

WCS Series



Due to technical expertise of accurately winding skill, these chip inductors are designed as filtering, impedance matching, resonance and choke circuits for RF designer. The stand series as well as customer design to meet your needs of telecom & wireless products.

Features

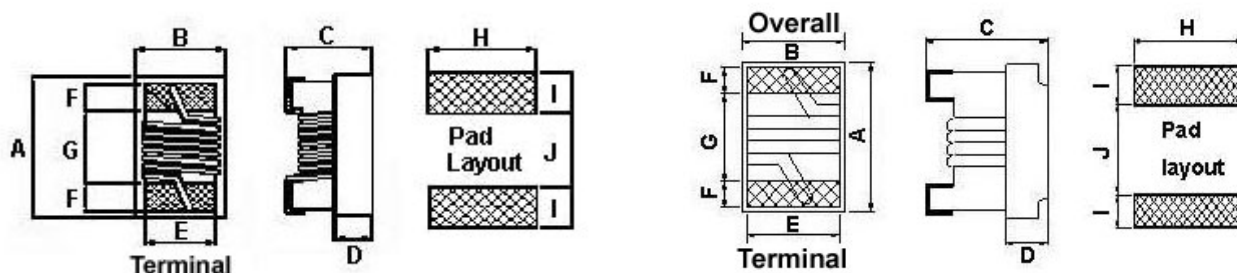
- RoHS Compliant
- Ceramic body and wire wound construction provide high SRFs.
- These ultra – compact inductors provided exceptional Q values, even at high frequencies.
- Their ceramic construction delivers the highest possible SRFs as well as excellent Q values.
- The non-magnetic coil form also assures the utmost in thermal stability, predictability and batch consistency.
- WCS series is standard parts for RF designers.

Applications

RF products for cellular phone, GPS receiver, Base Station, Repeater, Wireless LAN/ Mouse/ Keyboard/ earphone, remote control, security system and other RF modules.

Product Identification

Shapes and Dimensions / Recommended Pattern



Dimensions

		A Max	B Max	C Max	D	E	F	G	H	I	J
WCS0402	inch	0.047	0.028	0.026	0.010	0.020	0.009	0.022	0.026	0.014	0.018
	mm	1.19	0.70	0.66	0.25	0.51	0.23	0.56	0.66	0.36	0.46
WCS0805	inch	0.093	0.068	0.06	0.028	0.050	0.020	0.040	0.070	0.040	0.030
	mm	2.35	1.73	1.52	0.71	1.27	0.51	1.02	1.78	1.02	0.76
WCS1008	inch	0.115	0.110	0.083	0.046	0.080	0.020	0.060	0.100	0.040	0.050
	mm	2.92	2.79	2.1	1.16	2.03	0.51	1.52	2.54	1.02	1.27
		A	B	C	D	E	F	G	H	I	J
WCS0603	mm	1.6 ^{+0.2} _{-0.1}	1.02±0.1	0.82 ^{+0.2} _{-0.1}	0.51	0.76	0.33	0.86	1.02	0.64	0.64



Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Q Min	900MHz		1.7GHz		SRF (GHz) Min	Rdc (Ω) Max	I _{rms} (mA) Max
				L Typ	Q Typ	L Typ	Q Typ			
WCS0402-1N0J	1.0	10 / 5	16	1.02	77	1.02	69	12.70	0.045	1360
WCS0402-1N9J	1.9	10 / 5	16	1.72	68	1.74	82	11.30	0.070	1040
WCS0402-2N0J	2.0	10 / 5	16	1.93	54	1.93	75	11.10	0.070	1040
WCS0402-2N2J	2.2	10 / 5	19	2.19	59	2.23	100	10.80	0.070	960
WCS0402-2N4J	2.4	10 / 5	15	2.24	51	2.27	68	10.50	0.068	790
WCS0402-2N7J	2.7	10 / 5	16	2.58	42	2.60	61	10.40	0.120	640
WCS0402-3N3J	3.3	10 / 5	19	3.10	65	3.12	87	7.00	0.066	840
WCS0402-3N6J	3.6	10 / 5	19	3.56	45	3.62	71	6.80	0.066	840
WCS0402-3N9J	3.9	10 / 5	19	3.89	50	4.00	75	6.00	0.066	840
WCS0402-4N3J	4.3	10 / 5	18	4.19	47	4.30	71	6.00	0.091	700
WCS0402-4N7J	4.7	10 / 5	15	4.55	48	4.68	68	4.77	0.130	640
WCS0402-5N1J	5.1	10 / 5	20	5.15	56	5.25	82	4.80	0.083	800
WCS0402-5N6J	5.6	10 / 5	20	5.16	54	5.28	81	4.80	0.083	760
WCS0402-6N2J	6.2	10 / 5	20	6.16	52	6.37	76	4.80	0.083	760
WCS0402-6N8J	6.8	10 / 5	20	6.56	63	6.93	78	4.80	0.083	680
WCS0402-7N5J	7.5	10 / 5	22	7.91	60	8.22	88	4.80	0.10	680
WCS0402-8N2J	8.2	10 / 5	22	8.50	57	8.85	84	4.40	0.10	680
WCS0402-8N7J	8.7	10 / 5	18	8.78	54	9.21	73	4.10	0.20	480
WCS0402-9N0J	9.0	10 / 5	22	9.07	62	9.53	78	4.16	0.10	680
WCS0402-9N5J	9.5	10 / 5	18	9.42	54	9.98	69	4.00	0.20	480
WCS0402-10NJ	10	10 / 5	21	9.8	50	10.10	67	3.90	0.20	480
WCS0402-11NJ	11	10 / 5	24	10.7	52	11.20	78	3.68	0.12	640
WCS0402-12NJ	12	10 / 5	24	11.9	53	12.70	71	3.60	0.12	640
WCS0402-13NJ	13	10 / 5	24	13.4	51	14.63	57	3.45	0.21	440
WCS0402-15NJ	15	10 / 5	24	14.6	55	15.50	77	3.28	0.17	560
WCS0402-16NJ	16	10 / 5	24	16.6	46	18.86	47	3.10	0.22	560
WCS0402-18NJ	18	10 / 5	25	18.3	57	20.28	62	3.10	0.23	420
WCS0402-19NJ	19	10 / 5	24	19.1	50	21.10	67	3.04	0.20	480
WCS0402-20NJ	20	10 / 5	25	20.7	52	23.66	53	3.00	0.25	420
WCS0402-22NJ	22	10 / 5	25	23.2	53	26.75	53	2.80	0.30	400
WCS0402-23NJ	23	10 / 5	22	23.8	49	26.90	64	2.72	0.30	400
WCS0402-24NJ	24	10 / 5	25	25.1	51	29.50	50	2.70	0.30	400
WCS0402-27NJ	27	10 / 5	24	28.7	49	33.50	63	2.48	0.30	400
WCS0402-30NJ	30	10 / 5	25	31.1	46	38.50	39	2.35	0.35	400
WCS0402-33NJ	33	10 / 5	24	34.9	31	41.74	32	2.35	0.40	400
WCS0402-36NJ	36	10 / 5	24	39.5	44	48.40	53	2.32	0.44	320
WCS0402-39NJ	39	10 / 5	25	41.7	47	50.23	45	2.10	0.55	200
WCS0402-40NJ	40	10 / 5	24	39.0	44	47.40	33	2.24	0.65	320
WCS0402-43NJ	43	10 / 5	25	45.8	46	61.55	34	2.03	0.81	100
WCS0402-47NJ	47	10 / 5	20	50.0	38	-	-	2.10	0.83	150
WCS0402-51NJ	51	10 / 5	25	56.6	40	-	-	1.75	0.82	100
WCS0402-56NJ	56	10 / 5	22	62.8	42	-	-	1.76	0.97	100
WCS0402-68NJ	68	10 / 5	22	78.2	36	-	-	1.62	1.12	100
WCS0402-82NJ	82	10 / 5	20	-	-	-	-	1.26	1.55	50
WCS0402-R10J	100	10 / 5	20	-	-	-	-	1.16	2.00	30

- When ordering, please specify tolerance and packaging codes.
- Tolerance : J = ±5% , K = ±10%
- L , Q : Agilent/HP4291A+Agilent/HP16197A @250MHz
- SRF : Agilent/HP8753D / Agilent/HP8722ES
- Rdc : CH502BC/HP4338B
- I_{rms} for a 15°C rise above 25°C ambient.



Electrical Characteristics

Part Number	Inductance (nH)	Test Frequency (MHz)	Tolerance (±%)	Q Min	SRF (MHz) Min	Rdc (Ω) Max	I _{rms} (mA) Max	900 MHz		1.7 GHz	
								L Typ	Q Typ	L Typ	Q Typ
WCS0603-1N6J	1.6	250	10 / 5	24	12500	0.030	700	1.67	49	1.65	63
WCS0603-1N8J	1.8	250	10 / 5	16	12500	0.045	700	1.63	35	1.66	50
WCS0603-3N6J	3.6	250	10 / 5	22	5900	0.063	700	3.72	53	3.71	65
WCS0603-3N9J	3.9	250	10 / 5	22	6900	0.080	700	3.95	49	3.96	67
WCS0603-4N3J	4.3	250	10 / 5	22	5900	0.063	700	4.32	50	4.33	70
WCS0603-4N7J	4.7	250	10 / 5	20	5800	0.116	700	4.72	47	4.75	57
WCS0603-5N1J	5.1	250	10 / 5	20	5700	0.140	700	4.93	47	4.95	56
WCS0603-5N6J	5.6	250	10 / 5	20	5800	0.170	700	5.53	56	5.86	77
WCS0603-6N3J	6.3	250	10 / 5	20	5700	0.140	700	5.50	47	6.10	60
WCS0603-6N8J	6.8	250	10 / 5	27	5800	0.110	700	6.75	60	7.10	81
WCS0603-7N5J	7.5	250	10 / 5	28	4800	0.106	700	7.70	60	7.82	65
WCS0603-8N2J	8.2	250	10 / 5	28	4700	0.109	700	8.30	60	8.50	60
WCS0603-8N7J	8.7	250	10 / 5	28	4600	0.109	700	8.86	62	9.32	58
WCS0603-9N5J	9.5	250	10 / 5	28	5400	0.135	700	9.70	59	9.92	61
WCS0603-10NJ	10	250	10 / 5 / 2	31	4800	0.130	700	10.0	66	10.6	83
WCS0603-11NJ	11	250	10 / 5 / 2	33	4000	0.086	700	11.0	53	11.5	56
WCS0603-12NJ	12	250	10 / 5 / 2	35	4000	0.130	700	12.3	72	13.5	83
WCS0603-15NJ	15	250	10 / 5 / 2	35	4000	0.170	700	15.4	64	16.8	89
WCS0603-16NJ	16	250	10 / 5 / 2	34	3300	0.104	700	16.2	55	17.3	52
WCS0603-18NJ	18	250	10 / 5 / 2	35	3100	0.170	700	18.7	70	21.4	69
WCS0603-22NJ	22	250	10 / 5 / 2	38	3000	0.190	700	22.8	73	26.1	71
WCS0603-24NJ	24	250	10 / 5 / 2	37	2650	0.135	700	24.5	45	28.7	39
WCS0603-27NJ	27	250	10 / 5 / 2	40	2800	0.220	600	29.2	74	34.6	65
WCS0603-30NJ	30	250	10 / 5 / 2	37	2250	0.144	600	31.4	47	39.9	28
WCS0603-33NJ	33	250	10 / 5 / 2	40	2300	0.220	600	36	67	49.5	42
WCS0603-36NJ	36	250	10 / 5 / 2	38	2080	0.250	600	39.4	47	52.7	24
WCS0603-39NJ	39	250	10 / 5 / 2	40	2200	0.250	600	42.7	60	60.2	40
WCS0603-43NJ	43	250	10 / 5 / 2	39	2000	0.280	600	47	44	64.9	21
WCS0603-47NJ	47	200	10 / 5 / 2	38	2000	0.280	600	52.2	62	77.2	35
WCS0603-56NJ	56	200	10 / 5 / 2	38	1900	0.310	600	62.5	56	97	26
WCS0603-68NJ	68	200	10 / 5 / 2	37	1700	0.340	600	80.5	54	168	2
WCS0603-72NJ	72	150	10 / 5 / 2	34	1700	0.490	400	82	53	135	20
WCS0603-82NJ	82	150	10 / 5 / 2	34	1700	0.540	400	96.2	54	177	21
WCS0603-R10J	100	150	10 / 5 / 2	34	1400	0.580	400	124	49	-	-
WCS0603-R11J	110	150	10 / 5 / 2	32	1350	0.610	300	138	43	-	-
WCS0603-R12J	120	150	10 / 5 / 2	32	1300	0.750	300	166	39	-	-
WCS0603-R15J	150	150	10 / 5 / 2	28	990	0.920	280	250	25	-	-
WCS0603-R18J	180	100	10 / 5 / 2	25	990	1.250	240	305	22	-	-
WCS0603-R22J	220	100	10 / 5 / 2	25	900	2.100	200	-	-	-	-
WCS0603-R27J	270	100	10 / 5 / 2	24	900	2.800	170	-	-	-	-
WCS0603-R33J	330	100	10 / 5 / 2	25	900	3.890	100	-	-	-	-
WCS0603-R39J	390	100	10 / 5 / 2	25	900	4.350	100	-	-	-	-

- When ordering, please specify tolerance and packaging codes.
- Tolerance : G = ±2% , J = ±5% , K = ±10%
- Packaging: Clear tape and reel {standard}.
- L /Q: Agilent/HP4291A+ Agilent/HP16197A
- SRF: HP8753D/ HP4291A
- RDC: CH502BC/HP4338B
- I_{rms} for a 15°C rise above 25°C ambient.
- Operating temperature range from -40°C to 125°C. (Including self - temperature rise)



Electrical Characteristics

Part Number	Inductance (nH)	Test Frequency (MHz)	Tolerance (±%)	Q Min	Test Frequency (MHz)	SRF (MHz) Min	Rdc (Ω) Max	Irms (mA) Max
WCS0805-2N8J	2.8	250	10 / 5	80	1500	7900	0.06	800
WCS0805-3N0J	3.0	250	10 / 5	65	1500	7900	0.06	800
WCS0805-3N3J	3.3	250	10 / 5	50	1500	7900	0.08	600
WCS0805-5N6J	5.6	250	10 / 5	65	1000	5500	0.08	600
WCS0805-6N8J	6.8	250	10 / 5	50	1000	5500	0.11	600
WCS0805-7N5J	7.5	250	10 / 5	50	1000	4500	0.14	600
WCS0805-8N2J	8.2	250	10 / 5	50	1000	4700	0.12	600
WCS0805-10NJ	10	250	10 / 5 / 2	60	500	4200	0.10	600
WCS0805-12NJ	12	250	10 / 5 / 2	50	500	4000	0.15	600
WCS0805-15NJ	15	250	10 / 5 / 2	50	500	3400	0.17	600
WCS0805-18NJ	18	250	10 / 5 / 2	50	500	3300	0.20	600
WCS0805-22NJ	22	250	10 / 5 / 2	55	500	2600	0.22	500
WCS0805-24NJ	24	250	10 / 5 / 2	50	500	2000	0.22	500
WCS0805-27NJ	27	250	10 / 5 / 2	55	500	2500	0.25	500
WCS0805-33NJ	33	250	10 / 5 / 2	60	500	2050	0.27	500
WCS0805-36NJ	36	250	10 / 5 / 2	55	500	1700	0.27	500
WCS0805-39NJ	39	250	10 / 5 / 2	60	500	2000	0.29	500
WCS0805-43NJ	43	200	10 / 5 / 2	60	500	1650	0.34	500
WCS0805-47NJ	47	200	10 / 5 / 2	60	500	1650	0.31	500
WCS0805-56NJ	56	200	10 / 5 / 2	60	500	1550	0.34	500
WCS0805-68NJ	68	200	10 / 5 / 2	60	500	1450	0.38	500
WCS0805-82NJ	82	150	10 / 5 / 2	65	500	1300	0.42	400
WCS0805-91NJ	91	150	10 / 5 / 2	65	500	1200	0.48	400
WCS0805-R10J	100	150	10 / 5 / 2	65	500	1200	0.46	400
WCS0805-R11J	110	150	10 / 5 / 2	50	250	1000	0.48	400
WCS0805-R12J	120	150	10 / 5 / 2	50	250	1100	0.51	400
WCS0805-R15J	150	100	10 / 5 / 2	50	250	920	0.56	400
WCS0805-R18J	180	100	10 / 5 / 2	50	250	870	0.64	400
WCS0805-R20J	200	100	10 / 5 / 2	50	250	860	0.68	400
WCS0805-R22J	220	100	10 / 5 / 2	50	250	850	0.70	400
WCS0805-R24J	240	100	10 / 5 / 2	44	250	690	1.00	350
WCS0805-R25J	250	100	10 / 5 / 2	45	250	660	1.20	350
WCS0805-R27J	270	100	10 / 5 / 2	48	250	650	1.00	350
WCS0805-R33J	330	100	10 / 5 / 2	48	250	600	1.40	310
WCS0805-R39J	390	100	10 / 5 / 2	48	250	560	1.50	290
WCS0805-R47J	470	50	10 / 5 / 2	33	100	375	1.76	250
WCS0805-R56J	560	25	10 / 5 / 2	23	50	340	1.90	230
WCS0805-R62J	620	25	10 / 5 / 2	23	50	220	2.20	210
WCS0805-R68J	680	25	10 / 5 / 2	23	50	188	2.20	190
WCS0805-R82J	820	25	10 / 5 / 2	23	50	215	2.35	180
WCS0805-1R0J	1000	25	10 / 5 / 2	20	50	100	2.50	170
WCS0805-1R2J	1200	7.9	10 / 5 / 2	18	25	100	2.50	170

- When ordering, please specify tolerance and packaging codes.
- Tolerance : G = ±2% , J = ±5% , K = ±10%
- L/Q: Agilent/HP4291A+Agilent/HP16197A
- SRF: Agilent/HP8753D / Agilent/HP4291A
- RDC: CH502BC/HP4338B
- Irms for a 15°C rise above 25°C ambient.
- Operating temperature range from -40°C to 125°C. (Including self - temperature rise)



Electrical Characteristics

Part Number	Inductance (nH)	Test Frequency (MHz)	Tolerance (±%)	Q Min	Test Frequency (MHz)	SRF (MHz) Min	Rdc (Ω) Max	Irms (mA) Max	1 ST
WCS1008-10NJ	10	50	10 / 5 / 2	50	500	4100	0.08	1000	
WCS1008-12NJ	12	50	10 / 5 / 2	50	500	3300	0.09	1000	
WCS1008-15NJ	15	50	10 / 5 / 2	50	500	2500	0.10	1000	
WCS1008-18NJ	18	50	10 / 5 / 2	50	350	2500	0.11	1000	
WCS1008-22NJ	22	50	10 / 5 / 2	55	350	2400	0.12	1000	
WCS1008-27NJ	27	50	10 / 5 / 2	55	350	1600	0.13	1000	
WCS1008-33NJ	33	50	10 / 5 / 2	60	350	1600	0.14	1000	
WCS1008-39NJ	39	50	10 / 5 / 2	60	350	1500	0.15	1000	
WCS1008-47NJ	47	50	10 / 5 / 2	65	350	1500	0.16	1000	
WCS1008-56NJ	56	50	10 / 5 / 2	65	350	1300	0.18	1000	
WCS1008-68NJ	68	50	10 / 5 / 2	65	350	1300	0.20	1000	
WCS1008-82NJ	82	50	10 / 5 / 2	60	350	1000	0.22	1000	
WCS1008-R10J	100	25	10 / 5 / 2	60	350	1000	0.56	650	
WCS1008-R12J	120	25	10 / 5 / 2	60	350	950	0.63	650	
WCS1008-R15J	150	25	10 / 5 / 2	45	100	850	0.70	580	
WCS1008-R18J	180	25	10 / 5 / 2	45	100	750	0.77	620	
WCS1008-R22J	220	25	10 / 5 / 2	45	100	700	0.84	500	
WCS1008-R27J	270	25	10 / 5 / 2	45	100	600	0.91	500	
WCS1008-R33J	330	25	10 / 5 / 2	45	100	570	1.05	450	
WCS1008-R39J	390	25	10 / 5 / 2	45	100	500	1.12	470	
WCS1008-R47J	470	25	10 / 5 / 2	45	100	450	1.19	470	
WCS1008-R56J	560	25	10 / 5 / 2	45	100	415	1.33	400	
WCS1008-R62J	620	25	10 / 5 / 2	45	100	375	1.40	300	
WCS1008-R68J	680	25	10 / 5 / 2	45	100	375	1.47	400	
WCS1008-R75J	750	25	10 / 5 / 2	45	100	360	1.54	360	
WCS1008-R82J	820	25	10 / 5 / 2	45	100	350	1.61	400	
WCS1008-R91J	910	25	10 / 5 / 2	35	50	320	1.68	380	
WCS1008-1R0J	1000	25	10 / 5 / 2	35	50	290	1.75	370	
WCS1008-1R2J	1200	7.9	10 / 5 / 2	35	50	250	2.0	310	
WCS1008-1R5J	1500	7.9	10 / 5 / 2	28	50	200	2.3	330	
WCS1008-1R8J	1800	7.9	10 / 5 / 2	28	50	160	2.6	300	
WCS1008-2R2J	2200	7.9	10 / 5 / 2	28	50	160	2.8	280	
WCS1008-2R7J	2700	7.9	10 / 5 / 2	22	25	140	3.2	290	
WCS1008-3R3J	3300	7.9	10 / 5 / 2	22	25	110	3.4	290	
WCS1008-3R9J	3900	7.9	10 / 5 / 2	20	25	100	3.6	260	
WCS1008-4R7J	4700	7.9	10 / 5 / 2	20	25	90	4.0	260	
WCS1008-5R6J	5600	7.9	10 / 5 / 2	18	7.9	45	4.0	240	
WCS1008-6R8J	6800	7.9	10 / 5 / 2	18	7.9	40	4.9	200	
WCS1008-8R2J	8200	7.9	10 / 5 / 2	18	7.9	25	6.0	170	
WCS1008-100J	10000	2.52	10 / 5 / 2	18	7.9	25	8.0	150	

- When ordering, please specify tolerance and packaging codes.
- Tolerance : G = ±2% , J = ±5% , K = ±10%
- Packaging: Clear tape and reel {standard}
- L/Q: Agilent/HP4291A+ Agilent/HP16197A
- SRF: Agilent/HP8753D / Agilent/HP4291A
- RDC: CH502BC/HP4338B
- I rms for a 15°C rise above 25°C ambient.
- Operating temperature range from -40°C to 125°C . (Including self - temperature rise)
- Inductance would be correct Chilisin standard piece.

