KOME

KHBWS Wire Wound Chip Inductors

Wire wound ceramic chip inductors, 0402 to 0805 — selection table

Features

- Higher self-resonant frequency, good Q factor and stable performance
- Excellent solderability and resistance to soldering heat
- Standard dimensions, high reliability, easy surface-mount assembly
- Wide range of inductance values

SIZES	INDUCTANCE	OPERATING TEMPERATURE	PART NUMBERS
0402 / 0603 / 0805	0402 1 – 150 nH · 0603 1.5 – 470 nH · 0805 2.2 – 4700 nH	–40 °C to +85 °C	213

Applications

Communication applications such as cellular phones, television tuners, radios and other electronic devices.

Part numbering

KHBWS	1608	R10	J
Type Wire wound chip inductor	Size (L×W, mm) 1608 = 1.6×0.8	Nominal inductance 1N0 = 1.0 nH, 47N = 47 nH, R10 = 0.1 μH, 1R0 = 1.0 μH	Tolerance F ±1%, G ±2%, J ±5%, K ±10%, M ±20%, N ±30%

Example: KHBWS1608-R10 J

Dimensions (mm)

Type	L max	W max	T max	S typ.
KHBWS1005 [0402]	1.19	0.66	0.64	0.20
KHBWS1608 [0603]	1.80	1.12	0.95	0.35
KHBWS2012 [0805]	2.29	1.73	1.52	0.40

Operating temperature range: –40 °C to +85 °C. Storage: –10 °C to +40 °C, 70% RH.

KHBWS1005 [0402] — electrical characteristics

Part number	L (nH)	Q min	L, Q test freq. (MHz)	SRF min (GHz)	DCR max (Ω)	Rated current max (mA)
KHBWS1005-1N0	1	16	250	12.7	0.045	1360
KHBWS1005-1N2	1.2	12	250	12.9	0.09	740
KHBWS1005-1N3	1.3	10	250	12.9	0.14	640
KHBWS1005-1N4	1.4	10	250	6	0.13	740
KHBWS1005-1N5	1.5	10	250	12.9	0.14	640
KHBWS1005-1N8	1.8	20	250	12	0.07	1040
KHBWS1005-1N9	1.9	20	250	11.3	0.07	1040
KHBWS1005-2N0	2	23	250	11.1	0.07	1040
KHBWS1005-2N2	2.2	22	250	10.8	0.07	960
KHBWS1005-2N4	2.4	22	250	10.5	0.068	790
KHBWS1005-2N7	2.7	16	250	10.4	0.12	640
KHBWS1005-3N0	3	24	250	7	0.066	840
KHBWS1005-3N3	3.3	24	250	7	0.066	840
KHBWS1005-3N6	3.6	24	250	6.8	0.066	840
KHBWS1005-3N9	3.9	24	250	6	0.066	840
KHBWS1005-4N3	4.3	22	250	6	0.091	700
KHBWS1005-4N7	4.7	20	250	4.77	0.13	640
KHBWS1005-5N1	5.1	23	250	4.8	0.083	800
KHBWS1005-5N6	5.6	25	250	4.8	0.083	760
KHBWS1005-6N2	6.2	25	250	4.8	0.083	760
KHBWS1005-6N6	6.6	24	250	4.8	0.08	680
KHBWS1005-6N8	6.8	24	250	4.8	0.083	680
KHBWS1005-7N3	7.3	25	250	4.8	0.1	680
KHBWS1005-7N5	7.5	25	250	4.8	0.1	680
KHBWS1005-8N2	8.2	25	250	4.4	0.1	680
KHBWS1005-8N7	8.7	25	250	4.1	0.2	480
KHBWS1005-9N0	9	25	250	4.16	0.1	680
KHBWS1005-9N1	9.1	25	250	4.16	0.1	680
KHBWS1005-9N5	9.5	24	250	4	0.2	480
KHBWS1005-10N	10	24	250	3.9	0.2	480
KHBWS1005-11N	11	26	250	3.68	0.12	640
KHBWS1005-12N	12	26	250	3.6	0.12	640
KHBWS1005-13N	13	24	250	3.45	0.21	440
KHBWS1005-15N	15	26	250	3.28	0.17	560
KHBWS1005-16N	16	25	250	3.1	0.22	560
KHBWS1005-18N	18	25	250	3.1	0.23	420
KHBWS1005-19N	19	26	250	3.04	0.2	480
KHBWS1005-20N	20	26	250	3	0.25	420
KHBWS1005-22N	22	25	250	2.8	0.3	400
KHBWS1005-23N	23	25	250	2.72	0.3	400

Please specify the inductance tolerance when ordering (F/G/J/K/M/N).

KHBWS1005 [0402] — electrical characteristics (continued)

Part number	L (nH)	Q min	L, Q test freq. (MHz)	SRF min (GHz)	DCR max (Ω)	Rated current max (mA)
KHBWS1005-24N	24	25	250	2.7	0.3	400
KHBWS1005-27N	27	25	250	2.48	0.3	400
KHBWS1005-30N	30	25	250	2.35	0.35	400
KHBWS1005-33N	33	24	250	2.35	0.4	400
KHBWS1005-36N	36	25	250	2.32	0.44	320
KHBWS1005-39N	39	25	250	2.1	0.55	200
KHBWS1005-40N	40	24	250	2.24	0.65	320
KHBWS1005-43N	43	25	250	2.03	0.81	100
KHBWS1005-47N	47	25	250	2.1	0.83	150
KHBWS1005-51N	51	25	250	1.75	0.82	100
KHBWS1005-56N	56	25	250	1.76	0.97	100
KHBWS1005-58N	58	25	250	1.76	0.97	100
KHBWS1005-62N	62	25	250	1.62	1.12	100
KHBWS1005-68N	68	25	250	1.62	1.55	100
KHBWS1005-72N	72	25	250	1.26	1.55	50
KHBWS1005-75N	75	25	250	1.26	1.55	50
KHBWS1005-82N	82	25	250	1.26	1.55	50
KHBWS1005-91N	91	24	250	1.16	2	30
KHBWS1005-R10	100	24	250	1.16	2	30
KHBWS1005-R12	120	24	250	1.1	2.66	50
KHBWS1005-R15	150	24	250	1	3.5	30

Please specify the inductance tolerance when ordering (F/G/J/K/M/N).

KHBWS1608 [0603] — electrical characteristics

Part number	L (nH)	Q min	L, Q test freq. (MHz)	SRF min (MHz)	DCR max (Ω)	Rated current max (mA)
KHBWS1608-1N5	1.5	24	250	12500	0.03	700
KHBWS1608-1N6	1.6	24	250	12500	0.03	700
KHBWS1608-1N8	1.8	16	250	12500	0.045	700
KHBWS1608-2N0	2	12	250	12500	0.09	700
KHBWS1608-2N2	2.2	12	100	12500	0.09	700
KHBWS1608-2N7	2.7	22	250	5900	0.045	700
KHBWS1608-3N3	3.3	22	250	5900	0.045	700
KHBWS1608-3N6	3.6	22	250	5900	0.063	700
KHBWS1608-3N9	3.9	22	250	6900	0.08	700
KHBWS1608-4N3	4.3	22	250	5900	0.063	700
KHBWS1608-4N7	4.7	20	250	5800	0.116	700
KHBWS1608-5N1	5.1	20	250	5700	0.14	700
KHBWS1608-5N6	5.6	26	250	4760	0.075	700
KHBWS1608-6N2	6.2	20	250	5700	0.14	700
KHBWS1608-6N3	6.3	20	250	5700	0.14	700
KHBWS1608-6N8	6.8	27	250	5800	0.11	700
KHBWS1608-7N5	7.5	28	250	4800	0.106	700
KHBWS1608-8N0	8	28	250	4700	0.109	700
KHBWS1608-8N2	8.2	30	250	4200	0.115	700
KHBWS1608-8N7	8.7	28	250	4600	0.109	700
KHBWS1608-9N1	9.1	28	250	5400	0.125	700
KHBWS1608-9N5	9.5	28	250	5400	0.125	700
KHBWS1608-10N	10	31	250	4800	0.13	700
KHBWS1608-11N	11	30	250	4000	0.13	700
KHBWS1608-12N	12	35	250	4000	0.13	700
KHBWS1608-13N	13	35	250	4000	0.13	700
KHBWS1608-15N	15	35	250	4000	0.17	700
KHBWS1608-16N	16	34	250	3300	0.17	700
KHBWS1608-18N	18	35	250	3100	0.17	700
KHBWS1608-20N	20	36	250	3000	0.18	700
KHBWS1608-22N	22	38	250	3000	0.19	700
KHBWS1608-23N	23	38	250	3000	0.19	700
KHBWS1608-24N	24	36	250	2650	0.135	700
KHBWS1608-27N	27	40	250	2800	0.22	600
KHBWS1608-30N	30	37	250	2250	0.22	600
KHBWS1608-33N	33	40	250	2300	0.22	600
KHBWS1608-36N	36	37	250	2080	0.25	600
KHBWS1608-39N	39	40	250	2200	0.25	600
KHBWS1608-43N	43	38	250	2000	0.28	600
KHBWS1608-47N	47	38	200	2000	0.28	600

Please specify the inductance tolerance when ordering (F/G/J/K/M/N).

KHBWS1608 [0603] — electrical characteristics (continued)

Part number	L (nH)	Q min	L, Q test freq. (MHz)	SRF min (MHz)	DCR max (Ω)	Rated current max (mA)
KHBWS1608-51N	51	35	200	1900	0.27	600
KHBWS1608-56N	56	38	200	1900	0.31	600
KHBWS1608-60N	60	37	200	1800	0.33	600
KHBWS1608-62N	62	37	200	1800	0.33	600
KHBWS1608-68N	68	37	200	1700	0.34	600
KHBWS1608-72N	72	34	150	1700	0.49	400
KHBWS1608-75N	75	28	150	1700	0.52	400
KHBWS1608-82N	82	34	150	1700	0.54	400
KHBWS1608-85N	85	34	150	1700	0.58	400
KHBWS1608-91N	91	28	150	1600	0.58	400
KHBWS1608-R10	100	34	150	1400	0.58	400
KHBWS1608-R11	110	32	150	1350	0.61	300
KHBWS1608-R12	120	32	150	1300	0.65	300
KHBWS1608-R13	130	32	150	1150	0.92	290
KHBWS1608-R135	130	32	150	990	0.92	290
KHBWS1608-R15	150	28	150	990	0.92	280
KHBWS1608-R16	160	28	150	990	1.25	280
KHBWS1608-R18	180	25	100	990	1.25	240
KHBWS1608-R20	200	25	100	900	1.98	200
KHBWS1608-R215	215	25	100	900	2.1	200
KHBWS1608-R22	220	25	100	900	2.1	200
KHBWS1608-R24	240	25	100	900	2.2	200
KHBWS1608-R25	250	25	100	882	2.55	120
KHBWS1608-R27	270	26	100	830	2.8	170
KHBWS1608-R29	290	25	100	800	3.2	100
KHBWS1608-R30	300	25	100	790	3.89	100
KHBWS1608-R33	330	25	100	790	3.89	100
KHBWS1608-R39	390	25	100	780	4.35	100
KHBWS1608-R47	470	25	100	700	4.5	100

Please specify the inductance tolerance when ordering (F/G/J/K/M/N).

KHBWS2012 [0805] — electrical characteristics

Part number	L (nH)	L test freq. (MHz)	Q min @ test freq.	SRF min (MHz)	DCR max (Ω)	Rated current max (mA)
KHBWS2012-2N2	2.2	250	50@1GHz	7900	0.06	800
KHBWS2012-2N7	2.7	250	50@1GHz	7900	0.06	800
KHBWS2012-2N8	2.7	250	50@1GHz	7900	0.06	800
KHBWS2012-2N9	2.9	250	50@1GHz	7900	0.06	800
KHBWS2012-3N0	3	250	50@1GHz	7900	0.06	800
KHBWS2012-3N3	3.3	250	40@1.5GHz	7900	0.08	600
KHBWS2012-3N6	3.6	250	20@1GHz	7900	0.1	200
KHBWS2012-3N9	3.9	250	20@1GHz	7900	0.11	150
KHBWS2012-4N7	4.7	250	50@1GHz	6200	0.08	600
KHBWS2012-5N1	5.1	250	50@1GHz	6200	0.08	600
KHBWS2012-5N6	5.6	250	65@1GHz	5900	0.08	600
KHBWS2012-6N2	6.2	250	65@1GHz	5900	0.08	600
KHBWS2012-6N8	6.8	250	50@1GHz	5600	0.11	600
KHBWS2012-7N5	7.5	250	50@1GHz	4800	0.14	600
KHBWS2012-8N2	8.2	250	50@1GHz	4400	0.12	600
KHBWS2012-9N1	9.1	250	60@500MHz	4300	0.1	600
KHBWS2012-10N	10	250	60@500MHz	4300	0.1	600
KHBWS2012-12N	12	250	50@500MHz	4000	0.15	600
KHBWS2012-15N	15	250	50@500MHz	3200	0.17	600
KHBWS2012-16N	16	250	50@500MHz	3200	0.17	600
KHBWS2012-18N	18	250	50@500MHz	3100	0.2	600
KHBWS2012-20N	20	250	55@500MHz	2600	0.22	500
KHBWS2012-22N	22	250	55@500MHz	2600	0.22	500
KHBWS2012-23N	23	250	50@500MHz	2400	0.22	500
KHBWS2012-24N	24	250	50@500MHz	2400	0.22	500
KHBWS2012-25N	25	250	50@500MHz	2450	0.22	500
KHBWS2012-27N	27	250	55@500MHz	2580	0.25	500
KHBWS2012-30N	30	250	55@500MHz	2400	0.25	500
KHBWS2012-33N	33	250	60@500MHz	2150	0.27	500
KHBWS2012-36N	36	250	55@500MHz	1900	0.27	500
KHBWS2012-39N	39	250	60@500MHz	1850	0.29	500
KHBWS2012-43N	43	200	60@500MHz	1800	0.34	500
KHBWS2012-47N	47	200	60@500MHz	1700	0.31	500
KHBWS2012-50N	50	200	60@500MHz	1650	0.34	500
KHBWS2012-56N	56	200	60@500MHz	1600	0.34	500
KHBWS2012-62N	62	200	60@500MHz	1450	0.36	500
KHBWS2012-64N	64	200	60@500MHz	1500	0.38	500
KHBWS2012-66N	66	200	60@500MHz	1500	0.38	500
KHBWS2012-68N	68	200	60@500MHz	1500	0.38	500
KHBWS2012-75N	78	150	60@500MHz	1400	0.4	450

Please specify the inductance tolerance when ordering (F/G/J/K/M/N).

KHBWS2012 [0805] — electrical characteristics (continued)

Part number	L (nH)	L test freq. (MHz)	Q min @ test freq.	SRF min (MHz)	DCR max (Ω)	Rated current max (mA)
KHBWS2012-78N	75	150	60@500MHz	1400	0.4	450
KHBWS2012-82N	82	150	65@500MHz	1330	0.42	400
KHBWS2012-91N	91	150	65@500MHz	1330	0.48	400
KHBWS2012-92N	92	150	65@500MHz	1330	0.48	400
KHBWS2012-R10	100	150	65@500MHz	1250	0.46	400
KHBWS2012-R11	110	150	50@250MHz	1100	0.48	400
KHBWS2012-R12	120	150	50@250MHz	1100	0.51	400
KHBWS2012-R14	140	100	50@250MHz	920	0.56	400
KHBWS2012-R15	150	100	50@250MHz	920	0.56	400
KHBWS2012-R16	160	100	50@250MHz	920	0.6	400
KHBWS2012-R18	180	100	50@250MHz	920	0.64	400
KHBWS2012-R20	200	100	50@250MHz	860	0.68	400
KHBWS2012-R215	215	100	50@250MHz	820	0.7	400
KHBWS2012-R22	220	100	50@250MHz	820	0.7	400
KHBWS2012-R24	240	100	44@250MHz	770	1	350
KHBWS2012-R25	250	100	45@250MHz	750	1.2	350
KHBWS2012-R27	270	100	48@250MHz	730	1	350
KHBWS2012-R28	280	100	48@250MHz	550	1.35	350
KHBWS2012-R29	290	150	48@250MHz	450	1.4	310
KHBWS2012-R30	300	150	48@250MHz	450	1.4	310
KHBWS2012-R33	330	100	48@250MHz	650	1.4	310
KHBWS2012-R36	360	100	48@250MHz	630	1.45	300
KHBWS2012-R39	390	100	48@250MHz	600	1.5	290
KHBWS2012-R42	420	50	33@100MHz	425	1.7	250
KHBWS2012-R43	430	50	33@100MHz	425	1.7	250
KHBWS2012-R47	470	50	33@100MHz	375	1.76	250
KHBWS2012-R56	560	25	23@50MHz	330	1.9	230
KHBWS2012-R62	620	25	23@50MHz	320	2.2	210
KHBWS2012-R68	680	25	23@50MHz	310	2.2	190
KHBWS2012-R75	750	25	23@50MHz	310	2.3	180
KHBWS2012-R82	820	25	23@50MHz	310	2.35	180
KHBWS2012-R88	880	25	23@50MHz	310	2.35	180
KHBWS2012-R91	910	25	22@50MHz	250	2.45	170
KHBWS2012-1R0	1000	25	20@50MHz	220	2.5	170
KHBWS2012-1R2	1200	25	20@25MHz	180	2.9	150
KHBWS2012-1R5	1500	25	20@25MHz	160	3.3	150
KHBWS2012-1R6	1600	25	20@25MHz	140	3.4	150
KHBWS2012-1R8	1800	25	20@25MHz	130	3.5	120
KHBWS2012-2R2	2200	25	20@25MHz	100	4.5	120
KHBWS2012-2R7	2700	25	18@25MHz	80	4.8	100

Please specify the inductance tolerance when ordering (F/G/J/K/M/N).

KHBWS2012 [0805] — electrical characteristics (continued)

Part number	L (nH)	L test freq. (MHz)	Q min @ test freq.	SRF min (MHz)	DCR max (Ω)	Rated current max (mA)
KHBWS2012-3R0	3000	25	18@25MHz	60	5	60
KHBWS2012-3R3	3300	25	18@25MHz	50	6.8	50
KHBWS2012-4R7	4700	25	18@25MHz	40	7	30

Please specify the inductance tolerance when ordering (F/G/J/K/M/N).

Full product specifications are available on request; please contact us.

① All values as printed in the original appendix; test conditions follow the original specification (test equipment and reliability tests not reproduced) — subject to manufacturer confirmation.

② SRF units as printed: GHz for KHBWS1005, MHz for KHBWS1608 and KHBWS2012. For KHBWS2012 the Q value is printed with its own test frequency (e.g. 50@1GHz) and kept as printed.

③ Tolerance code N (±30%) appears in the appendix table notes but not in the p.3 part-numbering list (F/G/J/K/M); both sources are combined here — subject to manufacturer confirmation.

④ Values that appear duplicated or non-monotonic in the original (e.g. KHBWS1608-R13 and -R135 both 130 nH; KHBWS2012-2N7 and -2N8 both 2.7 nH) are kept as printed — subject to manufacturer confirmation. Also kept as printed: KHBWS2012-75N, whose inductance is printed as 78 nH in the original (not changed to 75); KHBWS1608-R25 rated current printed as 120 mA and -R27 as 170 mA (non-monotonic). Pending manufacturer confirmation.