



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

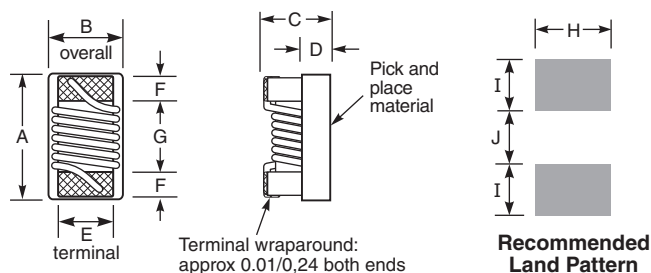
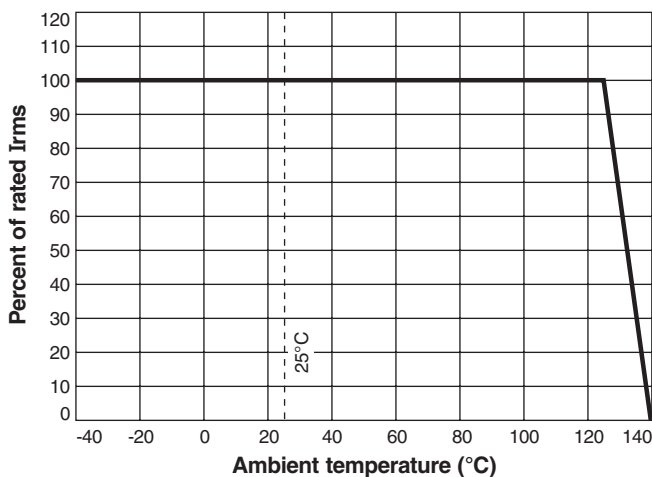
Typical Q vs Frequency



Typical L vs Frequency



Current Derating



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

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

Core material Ceramic

Environmental RoHS compliant, halogen free optional

Terminations RoHS compliant silver-palladium-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, +125°C to +140°C with derated current

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)

Failures in Time (FIT) / Mean Time Between Failures (MTBF) One per billion hours / one billion hours, calculated per Telcordia SR-332

Packaging 2000 per 7" reel. Paper tape: 8 mm wide, 1 mm thick, 4 mm pocket spacing

PCB washing Only pure water or alcohol recommended



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



0603HP Series (1608)

Designer's Kits C406A and B contain 10 each of all 5% values
 Designer's Kits C406A-2 and B-2 contain 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		1.7 GHz		SRF typ ⁴ (GHz)	DCR max ⁵ (Ohms)	Irms ⁶ (mA)	Color code
					L typ	Q typ ³	L typ	Q typ ³				
0603HP-1N8XJL_	1.8	5	250	23	1.77	40	1.77	65	16.0	0.033	2100	Black
0603HP-2N2XJL_	2.2	5	250	13	2.14	25	2.12	35	15.0	0.180	900	Yellow
0603HP-3N3X_L_	3.3	5,3,2	250	32	3.28	67	3.32	104	9.60	0.024	1900	Blue
0603HP-3N6X_L_	3.6	5,3,2	250	40	3.59	70	3.62	116	9.70	0.031	1900	Red
0603HP-3N9X_L_	3.9	5,3,2	250	35	3.88	68	3.95	108	7.50	0.039	1600	Brown
0603HP-4N3X_L_	4.3	5,3,2	250	30	4.29	58	4.31	91	7.50	0.080	1300	Orange
0603HP-4N7X_L_	4.7	5,3,2	250	26	4.65	48	4.71	75	7.90	0.100	1100	Violet
0603HP-5N1X_L_	5.1	5,3,2	250	40	5.08	84	5.12	140	8.90	0.036	1700	Green
0603HP-5N6X_L_	5.6	5,3,2	250	48	5.60	87	5.73	145	6.60	0.036	1700	Black
0603HP-6N0X_L_	6.0	5,3,2	250	49	5.92	94	6.12	154	6.00	0.036	1700	White
0603HP-6N8X_L_	6.8	5,3,2	250	42	6.83	88	7.05	143	5.80	0.042	1400	Red
0603HP-7N2X_L_	7.2	5,3,2	250	48	7.25	96	7.38	139	5.40	0.052	1400	Green
0603HP-7N5X_L_	7.5	5,3,2	250	41	7.55	81	7.85	112	5.30	0.080	1300	Brown
0603HP-8N2X_L_	8.2	5,3,2	250	46	8.21	96	8.39	148	5.90	0.054	1400	Orange
0603HP-8N7X_L_	8.7	5,3,2	250	46	8.73	97	9.00	149	5.50	0.054	1400	Yellow
0603HP-9N1X_L_	9.1	5,3,2	250	40	9.18	76	9.64	109	5.10	0.037	1400	Black
0603HP-9N5X_L_	9.5	5,3,2	250	49	9.56	98	9.99	149	4.90	0.053	1400	Blue
0603HP-10NX_L_	10	5,3,2	250	49	10.16	90	10.64	142	4.30	0.048	1400	Orange
0603HP-11NX_L_	11	5,3,2	250	41	11.06	78	11.82	108	4.10	0.042	1400	Gray
0603HP-12NX_L_	12	5,3,2	250	37	12.26	69	13.20	91	4.10	0.088	1100	Yellow
0603HP-15NX_L_	15	5,3,2	250	48	15.41	83	17.20	124	3.60	0.078	1200	Green
0603HP-16NX_L_	16	5,3,2	250	45	16.37	77	18.70	116	3.50	0.085	1100	White
0603HP-18NX_L_	18	5,3,2	250	41	18.56	76	20.90	100	3.30	0.066	1200	Blue
0603HP-22NX_L_	22	5,3,2	250	44	22.27	77	25.90	88	3.15	0.140	850	Violet
0603HP-23NX_L_	23	5,3,2	250	40	24.0	69	29.53	80	3.00	0.150	850	Orange
0603HP-24NX_L_	24	5,3,2	250	42	24.9	77	28.90	91	2.95	0.074	1100	Black
0603HP-27NX_L_	27	5,3,2	250	44	28.4	74	34.00	84	2.80	0.150	780	Gray
0603HP-30NX_L_	30	5,3,2	250	49	31.5	82	37.90	82	2.80	0.130	920	Brown
0603HP-33NX_L_	33	5,3,2	250	45	34.9	76	42.90	80	2.70	0.170	680	White
0603HP-36NX_L_	36	5,3,2	250	44	38.5	69	50.00	64	2.50	0.225	720	Red
0603HP-39NX_L_	39	5,3,2	250	48	41.5	78	51.90	74	2.45	0.19	680	Black
0603HP-43NX_L_	43	5,3,2	250	45	45.7	83	58.10	76	2.45	0.17	810	Orange
0603HP-47NX_L_	47	5,3,2	200	47	50.6	77	66.90	72	2.30	0.24	680	Brown
0603HP-51NX_L_	51	5,3,2	200	49	54.6	73	71.30	62	2.30	0.28	660	Blue
0603HP-56NX_L_	56	5,3,2	200	50	60.3	74	79.90	56	2.20	0.30	610	Red
0603HP-68NX_L_	68	5,3,2	200	46	75.5	73	113.3	49	2.00	0.33	600	Orange
0603HP-72NX_L_	72	5,3,2	150	46	80.8	69	—	—	1.90	0.42	550	Yellow
0603HP-75NX_L_	75	5,3,2	150	46	84.6	71	—	—	1.90	0.52	500	Violet
0603HP-82NX_L_	82	5,3,2	150	45	94.0	62	—	—	1.80	0.46	510	Green
0603HP-91NX_L_	91	5,3,2	150	45	103.0	64	—	—	1.65	0.58	440	White
0603HP-R10X_L_	100	5,3,2	150	49	114.0	69	—	—	1.70	0.54	470	Blue
0603HP-R11X_L_	110	5,3,2	150	47	126.2	63	—	—	1.60	0.58	440	Violet
0603HP-R12X_L_	120	5,3,2	150	47	142.4	61	—	—	1.55	0.72	420	Gray
0603HP-R15X_L_	150	5,3,2	150	47	188.8	57	—	—	1.35	0.82	390	White
0603HP-R18X_L_	180	5,3,2	100	48	232.2	50	—	—	1.30	1.50	310	Black
0603HP-R20X_L_	200	5,3,2	100	47	265.0	47	—	—	1.25	2.00	280	Green
0603HP-R21X_L_	210	5,3,2	100	48	288.0	45	—	—	1.20	2.00	280	Gray
0603HP-R22X_L_	220	5,3,2	100	47	315.0	41	—	—	1.10	2.00	280	Brown
0603HP-R25X_L_	250	5,3,2	100	45	—	—	—	—	1.05	3.00	240	Violet
0603HP-R27X_L_	270	5,3,2	100	46	—	—	—	—	1.05	2.25	260	Red
0603HP-R30X_L_	300	5,3,2	100	47	—	—	—	—	0.99	2.80	220	Green
0603HP-R33X_L_	330	5,3,2	100	46	—	—	—	—	0.93	3.60	180	Blue
0603HP-R36X_L_	360	5,3,2	100	47	—	—	—	—	0.93	4.00	170	Gray
0603HP-R39X_L_	390	5,3,2	100	47	—	—	—	—	0.88	4.00	170	Yellow

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

0603HP-R39XJLW

Tolerance: G = 2% H = 3% J = 5%

(Table shows stock tolerances in bold.)

Termination: L = RoHS compliant silver-palladium-platinum-glass frit.

E = Halogen free component. RoHS compliant 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).

U = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter W instead.

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.

7. Electrical specifications at 25°C.

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



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