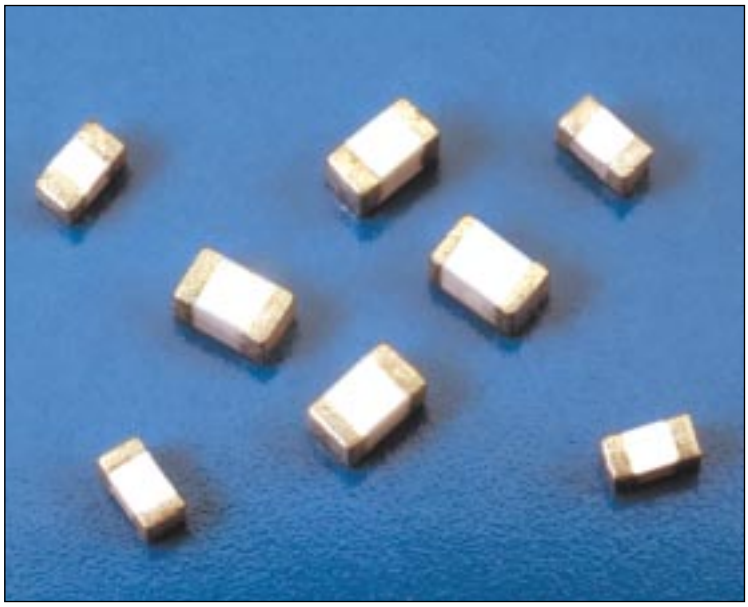
MULTILAYER CHIP INDUCTORS

CONTENTS



TEMEX reserves the right to modify herein specifications and information at any time when necessary to provide optimum performance and cost.

GENERAL INFORMATION

Description

• LxxxxH Series for high frequencies applications (up to 6 GHz) in 0603 and 0805 sizes.
• LxxxxS Series for general purposes applications in 0603, 0805 and 1206 sizes.

Both series feature low DC resistance and High Q characteristics in their frequency ranges; their closed magnetic shielding avoids crosstalk and make them accordingly suitable for high density printed circuit boards.

Their monolithic inorganic material construction together with their nickel-tin plated terminations insure a good reliability over a wide range of applications.

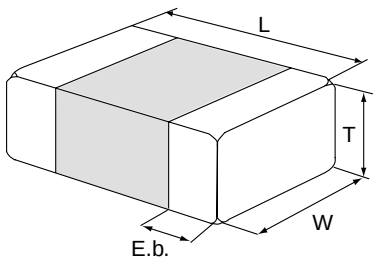
Applications

Depending upon the frequency range chosen, the S or H series may be used in modems, computers communication, printers, cellular phones, pagers, covering a wide range of applications.

Dimentions

All dimensions are given in millimeters.

Size	Length (L)	Width (W)	Thickness (T)	End bands (Eb)
0603	1.6 ± 0.15	0.8 ± 0.15	0.8 ± 0.15	0.3 ± 0.2
0805	2.0 ± 0.2	1.2 ± 0.2	0.9 ± 0.2 up to and = 2.2 µH 1.2 ± 0.2 above	0.5 ± 0.3
1206	3.2 ± 0.2	1.6 ± 0.2	1.1 ± 0.2	0.5 ± 0.3



Electrical characteristics

- Operating temperature range: -25 to +85° C
- Storage temperature range: -40 to +85° C
- Inductance, Q factor, DC resistance & rated current:
  See tables referenced: L0603S - L0805S - L1206S - L0603H - L0805H and related curves.
- Inductance values are indicated in microHenry for LxxxxS series and in nanoHenry for LxxxxH series.

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MULTILAYER CHIP INDUCTORS

General information

Tolerance on inductance

Chip inductor series	LxxxxS	LxxxxxH
Preferred tolerances	L < 0.1 µH ± 20 % = M L ≥ 0.1 µH ± 10 % = K ± 20 % = M	L < 3.3 nH ± 0.3 nH = S L ≥ 3.3 nH ± 10 % = K

For other tolerances, please consult your local sales office.

How to order?

Read the part number corresponding to your choice in the selected table and add at the end of it the letter corresponding to the selected tolerance on inductance (see above table).

Example:

L	0603	H	1N2	S
Inductor	Size	Series	Code of the inductance in nH	Tolerance on inductance
	Can be: 0603 0805 1206	Can be: S = Standard or H = High frequency	(See tables for each range)	S = ± 0.3 nH K = ± 10 % M = 20 %

NOTE:

All chips inductors will be delivered on tape (7 inches reel) with following quantities depending on case size:

Size	0603	0805	1206
Quantity	4000	4000	3000

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HIGH FREQUENCY - L0603H

L (nH)	TEMEX part number			Q typ. @ 100 MHz	Q typ. @ 800 MHz	Mini self resonant frequency (MHz)	Max. D.C resistance (Ω)	Max. rated current Idc (mA)
1.2	L0603H	1N2	x	10	40	> 6000	0.10	300
1.5	L0603H	1N5	x	10	38	> 6000	0.10	300
1.8	L0603H	1N8	x	10	36	> 6000	0.12	300
2.2	L0603H	2N2	x	10	34	> 6000	0.16	300
2.7	L0603H	2N7	x	10	32	> 6000	0.20	300
3.3	L0603H	3N3	x	10	30	5700	0.22	300
3.9	L0603H	3N9	x	10	32	5600	0.25	300
4.7	L0603H	4N7	x	10	32	4800	0.28	300
5.6	L0603H	5N6	x	10	32	4350	0.29	300
6.8	L0603H	6N8	x	11	32	3750	0.30	300
8.2	L0603H	8N2	x	11	28	3300	0.33	300
10.0	L0603H	100	x	11	31	2850	0.35	300
12.0	L0603H	120	x	11	30	2700	0.40	300
15.0	L0603H	150	x	11	26	2400	0.45	300
18.0	L0603H	180	x	11	25	2050	0.50	300
22.0	L0603H	220	x	14	30	1850	0.55	300
27.0	L0603H	270	x	14	26	1750	0.60	300
33.0	L0603H	330	x	14	24	1500	0.65	300
39.0	L0603H	390	x	14	20	1350	0.70	300
47.0	L0603H	470	x	14	18	1200	0.90	300
56.0	L0603H	560	x	15	14	1100	1.00	300

x Tolerance on inductance value

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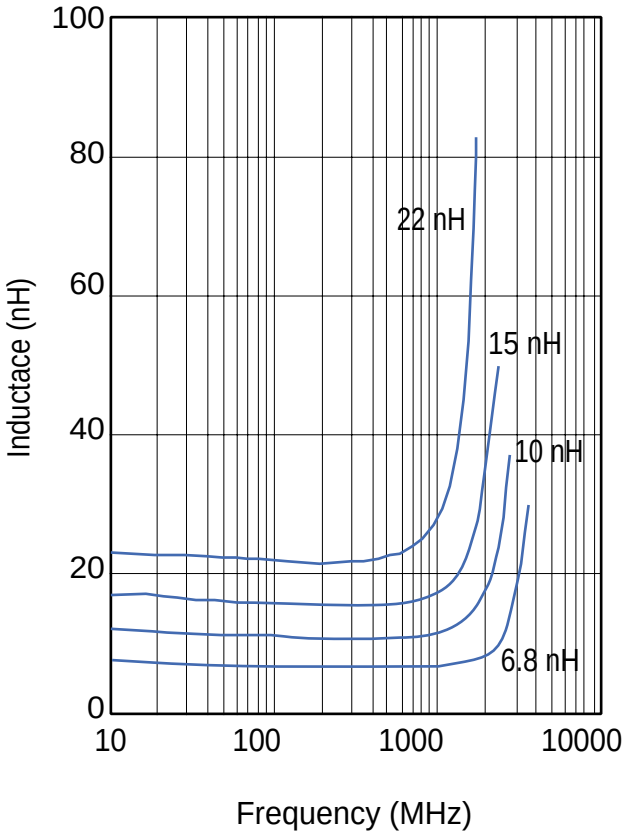
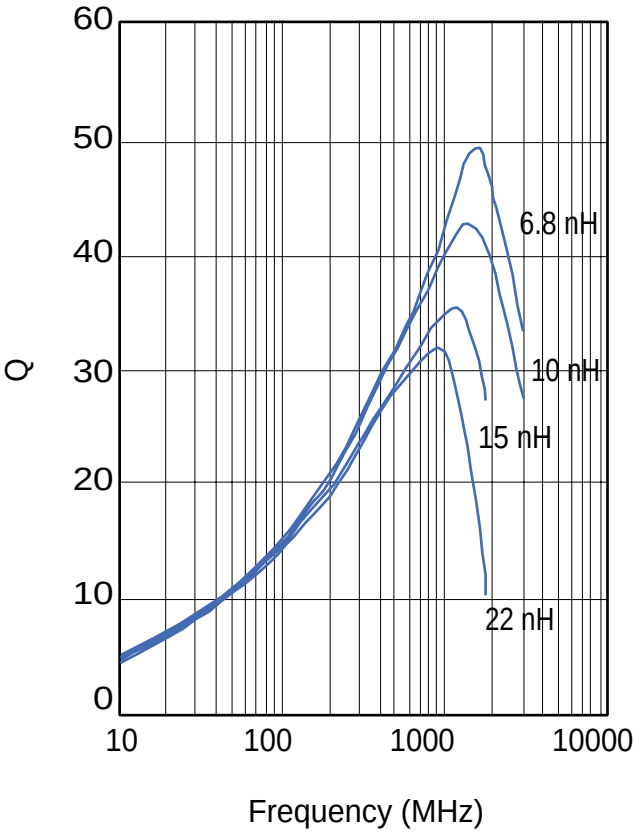
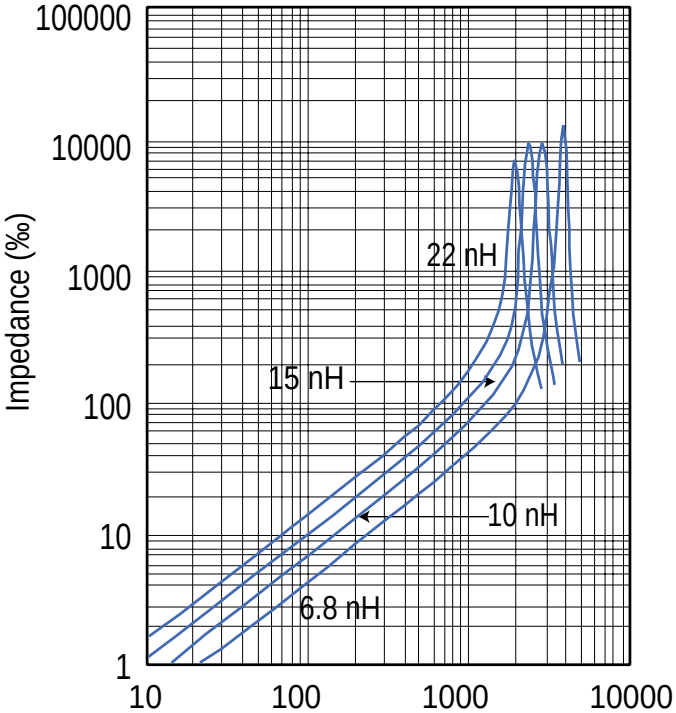
MULTILAYER CHIP INDUCTORS

High frequency - L0603H

TYPICAL ELECTRICAL CHARACTERISTICS CURVES (TEST INSTRUMENT: HP-4291 A)







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HIGH FREQUENCY - L0805H

L (nH)	TEMEX part number			Q typ. @ 100 MHz	Q typ. @ 800 MHz	Mini self resonant frequency (MHz)	Max. D.C resistance (Ω)	Max. rated current Idc (mA)
1.5	L0805H	1N5	x	13	40	>6000	0.10	300
1.8	L0805H	1N8	x	13	45	>6000	0.10	300
2.2	L0805H	2N2	x	13	48	>6000	0.10	300
2.7	L0805H	2N7	x	12	36	>6000	0.10	300
3.3	L0805H	3N3	x	13	56	>6000	0.13	300
3.9	L0805H	3N9	x	15	54	5400	0.15	300
4.7	L0805H	4N7	x	15	50	4500	0.20	300
5.6	L0805H	5N6	x	15	53	4000	0.23	300
6.8	L0805H	6N8	x	15	51	3650	0.25	300
8.2	L0805H	8N2	x	15	53	3000	0.28	300
10.0	L0805H	100	x	16	45	2500	0.30	300
12.0	L0805H	120	x	16	48	2450	0.35	300
15.0	L0805H	150	x	17	48	2000	0.40	300
18.0	L0805H	180	x	17	43	1750	0.45	300
22.0	L0805H	220	x	17	47	1700	0.50	300
27.0	L0805H	270	x	18	38	1550	0.55	300
33.0	L0805H	330	x	18	35	1350	0.60	300
39.0	L0805H	390	x	18	40	1300	0.65	300
47.0	L0805H	470	x	18	33	1200	0.70	300
56.0	L0805H	560	x	19	31	1150	0.75	300
68.0	L0805H	680	x	19	28	1000	0.85	300
82.0	L0805H	820	x	20	9	850	0.90	300
100.0	L0805H	101	x	18	-	730	1.00	300

x Tolerance on inductance value

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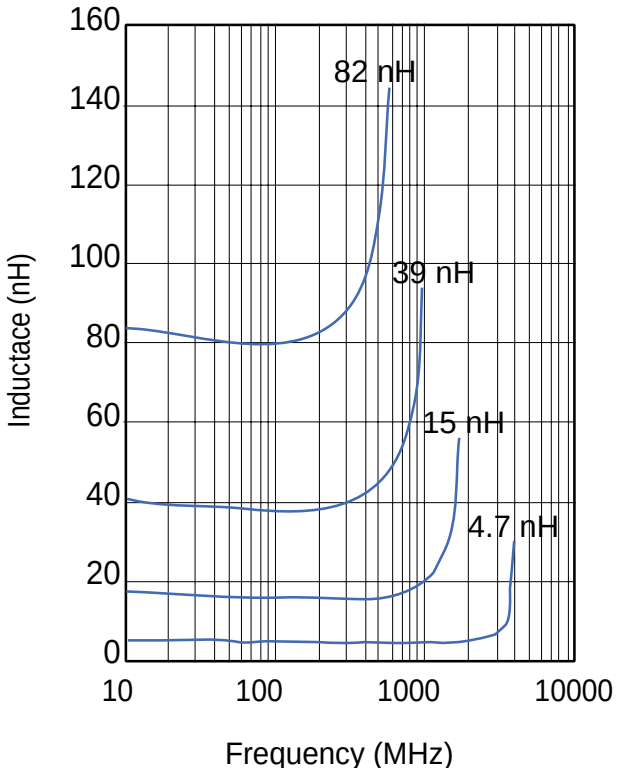
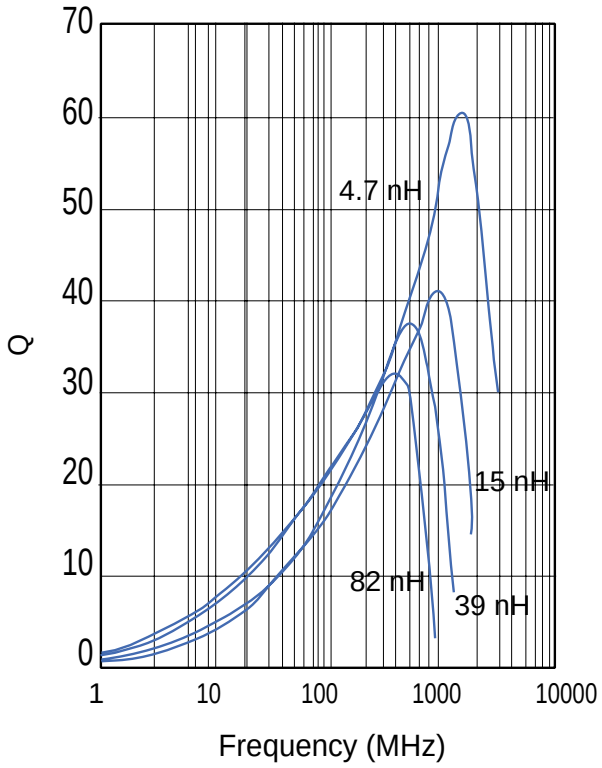
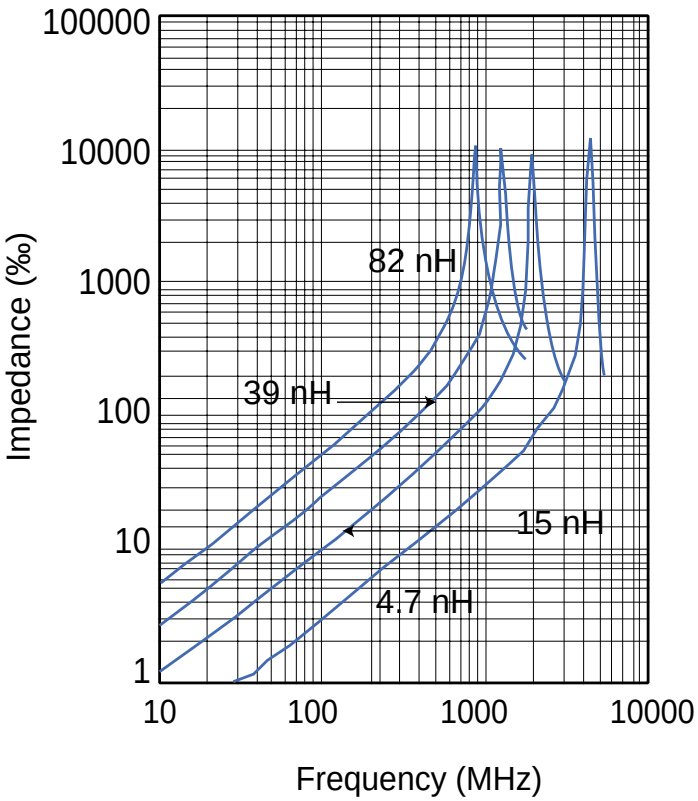
MULTILAYER CHIP INDUCTORS

High frequency - L0805H

TYPICAL ELECTRICAL CHARACTERISTICS CURVES (TEST INSTRUMENT: HP-4291 A)







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L0603S

L (µH)	TEMEX part number			Q min.	L, Q test frequency (MHz)	Mini self resonant frequency (MHz)	Max. D.C resistance (Ω)	Max. rated current Idc (mA)
0.047	L0603S	470	x	10	50	260	0.30	50
0.068	L0603S	680	x	10	50	250	0.30	50
0.082	L0603S	820	x	10	50	245	0.30	50
0.10	L0603S	101	x	15	25	240	0.50	50
0.12	L0603S	121	x	15	25	205	0.50	50
0.15	L0603S	151	x	15	25	180	0.60	50
0.18	L0603S	181	x	15	25	165	0.60	50
0.22	L0603S	221	x	15	25	150	0.80	50
0.27	L0603S	271	x	15	25	136	0.80	50
0.33	L0603S	331	x	15	25	125	0.85	35
0.39	L0603S	391	x	15	25	110	1.00	35
0.47	L0603S	471	x	15	25	105	1.35	35
0.56	L0603S	561	x	15	25	95	1.55	35
0.68	L0603S	681	x	15	25	90	1.70	35
0.82	L0603S	821	x	15	25	85	2.10	35
1.00	L0603S	102	x	35	10	75	0.60	25
1.20	L0603S	122	x	35	10	65	0.80	25
1.50	L0603S	152	x	35	10	60	0.80	25
1.80	L0603S	182	x	35	10	55	0.95	25
2.20	L0603S	222	x	35	10	50	1.15	15
3.70	L0603S	272	x	35	10	45	1.35	15

x Tolerance on inductance

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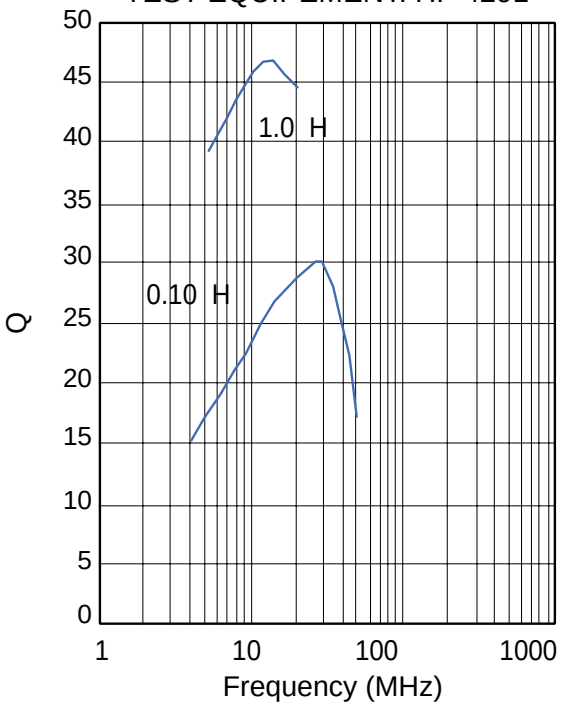
MULTILAYER CHIP INDUCTORS

L0603S

TYPICAL ELECTRICAL CHARACTERISTICS CURVES

TEST EQUIPEMENT: HP 4291



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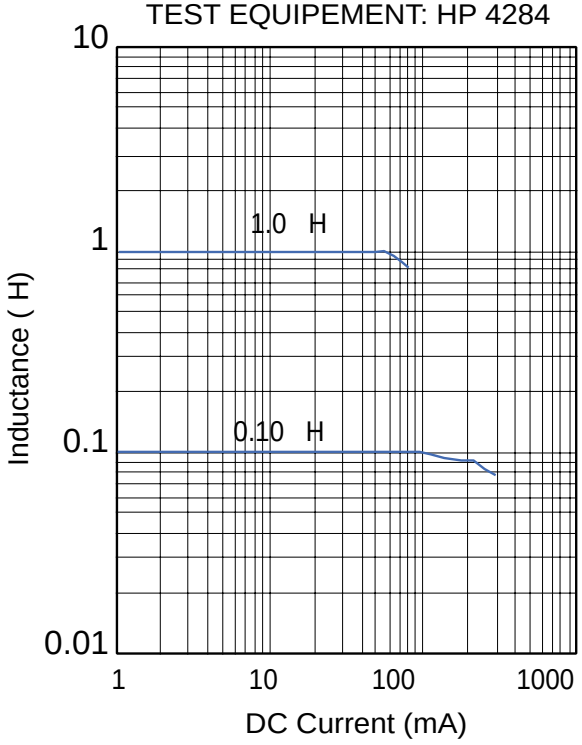

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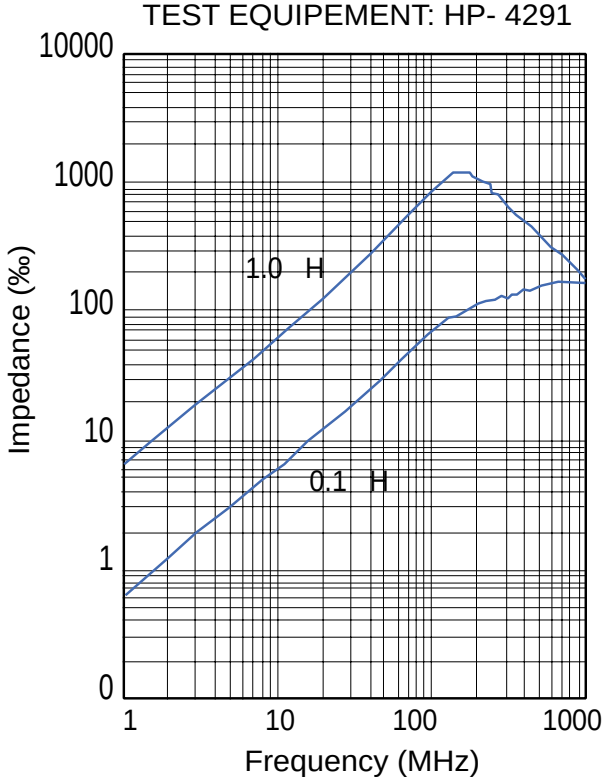

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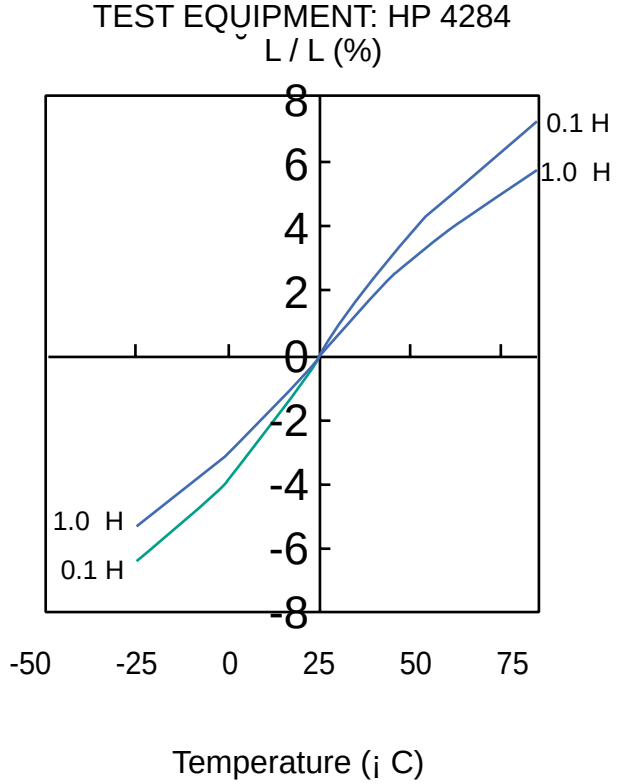

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L0805S

L (µH)	TEMEX part number			Q min.	L, Q test frequency (MHz)	Mini self resonant frequency (MHz)	Max. D.C resistance (Ω)	Max. rated current Idc (mA)
0.047	L0805S	470	x	15	50	320	0.20	300
0.068	L0805S	680	x	15	50	280	0.20	300
0.082	L0805S	820	x	15	50	255	0.20	300
0.10	L0805S	101	x	20	25	235	0.30	250
0.12	L0805S	121	x	20	25	220	0.30	250
0.15	L0805S	151	x	20	25	200	0.40	250
0.18	L0805S	181	x	20	25	185	0.40	250
0.22	L0805S	221	x	20	25	170	0.50	250
0.27	L0805S	271	x	20	25	150	0.50	250
0.33	L0805S	331	x	20	25	145	0.55	250
0.39	L0805S	391	x	25	25	135	0.65	200
0.47	L0805S	471	x	25	25	125	0.65	200
0.56	L0805S	561	x	25	25	115	0.75	150
0.68	L0805S	681	x	25	25	105	0.80	150
0.82	L0805S	821	x	25	25	100	1.00	150
1.0	L0805S	102	x	45	10	75	0.40	50
1.2	L0805S	122	x	45	10	65	0.50	50
1.5	L0805S	152	x	45	10	60	0.50	50
1.8	L0805S	182	x	45	10	55	0.60	50
2.2	L0805S	222	x	45	10	50	0.65	30
2.7	L0805S	272	x	45	10	45	0.75	30
3.3	L0805S	332	x	45	10	41	0.80	30
3.9	L0805S	392	x	45	10	38	0.90	30
4.7	L0805S	472	x	45	10	35	1.00	30
5.6	L0805S	562	x	50	4	32	0.90	15
6.8	L0805S	682	x	50	4	29	1.00	15
8.2	L0805S	822	x	50	4	26	1.10	15
10.0	L0805S	103	x	50	2	24	1.15	15

x Tolerance on inductance value

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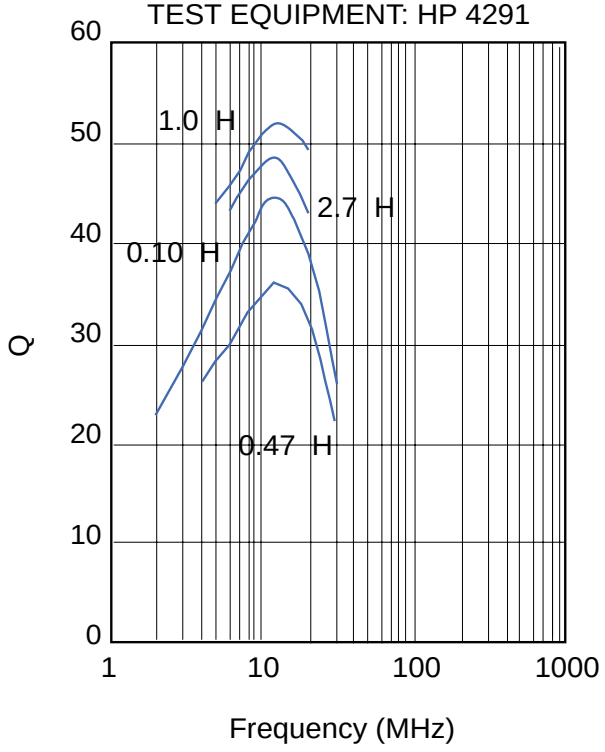
MULTILAYER CHIP INDUCTORS

L0805S

TYPICAL ELECTRICAL CHARACTERISTICS CURVES

TEST EQUIPMENT: HP 4291



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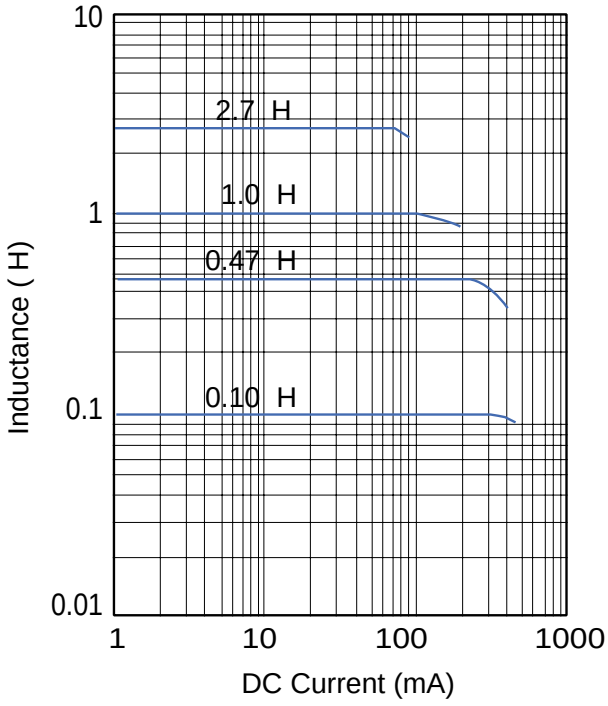

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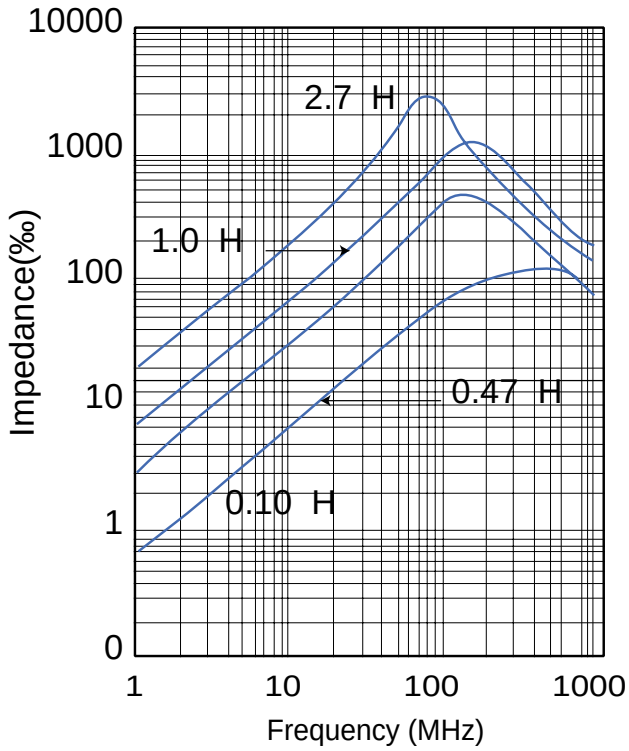

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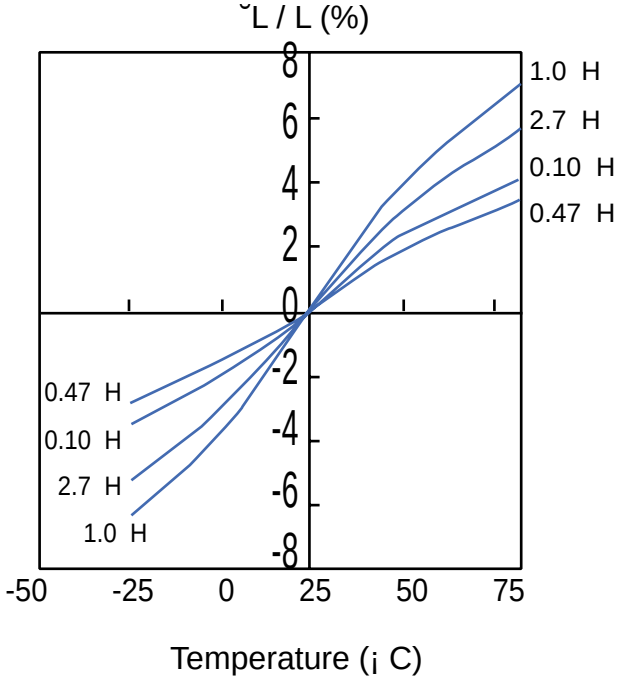

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L1206S

L (µH)	TEMEX part number			Q min.	L, Q test frequency (MHz)	Mini self resonant frequency (MHz)	Max. D.C resistance (Ω)	Max. rated current Idc (mA)
0.047	L1206S	470	x	20	50	320	0.15	300
0.068	L1206S	680	x	20	50	280	0.25	300
0.10	L1206S	101	x	20	25	250	0.25	250
0.12	L1206S	121	x	20	25	235	0.30	250
0.15	L1206S	151	x	20	25	200	0.30	250
0.18	L1206S	181	x	20	25	185	0.40	250
0.22	L1206S	221	x	20	25	170	0.50	250
0.27	L1206S	271	x	20	25	150	0.50	250
0.33	L1206S	331	x	20	25	145	0.60	250
0.39	L1206S	391	x	25	25	135	0.50	200
0.47	L1206S	471	x	25	25	125	0.60	200
0.56	L1206S	561	x	25	25	115	0.70	150
0.68	L1206S	681	x	25	25	105	0.80	150
0.82	L1206S	821	x	25	25	100	0.90	150
1.0	L1206S	102	x	30	10	75	0.40	100
1.2	L1206S	122	x	30	10	65	0.50	100
1.5	L1206S	152	x	30	10	60	0.50	50
1.8	L1206S	182	x	30	10	55	0.50	50
2.2	L1206S	222	x	30	10	50	0.60	50
2.7	L1206S	272	x	30	10	45	0.60	50
3.3	L1206S	332	x	30	10	41	0.70	50
3.9	L1206S	392	x	30	10	38	0.80	50
4.7	L1206S	472	x	30	10	35	0.90	50
5.6	L1206S	562	x	35	4	32	0.70	25
6.8	L1206S	682	x	35	4	29	0.90	25
8.2	L1206S	822	x	35	4	26	0.90	25
10	L1206S	103	x	35	2	24	1.00	25
12	L1206S	123	x	35	2	22	1.05	15
15	L1206S	153	x	30	1	19	0.70	5
18	L1206S	183	x	30	1	18	0.70	5
22	L1206S	223	x	30	1	16	0.90	5
27	L1206S	273	x	30	1	14	0.90	5
33	L1206S	333	x	30	0.4	13	1.05	5

x Tolerance on inductance value

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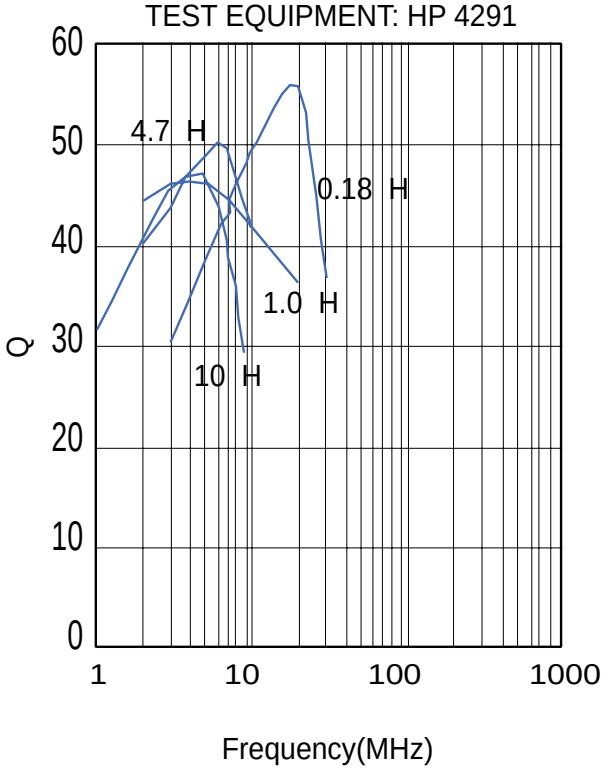
MULTILAYER CHIP INDUCTORS

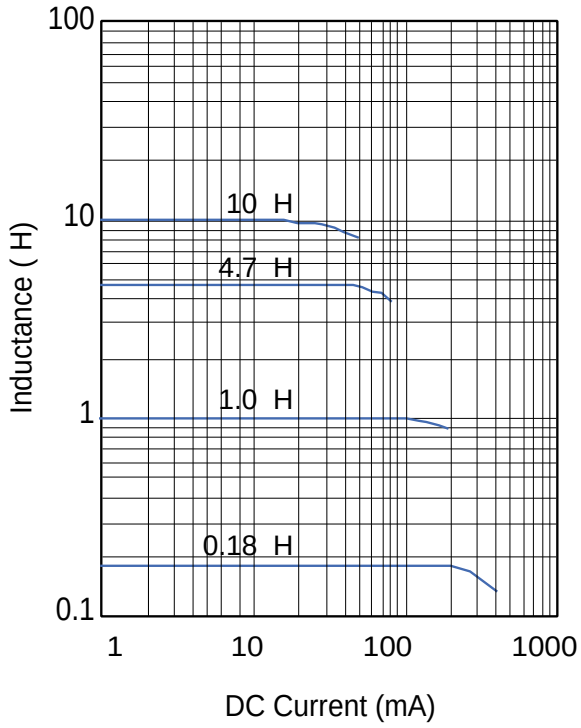
L1206S

TYPICAL ELECTRICAL CHARACTERISTICS CURVES

TEST EQUIPMENT: HP 4291



TEST EQUIPMENT: HP 4284



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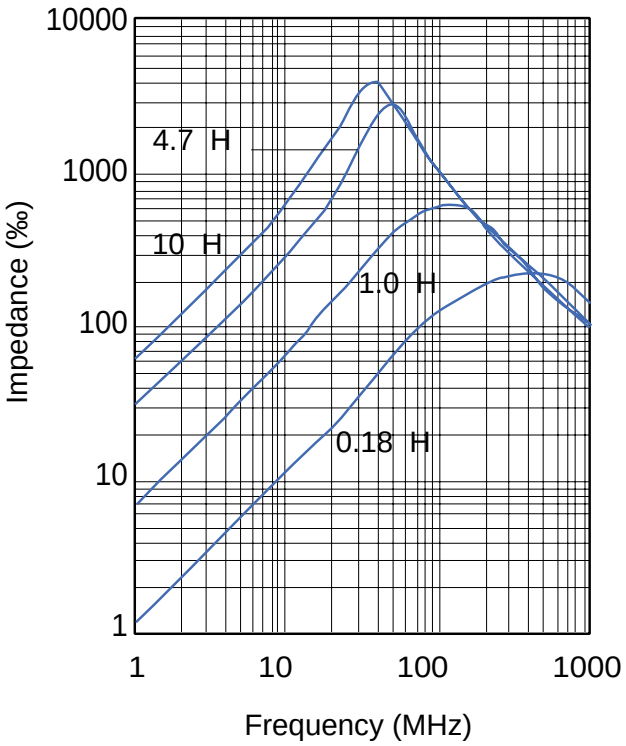

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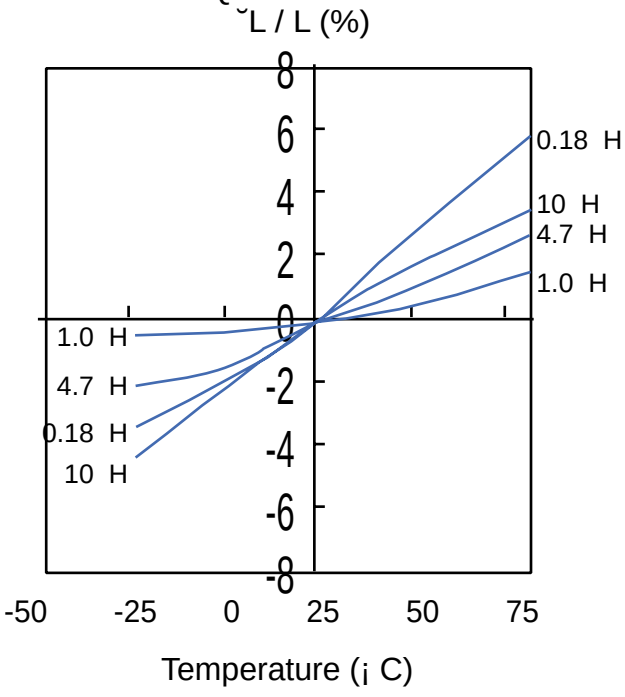

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