	100	10	18	24	26	23	-	1.40	3.0	150
180	±5%	8	100	10	17	22	23	-	-	1.00	3.4	150

■Operating temperature range: -40~+85℃

■Environmental Characteristics

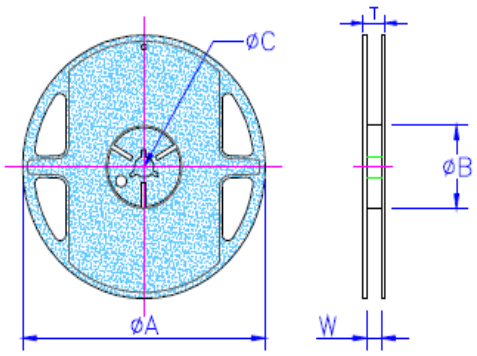
Item	Requirement	Test Condition
Solderability	At least 95% of terminal electrode should be covered with solder	Preheating temperature:120°C to 150°C Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cuof the Snsolder. Solder temperature: 245±5°C Immersion tin depth:10mm Duration : 5±1s Dip performance to a flux of about:3 ~ 5 s
Resistance to Soldering Heat	At least 95% of terminal electrode should be covered with solder Inductance change: within±10% Q change: within±20%	Preheating temperature:120°C to 150°C Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cuof the Snsolder. Solder temperature: 260±5°C Immersion tin depth:10mm Duration : 10±1s Dip performance to a flux of about:3 ~ 5 s
Adhesion of Electrode	The termination and body should be no damage.	Applied force: 01005 sizes: 1N ; 0402 sizes: 5N; 0603 sizes: 7N Keep time ：10±1S
Low Temperature Resistance	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	Other sizes: -55±2°C, 1000+24/-0 hrs 0603 size: -40±2°C, 1000+24/-0 hrs
Bending Strength	No mechanical damage	Testing board: glass epoxy-resin substrate For 0.5 mm/s compression speed, curvature: 2mm, hold time 20s±1s
Vibration	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±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.
High Temperature Resistance	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	Other sizes: 125±2°C, 1000+24/-0 hrs 0603 size: 85±2°C, 1000+24/-0 hrs
Static Humidity	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	60±2°C, 90%~95%RH,1000+24/-0 hrs
High Temperature Load	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	125±2°C, apply rated current for 1000+24/-0 hrs 0603 size: 85±2°C, apply rated current for 1000+24/-0 hrs
Temperature Shock	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	-55°C~+125°C, 100 cycles

■Storage Temperature: -10~+40℃; Humidity 30~70%RH

■Shelf Life: 1 year from production date.

■Packaging Specifications

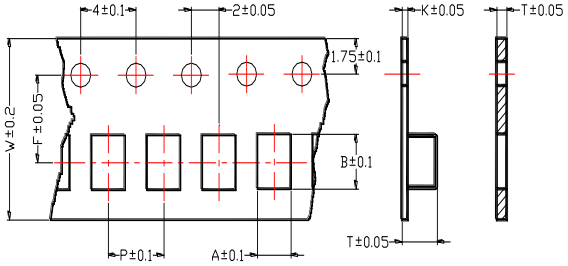
Reel Dimension



Unit: mm

Type	A	B	C	W	T	Quantity (EA)
CLE5-S	178±2	50 or more	13.0±0.20	8.4+1.5/-0	14.4 max	20,000
CL01-S	178±1	60.0±0.5	13.0±0.20	9.00±0.5	12.0±0.15	15,000
CL02-S	178±1	57.0±2.0	12.5±1.5	8.00+1.5/-0	12.0±0.15	10,000
CL03-S	178±1	60.0±0.5	13.0±0.20	9.00±0.5	12.0±0.15	4,000

Tape Specifications



Type A ***Type B***

Unit: mm

Type	A	B	T	W	P	F	K	Tape
CLE5-S	0.25±0.03	0.46±0.03	0.31±0.03	8	2	3.5	-	B
CL01-S	0.40	0.70	0.50	8	2	3.5	-	B
CL02-S	0.65	1.15	0.60	8	2	3.5	-	B
CL03-S	1.10	1.80	1.10	8	4	3.5	-	B

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version A9	Apr 28 ,2025		-Modify CL02-S01/CL02-S02 Figure -Modify CLE5-S Standard Electrical Specifications (PCN: 2504002) -Modify the packaging quantity of CLE5-S (PCN: 2504002)
Version B	Jul 25 ,2025		-Modify CLE5-S RDC Specifications -Modify CLE5-S Tape Specifications