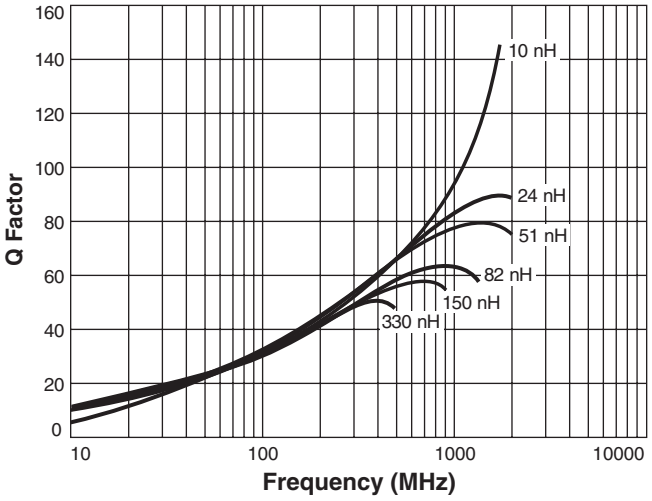
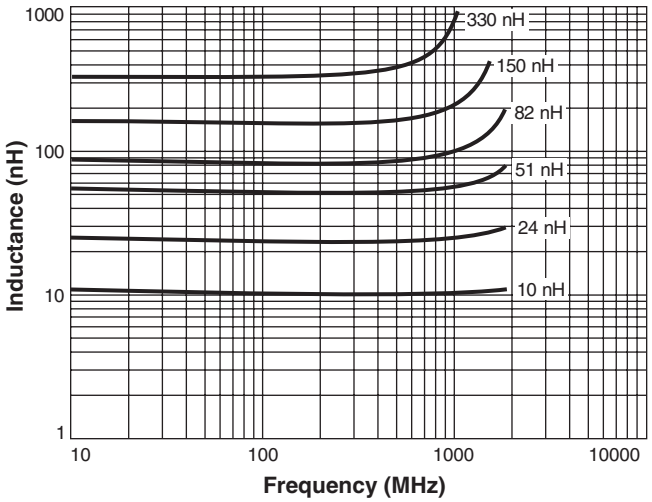
Chip Inductors – 0603HP Series (1608)

- Higher Q and lower DCR than other 0603 inductors
- Highest SRF values – as high as 16 GHz
- Excellent current handling capability – up to 2100 mA
- 54 inductance values from 1.8 to 390 nH

Typical Q vs Frequency



Typical L vs Frequency



Core material Ceramic

Environmental RoHS compliant, halogen free

Terminations RoHS compliant matte tin over nickel over silver platinum-glass frit. Other terminations available at additional cost.

Weight 2.0 – 3.2 mg

Ambient temperature –40°C to +125°C with Irms current

Maximum part temperature +140°C (ambient + temp rise).

Storage temperature Component: –40°C to +140°C. Tape and reel packaging: –40°C to +80°C

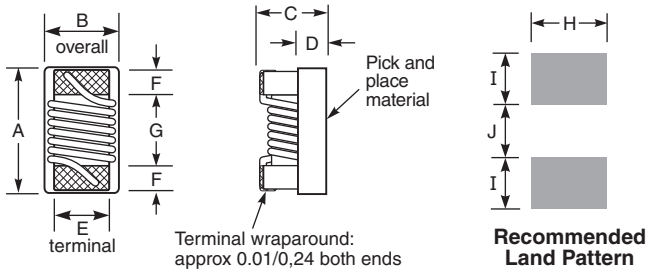
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) +25 to +125 ppm/°C

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging 2000 per 7″ reel; 10000 per 13″ reel. Paper tape: 8 mm wide, 1 mm thick, 4 mm pocket spacing

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.



A max	B (min–max)	C max	D	E	F	G	H	I	J	
0.069	0.034–0.043	0.037	0.015	0.029	0.013	0.038	0.040	0.027	0.028	inches
1,75	0,86–1,09	0,94	0,38	0,74	0,33	0,96	1,02	0,69	0,71	mm

Note: Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

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This product may not be used in medical or high risk applications without prior Coilcraft approval.
Specification subject to change without notice.
Please check web site for latest information.

0603HP Series (1608)

Designer's Kit C406 contain 10 each of all 5% values
Designer's Kit C406-2 contains 10 each of all 2% values

Part number[1]	Inductance[2] (nH)	Percent tol	L test freq (MHz)	Q typ at 250 MHz	900 MHz L typ	900 MHz Q typ[3]	1.7 GHz L typ	1.7 GHz Q typ[3]	SRF typ[4] (GHz)	DCR max[5] (Ohms)	Irms[6] (mA)	Color code[7]
0603HP-1N8XJR_	1.8	**5**	250	23	1.77	40	1.77	65	16.0	0.033	2100	Black
0603HP-2N2XJR_	2.2	**5**	250	13	2.14	25	2.12	35	15.0	0.180	900	Yellow
0603HP-3N3X_R_	3.3	**5,3,2**	250	32	3.28	67	3.32	104	9.60	0.024	1900	Blue
0603HP-3N6X_R_	3.6	**5,3,2**	250	40	3.59	70	3.62	116	9.70	0.031	1900	Red
0603HP-3N9X_R_	3.9	**5,3,2**	250	35	3.88	68	3.95	108	7.50	0.039	1600	Brown
0603HP-4N3X_R_	4.3	**5,3,2**	250	30	4.29	58	4.31	91	7.50	0.080	1300	Orange
0603HP-4N7X_R_	4.7	**5,3,2**	250	26	4.65	48	4.71	75	7.90	0.100	1100	Violet
0603HP-5N1X_R_	5.1	**5,3,2**	250	40	5.08	84	5.12	140	8.90	0.036	1700	Green
0603HP-5N6X_R_	5.6	**5,3,2**	250	48	5.60	87	5.73	145	6.60	0.036	1700	Black
0603HP-6N0X_R_	6.0	**5,3,2**	250	49	5.92	94	6.12	154	6.00	0.036	1700	White
0603HP-6N8X_R_	6.8	**5,3,2**	250	42	6.83	88	7.05	143	5.80	0.042	1400	Red
0603HP-7N2X_R_	7.2	**5,3,2**	250	48	7.25	96	7.38	139	5.40	0.052	1400	Green
0603HP-7N5X_R_	7.5	**5,3,2**	250	41	7.55	81	7.85	112	5.30	0.080	1300	Brown
0603HP-8N2X_R_	8.2	**5,3,2**	250	46	8.21	96	8.39	148	5.90	0.054	1400	Orange
0603HP-8N7X_R_	8.7	**5,3,2**	250	46	8.73	97	9.00	149	5.50	0.054	1400	Yellow
0603HP-9N1X_R_	9.1	**5,3,2**	250	40	9.18	76	9.64	109	5.10	0.037	1400	Black
0603HP-9N5X_R_	9.5	**5,3,2**	250	49	9.56	98	9.99	149	4.90	0.053	1400	Blue
0603HP-10NX_R_	10	**5,3,2**	250	49	10.16	90	10.64	142	4.30	0.048	1400	Orange
0603HP-11NX_R_	11	**5,3,2**	250	41	11.06	78	11.82	108	4.10	0.058	1400	Gray
0603HP-12NX_R_	12	**5,3,2**	250	37	12.26	69	13.20	91	4.10	0.088	1100	Yellow
0603HP-15NX_R_	15	**5,3,2**	250	48	15.41	83	17.20	124	3.60	0.078	1200	Green
0603HP-16NX_R_	16	**5,3,2**	250	45	16.37	77	18.70	116	3.50	0.085	1100	White
0603HP-18NX_R_	18	**5,3,2**	250	41	18.56	76	20.90	100	3.30	0.066	1200	Blue
0603HP-22NX_R_	22	**5,3,2**	250	44	22.7	77	25.90	88	3.15	0.140	850	Violet
0603HP-23NX_R_	23	**5,3,2**	250	40	24.0	69	29.53	80	3.00	0.183	850	Orange
0603HP-24NX_R_	24	**5,3,2**	250	42	24.9	77	28.90	91	2.95	0.074	1100	Black
0603HP-27NX_R_	27	**5,3,2**	250	44	28.4	74	34.00	84	2.80	0.150	780	Gray
0603HP-30NX_R_	30	**5,3,2**	250	49	31.5	82	37.90	82	2.80	0.130	920	Brown
0603HP-33NX_R_	33	**5,3,2**	250	45	34.9	76	42.90	80	2.70	0.170	680	White
0603HP-36NX_R_	36	**5,3,2**	250	44	38.5	69	50.00	64	2.50	0.225	720	Red
0603HP-39NX_R_	39	**5,3,2**	250	48	41.5	78	51.90	74	2.45	0.19	680	Black
0603HP-43NX_R_	43	**5,3,2**	250	45	45.7	83	58.10	76	2.45	0.17	810	Orange
0603HP-47NX_R_	47	**5,3,2**	200	47	50.6	77	66.90	72	2.30	0.24	680	Brown
0603HP-51NX_R_	51	**5,3,2**	200	49	54.6	73	71.30	62	2.30	0.28	660	Blue
0603HP-56NX_R_	56	**5,3,2**	200	50	60.3	74	79.90	56	2.20	0.30	610	Red
0603HP-68NX_R_	68	**5,3,2**	200	46	75.5	73	113.3	49	2.00	0.33	600	Orange
0603HP-72NX_R_	72	**5,3,2**	150	46	80.8	69	—	—	1.90	0.42	550	Yellow
0603HP-75NX_R_	75	**5,3,2**	150	46	84.6	71	—	—	1.90	0.52	500	Violet
0603HP-82NX_R_	82	**5,3,2**	150	45	94.0	62	—	—	1.80	0.46	510	Green
0603HP-91NX_R_	91	**5,3,2**	150	45	103.0	64	—	—	1.65	0.58	440	White
0603HP-R10X_R_	100	**5,3,2**	150	49	114.0	69	—	—	1.70	0.54	470	Blue
0603HP-R11X_R_	110	**5,3,2**	150	47	126.2	63	—	—	1.60	0.58	440	Violet
0603HP-R12X_R_	120	**5,3,2**	150	47	142.4	61	—	—	1.55	0.72	420	Gray
0603HP-R15X_R_	150	**5,3,2**	150	47	188.8	57	—	—	1.35	0.82	390	White
0603HP-R18X_R_	180	**5,3,2**	100	48	232.2	50	—	—	1.30	1.50	310	Black
0603HP-R20X_R_	200	**5,3,2**	100	47	265.0	47	—	—	1.25	2.00	280	Green
0603HP-R21X_R_	210	**5,3,2**	100	48	288.0	45	—	—	1.20	2.00	280	Gray
0603HP-R22X_R_	220	**5,3,2**	100	47	315.0	41	—	—	1.10	2.00	280	Brown
0603HP-R25X_R_	250	**5,3,2**	100	45	—	—	—	—	1.05	3.00	240	Violet
0603HP-R27X_R_	270	**5,3,2**	100	46	—	—	—	—	1.05	2.25	260	Red
0603HP-R30X_R_	300	**5,3,2**	100	47	—	—	—	—	0.99	2.80	220	Green
0603HP-R33X_R_	330	**5,3,2**	100	46	—	—	—	—	0.93	3.60	180	Blue
0603HP-R36X_R_	360	**5,3,2**	100	47	—	—	—	—	0.93	4.00	170	Gray
0603HP-R39X_R_	390	**5,3,2**	100	47	—	—	—	—	0.88	4.00	170	Yellow

1. When ordering, please specify **tolerance**, **termination** and **packaging** codes:

0603HP-R39XJRW

Tolerance: **G** = 2% **H** = 3% **J** = 5%
(Table shows stock tolerances in bold.)

Termination: **R** = RoHS compliant matte tin over nickel over silver-platinum-glass frit.
E = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.
L = RoHS compliant, not halogen-free. Silver-palladium-platinum-glass frit terminations..
Special order: **T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

Packaging: **W** = 7″ machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
Y = 13″ machine-ready reel. EIA-481 punched paper tape. Factory order only, not stocked (10000 parts per full reel).
U = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from U to W.

2. Inductance tested at listed frequency using an Agilent/HP 4286A impedance analyzer with a Coilcraft SMD-A fixture and Coilcraft-provided correlation pieces.
3. Q measured using an Agilent/HP 16197 test fixture in an Agilent/HP 4291 impedance analyzer.
4. SRF measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture.
5. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
6. Current that causes a 15°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
7. Each part is marked with a single dot. The color dots are not unique identifiers and correspond to multiple inductance values.
8. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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This product may not be used in medical or high risk applications without prior Coilcraft approval.
Specification subject to change without notice.
Please check web site for latest information.