

Multilayer Ceramic Chip Inductor High Frequency

CLH Series

CLH Series - Lead-free/ For High Frequency Applications

Chilisin high frequency multilayer ceramic chip inductor is formed without wound wire. Monolithic Laminated Structure.



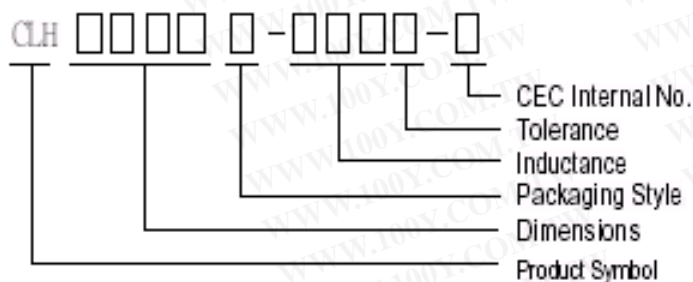
Feature

- Meet SONY SS-00259's criteria for lead-free product
- Cost Effective
- Small size of 1005/1608 is suitable for small portable equipment.
- Supports operating frequency up to 6GHz with nominal inductance values from 1.0nH to 330nH.
- Excellent Q factor and SRF characteristics.

Applications

- RF Resonance and Impedance Matching Circuit
- RF and wireless communication
- Information technology equipments, computers, telecommunications, radar detectors, automotive electronics, cellular phones, pagers, PDAs, keyless remote systems.
- Use in L-C filter configurations

Product Identification



勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

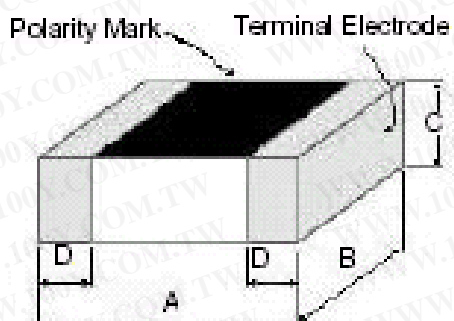
- Packaging Style: T: Tape and Reel; B: Bulk
- Tolerance: $\pm 0.3\text{nH}$; Y= $\pm 25\%$; M= $\pm 20\%$ Computers
- Product Identification:

CLH1005-S Series:	With one side mark	CLH1005-S Series:	With half side mark
CLH1608-S Series:	With one side mark	CLH1608-S Series:	White
CLH2012-S Series:	White		

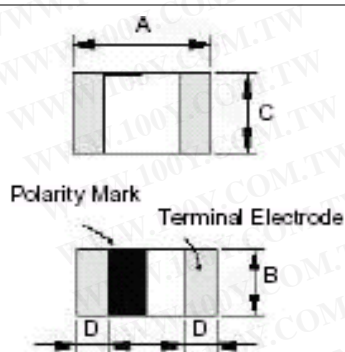
Shapes and Dimensions

CLH1005

CLH1005-S Series

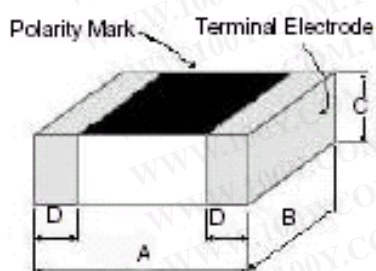


CLH1005-H Series

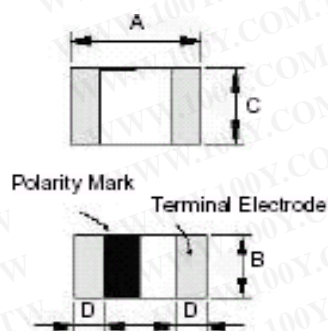


CLH1608

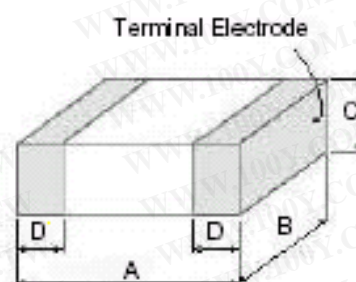
CLH1608-S Series



CLH1608-H Series

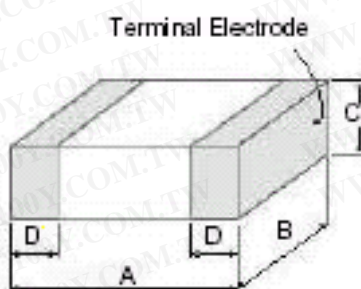


CLH1608-W Series



CLH2012

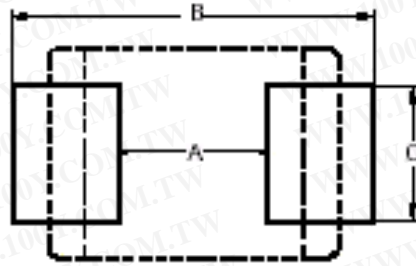
CLH2012-S Series



Unit: mm

TYPE	A	B	C	C
CLH 1005 (0402)	1.0±0.10	0.5±0.10	0.5±0.10	0.25±0.1
CLH 1608 (0603)	1.6±0.15	0.8±0.15	0.8±0.2	0.5±0.2
CLH 2012 (0805)	2.0±0.2	1.25±0.2	0.9±0.2	0.5±0.3

Recommended Pattern



Unit: mm

TYPE	A	B	C
CLH 1005 (0402)	0.4	1.2 ~ 1.4	0.5
CLH 1608 (0603)	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
CLH 2012 (0805)	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2

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SMD Multilayer Ceramic Chip Inductors - CLH1005-S Series

Electrical Characteristics

Part Number	Inductance (nH) at 100MHz	Tolerance	Q Min At 100MHz	Q Typical At		Self Resonant Frequency (MHz) Typical	DC Resistance () Max	IDC (mA) Max
				100MHz	800MHz			
CLH1005T-1N0□-S	1.0	S	8	9	28	10000	0.10	400
CLH1005T-1N2□-S	1.2	S	8	9	28	10000	0.10	400
CLH1005T-1N5□-S	1.5	S	8	10	28	9000	0.10	400
CLH1005T-1N8□-S	1.8	S	8	10	28	8700	0.10	400
CLH1005T-2N2□-S	2.2	S	8	10	29	8100	0.15	400
CLH1005T-2N7□-S	2.7	S	8	11	30	7700	0.15	400
CLH1005T-3N3□-S	3.3	S / K	8	11	30	6300	0.15	400
CLH1005T-3N9□-S	3.9	S / K	8	11	31	6100	0.20	400
CLH1005T-4N7□-S	4.7	S / K	8	11	31	5400	0.20	400
CLH1005T-5N6□-S	5.6	S / K	8	11	31	5100	0.20	400
CLH1005T-6N8□-S	6.8	J / K	8	11	33	4550	0.25	400
CLH1005T-8N2□-S	8.2	J / K	8	12	32	4100	0.30	300
CLH1005T-10N□-S	10	J / K	8	12	32	3900	0.35	300
CLH1005T-12N□-S	12	J / K	8	12	31	3000	0.40	300
CLH1005T-15N□-S	15	J / K	8	12	30	2600	0.50	300
CLH1005T-18N□-S	18	J / K	8	12	29	2350	0.55	300
CLH1005T-22N□-S	22	J / K	8	12	28	2000	0.70	300
CLH1005T-27N□-S	27	J / K	8	12	27	1900	0.80	300
CLH1005T-33N□-S	33	J / K	8	10	25	1700	1.0	200
CLH1005T-39N□-S	39	J / K	8	10	25	1600	1.2	150
CLH1005T-47N□-S	47	J / K	8	10	22	1300	1.3	150
CLH1005T-56N□-S	56	J / K	8	10	21	1250	1.5	150
CLH1005T-68N□-S	68	J / K	8	10	15	1000	1.7	100
CLH1005T-82N□-S	82	J / K	8	10	13	900	1.8	100
CLH1005T-R10□-S	100	J / K	8	10	10	850	2.0	100
CLH1005T-R12□-S	120	J / K	8	10	-	750	2.2	100
CLH1005T-R15□-S	150	J / K	8	10	-	600	3.5	100
CLH1005T-R18□-S	180	J / K	8	10	-	550	3.8	100
CLH1005T-R22□-S	220	J / K	8	10	-	500	4.5	100

● Tolerance : S = ±0.3nH , J = ±5% , K = ±10%

● Test Instruments : L/Q : Agilent E4991A Fixture : Agilent 16197A
 SRF : HP8753D
 RDC : HP4338B/ CH502BC

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SMD Multilayer Chip Inductors – CLH1005-H Series

Electrical Characteristics

Part Number	Inductance (nH) at 100MHz	Tolerance	Q Min At 100MHz	Q Typical At		Self Resonant Frequency (MHz) Typical	DC Resistance () Max	IDC (mA) Max
				100MHz	800MHz			
CLH1005T-1N0 δ -H	1.0	S	8	9	28	10000	0.10	400
CLH1005T-1N2 δ -H	1.2	S	8	9	28	10000	0.10	400
CLH1005T-1N5 δ -H	1.5	S	8	10	28	9000	0.10	400
CLH1005T-1N8 δ -H	1.8	S	8	10	28	8700	0.10	400
CLH1005T-2N0 δ -H	2.0	S	8	10	29	8100	0.15	400
CLH1005T-2N2 δ -H	2.2	S	8	10	29	8100	0.15	400
CLH1005T-2N7 δ -H	2.7	S	8	11	30	7700	0.15	400
CLH1005T-3N3 δ -H	3.3	S/K	8	11	30	6300	0.15	400
CLH1005T-3N9 δ -H	3.9	S/K	8	11	31	6100	0.20	400
CLH1005T-4N7 δ -H	4.7	S/K	8	11	31	5400	0.20	400
CLH1005T-5N6 δ -H	5.6	S/K	8	11	31	5100	0.20	400
CLH1005T-6N8 δ -H	6.8	J/K	8	11	33	4550	0.25	400
CLH1005T-8N2 δ -H	8.2	J/K	8	12	32	4100	0.30	300
CLH1005T-10N δ -H	10	J/K	8	12	32	3900	0.35	300
CLH1005T-12N δ -H	12	J/K	8	12	31	3000	0.40	300
CLH1005T-15N δ -H	15	J/K	8	12	30	2600	0.50	300
CLH1005T-18N δ -H	18	J/K	8	12	29	2350	0.55	300
CLH1005T-22N δ -H	22	J/K	8	12	28	2000	0.70	300
CLH1005T-27N δ -H	27	J/K	8	12	27	1900	0.80	300
CLH1005T-33N δ -H	33	J/K	8	10	25	1700	1.0	200
CLH1005T-39N δ -H	39	J/K	8	10	25	1600	1.2	150
CLH1005T-47N δ -H	47	J/K	8	10	22	1300	1.3	150
CLH1005T-56Nδ -H	56	J/K	8	10	21	1250	1.5	150
CLH1005T-68Nδ -H	68	J/K	8	10	19	1000	1.7	100
CLH1005T-82Nδ -H	82	J/K	8	10	16	900	1.8	100
CLH1005T-R10δ -H	100	J/K	8	10	10	850	2.0	100
CLH1005T R12δ -H	120	J/K	8	10	-	750	2.2	100
CLH1005T R15δ -H	150	J/K	8	10	-	600	3.5	100
CLH1005T R18δ -H	180	J/K	8	10	-	550	3.8	100
CLH1005T R22δ -H	220	J/K	8	10	-	500	4.5	100

- Tolerance: S = ±0.3nH , J = ±5% , K = ±10%
- Test Instruments : L/Q : HP4291A+HP16192A
 SRF : HP4291A+HP16192A OR HP8753D
 RDC : HP4338B/ CH502BC
 IDC : HP4291A / HP6632A

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SMD Multilayer Chip Inductors – CLH1608-S Series

Electrical Characteristics

Part Number	Inductance (nH) at 100MHz	Tolerance	Q Min		Q Typical At					Self Resonant Frequency (MHz) Typical	DC Resistance () Max	IDC (mA) Max
			At	At	50	100	300	500	800			
			50MHz	100MHz	MHz	MHz	MHz	MHz	MHz			
CLH1608T-1N0S-S	1.0	S	8	12					60	10000	0.10	600
CLH1608T-1N2S-S	1.2	S	8	13					60	10000	0.10	600
CLH1608T-1N5S-S	1.5	S	8	13					57	8000	0.10	600
CLH1608T-1N8S-S	1.8	S	8	13					51	8000	0.10	600
CLH1608T-2N2S-S	2.2	S	8	13					46	7200	0.10	600
CLH1608T-2N7S-S	2.7	S	10	13					46	6200	0.10	600
CLH1608T-3N3 -S	3.3	S/ K	10	13					47	5200	0.12	600
CLH1608T-3N9 -S	3.9	S/ K	10	13					47	5000	0.14	600
CLH1608T-4N7 -S	4.7	S/ K	10	13					41	4750	0.16	600
CLH1608T-5N6 -S	5.6	S/ K	10	13					41	4100	0.18	600
CLH1608T-6N8 -S	6.8	J/ K	10	13					44	3750	0.22	600
CLH1608T-8N2 -S	8.2	J/ K	10	13					44	3300	0.24	600
CLH1608T-10N -S	10	J/ K	12	13					45	3000	0.26	600
CLH1608T-12N -S	12	J/ K	12	15					46	2600	0.28	600
CLH1608T-15N -S	15	J/ K	12	15					48	2500	0.32	600
CLH1608T-18N -S	18	J/ K	12	15					48	2400	0.35	600
CLH1608T-22N -S	22	J/ K	12	17					45	2000	0.40	500
CLH1608T-27N -S	27	J/ K	12	17					43	1900	0.45	500
CLH1608T-33N -S	33	J/ K	12	18					39	1600	0.55	400
CLH1608T-39N -S	39	J/ K	12	18			37			1400	0.60	400
CLH1608T-47N -S	47	J/ K	12	18			35			1300	0.70	400
CLH1608T-56N -S	56	J/ K	12	18			32			1100	0.75	400
CLH1608T-62N -S	62	J/ K	12	18			34			1050	0.85	400
CLH1608T-68N -S	68	J/ K	12	18			34			1050	0.85	400
CLH1608T-82N -S	82	J/ K	12	18			32			900	1.00	300
CLH1608T-R10 -S	100	J/ K	12	18			20			770	1.20	300
CLH1608T-R12 -S	*120	J/ K	8	14			20			650	1.30	300
CLH1608T-R15 -S	*150	J/ K	8	15			16			550	1.70	250
CLH1608T-R18 -S	*180	J/ K	8	15			16			520	1.90	250
CLH1608T-R22 -S	*220	J/ K	8	15			16			500	2.00	250
CLH1608T-R27 -S	*270	J/ K	8	13			14			470	2.20	150
CLH1608T-R33 -S	*330	J/ K	8	13			-			320	2.80	100
CLH1608T-R39 -S	*390	J/ K	8	13			-			300	3.00	100

● * at 50MHz

● Tolerance: S = ±0.3 nH; J = ±5%; K = ±10%

● Test Instruments : L/Q : HP4291A+HP16192A
 SRF : HP4291A+HP16192A
 RDC : HP4338B/ CH502BC
 IDC : HP4291A+HP6632A

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SMD Multilayer Chip Inductors - CLH1608-H Series

Electrical Characteristics

Part Number	Inductance (nH) at 100MHz	Tolerance	Q Min		Q Typical At					Self Resonant Frequency (MHz) Typical	DC Resistance () Max	IDC (mA) Max
			At	At	50	100	300	500	800			
			50MHz	100MHz	MHz	MHz	MHz	MHz	MHz			
CLH1608T-1N0S-H	1.0	S	8	12					43	10000	0.10	600
CLH1608T-1N2S-H	1.2	S	8	13					44	10000	0.10	600
CLH1608T-1N5S-H	1.5	S	8	13					45	8000	0.10	600
CLH1608T-1N8S-H	1.8	S	8	13					46	8000	0.10	600
CLH1608T-2N2S-H	2.2	S	8	13					46	7200	0.10	600
CLH1608T-2N7S-H	2.7	S	10	13					46	6200	0.10	600
CLH1608T-3N3 -H	3.3	S/ K	10	13					47	5200	0.12	600
CLH1608T-3N9 -H	3.9	S/ K	10	13					47	5000	0.14	600
CLH1608T-4N7 -H	4.7	S/ K	10	13					41	4750	0.16	600
CLH1608T-5N6 -H	5.6	S/ K	10	13					41	4100	0.18	600
CLH1608T-6N8 -H	6.8	J/ K	10	13					44	3750	0.22	600
CLH1608T-8N2 -H	8.2	J/ K	10	13					44	3300	0.24	600
CLH1608T-10N -H	10	J/ K	12	13					45	3000	0.26	600
CLH1608T-12N -H	12	J/ K	12	15					46	2600	0.28	600
CLH1608T-15N -H	15	J/ K	12	15					48	2500	0.32	600
CLH1608T-18N -H	18	J/ K	12	15					48	2400	0.35	600
CLH1608T-22N -H	22	J/ K	12	17					45	2000	0.40	500
CLH1608T-27N -H	27	J/ K	12	17					43	1900	0.45	500
CLH1608T-33N -H	33	J/ K	12	18					39	1600	0.55	400
CLH1608T-39N -H	39	J/ K	12	18			37			1400	0.60	400
CLH1608T-47N -H	47	J/ K	12	18			35			1300	0.70	400
CLH1608T-56N -H	56	J/ K	12	18			32			1100	0.75	400
CLH1608T-62N -H	62	J/ K	12	18			32			1050	0.85	400
CLH1608T-68N -H	68	J/ K	12	18			32			1050	0.85	400
CLH1608T-82N -H	82	J/ K	12	18			30			900	1.00	300
CLH1608T-R10 -H	100	J/ K	12	18			20			770	1.20	300
CLH1608T-R12 -H	*120	J/ K	8	14			20			650	1.30	300
CLH1608T-R15 -H	*150	J/ K	8	15			16			550	1.70	250
CLH1608T-R18 -H	*180	J/ K	8	15			16			520	1.90	250
CLH1608T-R22 -H	*220	J/ K	8	15			16			500	2.00	250
CLH1608T-R27 -H	*270	J/ K	8	13			14			470	2.20	150
CLH1608T-R33 -H	*330	J/ K	8	13			-			320	2.80	100
CLH1608T-R39 -H	*390	J/ K	8	13			-			300	3.00	100

● * at 50MHz

● Tolerance : S = ± 0.3 nH ; J = $\pm 5\%$; K = $\pm 10\%$

● Test Instruments : L/Q : HP4291A+HP16192A
 SRF : HP4291A+HP16192A
 RDC : DIGITAL MULTIMETER SG-7401
 IDC : HP4291A+HP6632A

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SMD Multilayer Chip Inductors - CLH1608-W Series

Electrical Characteristics

Part Number	Inductance (nH) at 100MHz	Tolerance	Q Min		Q Typical At					Self Resonant Frequency (MHz) Typical	DC Resistance () Max	IDC (mA) Max
			At	At	50	100	300	500	800			
			50MHz	100MHz	MHz	MHz	MHz	MHz	MHz			
CLH1608T-1N0S-W	1.0	S	8	12					43	10000	0.10	600
CLH1608T-1N2S-W	1.2	S	8	13					44	10000	0.10	600
CLH1608T-1N5S-W	1.5	S	8	13					45	8000	0.10	600
CLH1608T-1N8S-W	1.8	S	8	13					46	8000	0.10	600
CLH1608T-2N2S-W	2.2	S	8	13					46	7200	0.10	600
CLH1608T-2N7S-W	2.7	S	10	13					46	6200	0.10	600
CLH1608T-3N3 -W	3.3	S/ K	10	13					47	5200	0.12	600
CLH1608T-3N9 -W	3.9	S/ K	10	13					47	5000	0.14	600
CLH1608T-4N7 -W	4.7	S/ K	10	13					41	4750	0.16	600
CLH1608T-5N6 -W	5.6	S/ K	10	13					41	4100	0.18	600
CLH1608T-6N8 -W	6.8	J/ K	10	13					44	3750	0.22	600
CLH1608T-8N2 -W	8.2	J/ K	10	13					44	3300	0.24	600
CLH1608T-10N -W	10	J/ K	12	13					45	3000	0.26	600
CLH1608T-12N -W	12	J/ K	12	15					46	2600	0.28	600
CLH1608T-15N -W	15	J/ K	12	15					48	2500	0.32	600
CLH1608T-18N -W	18	J/ K	12	15					48	2400	0.35	600
CLH1608T-22N -W	22	J/ K	12	17					45	2000	0.40	500
CLH1608T-27N -W	27	J/ K	12	17					43	1900	0.45	500
CLH1608T-33N -W	33	J/ K	12	18					39	1600	0.55	400
CLH1608T-39N -W	39	J/ K	12	18			37			1400	0.60	400
CLH1608T-47N -W	47	J/ K	12	18			35			1300	0.70	400
CLH1608T-56N -W	56	J/ K	12	18			32			1100	0.75	400
CLH1608T-62N -W	62	J/ K	12	18			32			1050	0.85	400
CLH1608T-68N -W	68	J/ K	12	18			32			1050	0.85	400
CLH1608T-82N -W	82	J/ K	12	18			30			900	1.00	300
CLH1608T-R10 -W	100	J/ K	12	18			20			770	1.20	300
CLH1608T-R12 -W	*120	J/ K	8	14			20			650	1.30	300
CLH1608T-R15 -W	*150	J/ K	8	15			16			550	1.70	250
CLH1608T-R18 -W	*180	J/ K	8	15			16			520	1.90	250
CLH1608T-R22 -W	*220	J/ K	8	15			16			500	2.00	250
CLH1608T-R27 -W	*270	J/ K	8	13			14			470	2.20	150
CLH1608T-R33 -W	*330	J/ K	8	13			-			320	2.80	100
CLH1608T-R39 -W	*390	J/ K	8	13			-			300	3.00	100

● * at 50MHz

● Tolerance: S = ± 0.3 nH; J = $\pm 5\%$; K = $\pm 10\%$

● Test Instruments : L/Q : HP4291A+HP16192A
 SRF : HP4291A+HP16192A
 RDC : DIGITAL MULTIMETER SC-7401
 IDC : HP4291A+HP6632A

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 勝特力电子(上海) 86-21-34970699
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SMD Multilayer Chip Inductors - CLH2012-S Series

Electrical Characteristics

Part Number	Inductance (nH) at 100MHz	Tolerance	Q Min At		Q Typical At			Self Resonant Frequency (MHz) Typical	DC Resistance () Max	IDC (mA) Max
			50MHz	100MHz	50MHz	100MHz	800MHz			
CLH2012T-1N0□-S	1.0	S	10	13	40	> 6000	0.10	300		
CLH2012T-1N2□-S	1.2	S	10	13	40	> 6000	0.10	300		
CLH2012T-1N5□-S	1.5	S	10	13	40	> 6000	0.10	300		
CLH2012T-1N8□-S	1.8	S	10	13	45	> 6000	0.10	300		
CLH2012T-2N2□-S	2.2	S	10	13	48	> 6000	0.10	300		
CLH2012T-2N7□-S	2.7	S	12	13	48	> 6000	0.10	300		
CLH2012T-3N3□-S	3.3	S / K	12	15	56	> 6000	0.13	300		
CLH2012T-3N9□-S	3.9	S / K	12	15	54	5400	0.15	300		
CLH2012T-4N7□-S	4.7	S / K	12	15	50	4500	0.20	300		
CLH2012T-5N6□-S	5.6	S / K	12	15	53	4000	0.23	300		
CLH2012T-6N8□-S	6.8	J / K	15	15	51	3650	0.25	300		
CLH2012T-8N2□-S	8.2	J / K	15	15	53	3000	0.28	300		
CLH2012T-10N□-S	10	J / K	15	16	45	2500	0.30	300		
CLH2012T-12N□-S	12	J / K	15	16	48	2450	0.35	300		
CLH2012T-15N□-S	15	J / K	15	17	48	2000	0.40	300		
CLH2012T-18N□-S	18	J / K	15	17	43	1750	0.45	300		
CLH2012T-22N□-S	22	J / K	15	17	40	1700	0.50	300		
CLH2012T-27N□-S	27	J / K	15	18	38	1550	0.55	300		
CLH2012T-33N□-S	33	J / K	15	19	35	1350	0.60	300		
CLH2012T-39N□-S	39	J / K	18	21	37	1300	0.65	300		
CLH2012T-47N□-S	47	J / K	18	21	38	1200	0.70	300		
CLH2012T-56N□-S	56	J / K	18	21	31	1150	0.75	300		
CLH2012T-68N□-S	68	J / K	18	21	28	1000	0.80	300		
CLH2012T-82N□-S	82	J / K	18	22	16	850	0.90	300		
CLH2012T-R10□-S	100	J / K	18	23		730	1.00	300		
CLH2012T-R12□-S	* 120	J / K	13	16	22	650	1.20	300		
CLH2012T-R15□-S	* 150	J / K	13	16	22	550	1.40	300		
CLH2012T-R18□-S	* 180	J / K	13	16	23	500	1.80	300		
CLH2012T-R22□-S	* 220	J / K	12	14	20	450	2.00	300		
CLH2012T-R27□-S	* 270	J / K	12	14	20	400	2.50	200		
CLH2012T-R33□-S	* 330	J / K	12	14	22	380	3.00	200		
CLH2012T-R39□-S	* 390	J / K	10	14	22	330	3.50	200		
CLH2012T-R47□-S	* 470	J / K	10	14	22	300	4.00	200		

● * at 50MHz

● Tolerance : S = ± 0.3nH , J = ± 5% , K = ± 10%

● Test Instruments : Agilent E4991A : Agilent 16197A
 SRF : HP8753D
 RDC : HP4338B/ CH502BC

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