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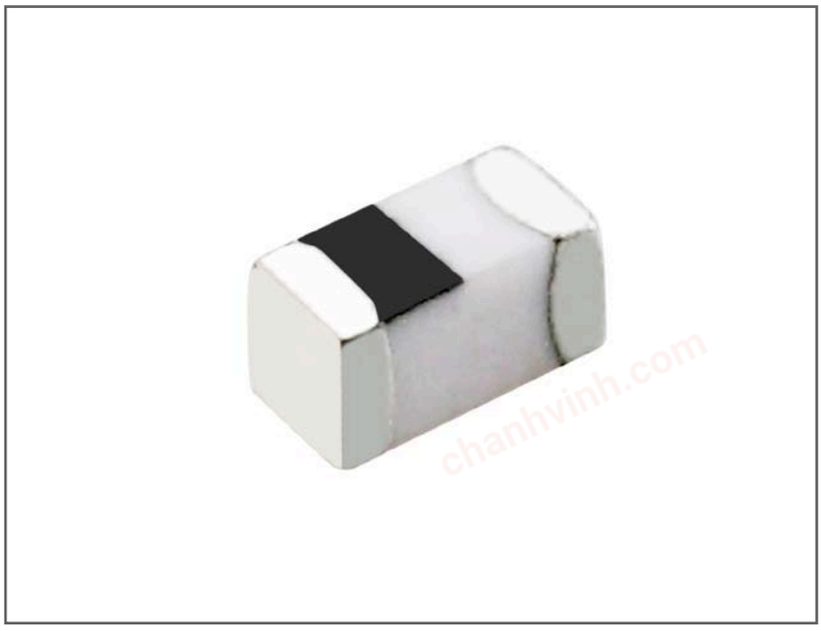
Internal

Multilayer Chip Inductors

Features

- Monolithic structure for high reliability
- RSMLCI-S – 0201, 0402, 0603 packages
- High self-resonant frequency
- Excellent solderability and high heat resistance

RS PRO Multilayer Chip Inductors RSMLCI-S Series



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

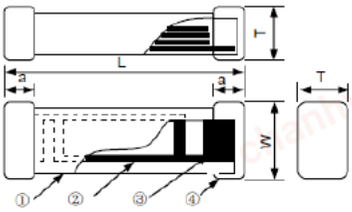
Multilayer Chip Inductors

Product Description

Applications Include:

- RF circuit in telecommunications and other equipment

Construction:



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

Dimensions

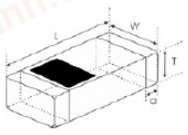


Figure1

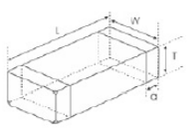


Figure2

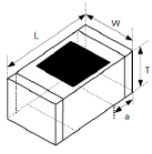


Figure3

Standard

Unit: mm

Type	Size (Inch)	Figure	L	W	T	a
RSCL02-S (<12nH)	0402	1	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
RSCL02-S (≧12nH)	0402	1&2	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
RSCL03-S (<100nH)	0603	2	1.60±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
RSMLCI01-S	0201	1	0.60±0.05	0.30±0.05	0.30±0.05	0.15±0.05
RSMLCI02-S	0402	3	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
RSMLCI02-S	0402	2	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
RSMLCI03-S	0603	2	1.60±0.15	0.80±0.15	0.80±0.15	0.30±0.20

Multilayer Chip Inductors

Part Number Make Up

Product Type	Dimensions	Inductance Tolerance	Packaging Code	Appearance	Inductance	
RSMLCI	01: 0201 02: 0402 03: 0603	B: ±0.1nH S: ±0.3nH H: ±3% J: ±5%	T: Taping Reel	: Standard Q: High Q	1N0: 1.0nH 39N: 39nH R10: 100nH	

Electrical Specifications

Standard Electrical Specifications

CL02-S Multilayer Chip Inductors / Standard Type

Inductance (nH)	Tolerance	Quality Factor /min.	Test Freq. (MHz)	Test Voltage (mV)	SRF (GHz) Min.	RDC (Ω) Max.	Rate Current (mA) Max.
1.0	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	10.00	0.06	1000
1.2	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	10.00	0.07	1000
1.5	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.08	1000
1.8	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.08	900
2.0	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.09	900
2.2	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.09	900
2.4	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.10	800
2.7	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.12	800
3.0	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.12	800
3.3	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.13	800
3.6	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.15	700
3.9	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.16	700
4.7	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.16	700
5.6	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.20	600
6.2	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	3.90	0.20	600
6.8	±3%, ±5%	8	100	50	3.90	0.20	600
7.5	±3%, ±5%	8	100	50	3.70	0.24	500
8.2	±3%, ±5%	8	100	50	3.60	0.24	500
9.1	±3%, ±5%	8	100	50	3.40	0.26	500
10	±3%, ±5%	8	100	50	3.20	0.26	500
12	±3%, ±5%	8	100	50	2.70	0.50	400
15	±3%, ±5%	8	100	50	2.30	0.50	400
18	±3%, ±5%	8	100	50	2.10	0.60	350
22	±3%, ±5%	8	100	50	1.90	0.60	350
27	±3%, ±5%	8	100	50	1.60	0.70	300
33	±3%, ±5%	8	100	50	1.30	0.80	300

Multilayer Chip Inductors

39	±3%, ±5%	8	100	50	1.20	1.00	250
47	±3%, ±5%	8	100	50	1.00	1.10	250
56	±3%, ±5%	8	100	50	0.75	1.20	200
68	±3%, ±5%	8	100	50	0.75	1.40	200
82	±3%, ±5%	8	100	50	0.75	1.60	200
100	±3%, ±5%	8	100	50	0.70	2.00	200
220	±3%, ±5%	8	100	50	0.45	3.70	100

Operating temperature range: -55~+125°C

High Q Electrical Specifications

CL01-S Multilayer Chip Inductors / High Q Type

Inductance (nH)	Tolerance	Quality Factor /min.	Test Freq. (MHz)	Test Voltage (mV)	SRF (GHz) Min.	RDC (Ω) Max.	Rate Current (mA) Max.
1.0	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10.00	0.07	800
1.2	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10.00	0.10	800
1.5	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10.00	0.10	650
1.8	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	9.00	0.15	650
2.0	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	8.50	0.15	650
2.2	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7.50	0.15	650
2.4	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7.50	0.15	550
2.6	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7.50	0.20	550
3.0	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7.50	0.20	450
3.3	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7.50	0.25	450
3.6	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	6.50	0.25	400
3.9	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	6.50	0.25	400
4.7	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	6.00	0.40	350
6.8	±3%, ±5%	14	500	50	4.50	0.50	300
8.2	±3%, ±5%	14	500	50	4.00	0.50	250
10	±3%, ±5%	14	500	50	4.00	0.70	250
12	±3%, ±5%	13	500	50	3.50	0.70	250
15	±3%, ±5%	13	500	50	3.20	0.85	250
18	±3%, ±5%	13	500	50	3.00	1.00	200
22	±3%, ±5%	13	500	50	2.20	1.20	150
27	±3%, ±5%	13	500	50	2.20	1.50	140
68	±3%, ±5%	12	300	50	1.00	3.20	100
82	±3%, ±5%	11	300	50	1.00	3.80	100
100	±3%, ±5%	11	300	50	0.80	4.00	80

High Q Electrical Specifications

CL02-S Multilayer Chip Inductors / High Q Type

Inductance (nH)	Tolerance	Quality Factor /min.	L/Q Freq. (MHz)	Q (Typical) Freq.(MHz)				SRF (GHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
				100	250	900	1800			
1.0	±0.1nH, ±0.2nH, ±0.3nH	20	250	13	22	48	75	6.00	0.05	1000
1.2	±0.1nH, ±0.2nH, ±0.3nH	20	250	13	22	48	75	6.00	0.05	1000
1.5	±0.1nH, ±0.2nH, ±0.3nH	20	250	13	22	58	76	6.00	0.05	1000
1.8	±0.1nH, ±0.2nH, ±0.3nH	20	250	13	22	49	78	6.00	0.07	800
2.0	±0.1nH, ±0.2nH, ±0.3nH	20	250	14	23	49	82	6.00	0.07	800
2.2	±0.1nH, ±0.2nH, ±0.3nH	20	250	14	23	49	82	6.00	0.07	800
2.4	±0.1nH, ±0.2nH, ±0.3nH	20	250	14	23	47	78	6.00	0.07	800
3.0	±0.1nH, ±0.2nH, ±0.3nH	20	250	14	23	50	84	6.00	0.09	700
3.3	±0.1nH, ±0.2nH, ±0.3nH	20	250	14	24	52	90	6.00	0.09	700
3.6	±0.1nH, ±0.2nH, ±0.3nH	20	250	15	24	55	95	6.00	0.10	700
3.9	±0.1nH, ±0.2nH, ±0.3nH	20	250	15	25	50	89	6.00	0.10	700
4.7	±0.1nH, ±0.2nH, ±0.3nH	20	250	15	26	50	88	6.00	0.13	600
6.8	±2%, ±3%, ±5%	22	250	15	27	55	89	5.00	0.15	550
8.2	±2%, ±3%, ±5%	22	250	15	27	56	84	5.00	0.16	550
10	±2%, ±3%, ±5%	22	250	16	29	52	75	4.50	0.18	500
12	±2%, ±3%, ±5%	22	250	16	29	51	68	4.00	0.20	500
15	±2%, ±3%, ±5%	22	250	16	29	50	60	4.00	0.22	430

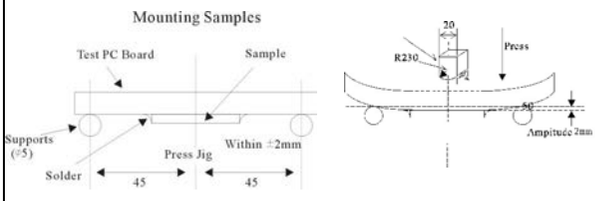
Environmental Characteristics

Electrical Performance Test

Item	Requirement	Test Condition
Inductance	In Within specified tolerance	Temperature: 20±1°C Relative Humidity: 45 to 85%RH Atmospheric Pressure: 86 to 106kpa Measuring equipment and fixture: 0201: E4991A+HP16197A 0402/0603: E4991A+HP16192A Test Signal: -20dBm or 50mV Test compensation(for 0201 high Q): Product true value= test value + compensation value. for L<3.6nH, compensation value is 0.25nH; for 3.6nH≦L<6.8nH, compensation value is 0.43nH; for 6.8 nH≦L<9.1nH, compensation value is 0.5nH; for 9.1 nH≦L<33nH, compensation value is 0.85nH; for L≧33 nH compensation value is 0.85nH
Q Value	In accordance with electrical specification	Temperature: 20±1°C Relative Humidity: 45 to 85%RH Atmospheric Pressure: 86 to 106kpa

DC Resistance	In accordance with electrical specification	Temperature: 20±1°C Relative Humidity: 45 to 85%RH Atmospheric Pressure: 86 to 106kpa Measuring equipment: HP 4338

Mechanical Characteristics Test

Item	Requirement	Test Condition
Bending Strength	No mechanical damage shall be observed	Flexure: 2mm Pressurizing speed: 0.5mm/sec Keep time: 30sec 
Solderability	No visible mechanical damage Wetting shall exceed 75% coverage for 0201 series; exceed 95% coverage for others	Solder temperature: 240±2°C Time: 3 seconds Solder: Sn/3.0Ag/0.5Cu Flux: 25% resin and 75% ethanol in weight
Resistance to soldering Heat	No visible mechanical damage Wetting shall exceed 75% coverage for 0201 series; exceed 95% coverage for others Inductance change: within±10% Q change: within±20%	Solder temperature: 260±3°C Time: 5 seconds Solder: Sn/3.0Ag/0.5Cu Flux: 25% resin and 75% ethanol in weight The chip shall be stabilized at normal condition for 1~2 hours before measuring
Dropping	No visible mechanical damage Inductance change: within±10% Q change: within±20%	Drop chip inductor 10 times on a concrete floor form a height of 100cm

Climate Test

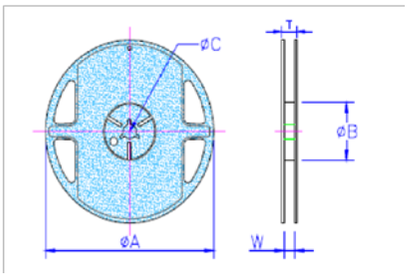
Item	Requirements	Test Condition
Thermal Shock	No visible damage Inductance variation within 10% Q variation within 20%	0201/0402 series: -55℃ for 30±3 min→125℃ for 30±3 min 0603 series: -40℃ for 30±3 min→85℃ for 30±3 min Transforming interval: max. 20 seconds Test cycle: 100 cycles The chip shall be stabilized at normal condition for 1~2 hours Before measuring
Resistance to Low Temperature		Temperature: 0201/0402 series: -55±2℃ ; 0603 series: -40±2℃ Time: 1000±24 hours The chip shall be stabilized at normal condition for 1~2 hours Before measuring
Resistance to High Temperature		Temperature: 0201/0402 series: 125±2℃ ; 0603 series: 85±2℃ Time: 1000±24 hours The chip shall be stabilized at normal condition for 1~2 hours

		Before measuring
Damp Heat (Steady States)		Temperature: 60±2°C Humidity: 90~95% RH. Time: 1000±24 hours The chip shall be stabilized at normal condition for 1~2 hours Before measuring
Loading Under Damp Heat		Temperature: 60±2°C Humidity: 90~95% RH. Time: 1000±24 hours Applied current: Rated current The chip shall be stabilized at normal condition for 1~2 hours Before measuring
Loading at High Temperature (Life Test)		Temperature: 0201/0402 series: 125±2°C; 0603 series: 85±2°C Time: 1000±24 hours Applied current: Rated current The chip shall be stabilized at normal condition for 1~2 hours Before measuring

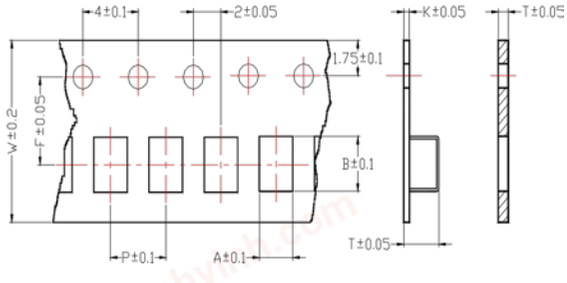
Storage Temperature: 15~28°C; Humidity < 80%RH

Packaging

Reel Dimension



Type	A	B	C	W	T	Quantity (EA)
RSMLCI01-S	178±1	60.0±0.5	13.0±0.20	9.00±0.5	12.0±0.15	15,000
RSMLCI02-S	178±1	57.0±2.0	12.5±1.5	8.00+1.5/-0	12.0±0.15	10,000
RSMLCI03-S	178±1	60.0±0.5	13.0±0.20	9.00±0.5	12.0±0.15	4,000



Type A Type B

Type	A	B	T	W	P	F	K	Tape
RSMLCI01-S	0.40	0.70	0.50	8	2	3.5	-	B
RSMLCI02-S	0.65	1.15	0.80	8	2	3.5	-	B
RSMLCI03-S	1.10	1.80	1.10	8	4	3.5	-	B

Multilayer Chip Inductors

Similar Products

	RS Article Number		
MPN	SSM	P Part	MPQ
RSMLCI01BTQ1N0-S	2567563	2567563P	2567562
RSMLCI01BTQ1N2-S	2567565	2567565P	2567564
RSMLCI01BTQ1N5-S	2567567	2567567P	2567566
RSMLCI01BTQ1N8-S	2567569	2567569P	2567568
RSMLCI01BTQ2N0-S	2567571	2567571P	2567570
RSMLCI01BTQ2N2-S	2567573	2567573P	2567572
RSMLCI01BTQ2N4-S	2567575	2567575P	2567574
RSMLCI01BTQ2N6-S	2567577	2567577P	2567576
RSMLCI01BTQ2N7-S	2567579	2567579P	2567578
RSMLCI01BTQ3N0-S	2567581	2567581P	2567580
RSMLCI01BTQ3N3-S	2567583	2567583P	2567582
RSMLCI01BTQ3N6-S	2567585	2567585P	2567584
RSMLCI01BTQ3N9-S	2567587	2567587P	2567586
RSMLCI01BTQ4N7-S	2567589	2567589P	2567588
RSMLCI01HTQ10N-S	2567591	2567591P	2567590
RSMLCI01HTQ12N-S	2567593	2567593P	2567592
RSMLCI01HTQ15N-S	2567595	2567595P	2567594
RSMLCI01HTQ18N-S	2567597	2567597P	2567596
RSMLCI01HTQ22N-S	2567599	2567599P	2567598
RSMLCI01HTQ27N-S	2567601	2567601P	2567600
RSMLCI01HTQ6N8-S	2567603	2567603P	2567602
RSMLCI01HTQ8N2-S	2567605	2567605P	2567604
RSMLCI01JTQ10N-S	2567607	2567607P	2567606
RSMLCI01JTQ12N-S	2567609	2567609P	2567608
RSMLCI01JTQ15N-S	2567611	2567611P	2567610
RSMLCI01JTQ18N-S	2567613	2567613P	2567612
RSMLCI01JTQ22N-S	2567615	2567615P	2567614
RSMLCI01JTQ27N-S	2567617	2567617P	2567616
RSMLCI01JTQ33N-S	2567619	2567619P	2567618
RSMLCI01JTQ68N-S	2567621	2567621P	2567620
RSMLCI01JTQ82N-S	2567623	2567623P	2567622
RSMLCI01JTQR10-S	2567625	2567625P	2567624
RSMLCI02JT10N-S	2567627	2567627P	2567626
RSMLCI02JT12N-S	2567629	2567629P	2567628
RSMLCI02JT15N-S	2567631	2567631P	2567630
RSMLCI02JT18N-S	2567633	2567633P	2567632
RSMLCI02JT22N-S	2567635	2567635P	2567634
RSMLCI02JT27N-S	2567637	2567637P	2567636
RSMLCI02JT33N-S	2567639	2567639P	2567638
RSMLCI02JT39N-S	2567641	2567641P	2567640
RSMLCI02JT47N-S	2567643	2567643P	2567642

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RSMLCI02JT56N-S	2567645	2567645P	2567644
RSMLCI02JT68N-S	2567647	2567647P	2567646
RSMLCI02JT6N8-S	2567649	2567649P	2567648
RSMLCI02JT7N5-S	2567651	2567651P	2567650
RSMLCI02JT82N-S	2567653	2567653P	2567652
RSMLCI02JT8N2-S	2567655	2567655P	2567654
RSMLCI02JT9N1-S	2567657	2567657P	2567656
RSMLCI02JTR10-S	2567659	2567659P	2567658
RSMLCI02JTR22-S	2567661	2567661P	2567660
RSMLCI02ST1N0-S	2567663	2567663P	2567662
RSMLCI02ST1N2-S	2567665	2567665P	2567664
RSMLCI02ST1N5-S	2567667	2567667P	2567666
RSMLCI02ST1N8-S	2567669	2567669P	2567668
RSMLCI02ST2N0-S	2567671	2567671P	2567670
RSMLCI02ST2N2-S	2567673	2567673P	2567672
RSMLCI02ST2N4-S	2567675	2567675P	2567674
RSMLCI02ST2N7-S	2567677	2567677P	2567676
RSMLCI02ST3N0-S	2567679	2567679P	2567678
RSMLCI02ST3N3-S	2567681	2567681P	2567680
RSMLCI02ST3N6-S	2567683	2567683P	2567682
RSMLCI02ST3N9-S	2567685	2567685P	2567684
RSMLCI02ST4N7-S	2567687	2567687P	2567686
RSMLCI02ST5N6-S	2567689	2567689P	2567688
RSMLCI02ST6N2-S	2567691	2567691P	2567690
RSMLCI03JT10N-S	2567693	2567693P	2567692
RSMLCI03JT12N-S	2567695	2567695P	2567694
RSMLCI03JT15N-S	2567697	2567697P	2567696
RSMLCI03JT18N-S	2567699	2567699P	2567698
RSMLCI03JT22N-S	2567701	2567701P	2567700
RSMLCI03JT27N-S	2567703	2567703P	2567702
RSMLCI03JT47N-S	2567705	2567705P	2567704
RSMLCI03JT56N-S	2567707	2567707P	2567706
RSMLCI03JT82N-S	2567709	2567709P	2567708
RSMLCI03JTR10-S	2567711	2567711P	2567710
RSMLCI03ST2N2-S	2567713	2567713P	2567712
RSMLCI03ST3N3-S	2567715	2567715P	2567714
RSMLCI03ST3N9-S	2567717	2567717P	2567716
RSMLCI03ST4N7-S	2567719	2567719P	2567718
RSMLCI03ST5N6-S	2567721	2567721P	2567720