

HP Series



Due to accurate wire winding technology, these chip inductors are designed for filtering, impedance matching, resonance and choke circuits for RF designer. Both standard series custom designs are available.

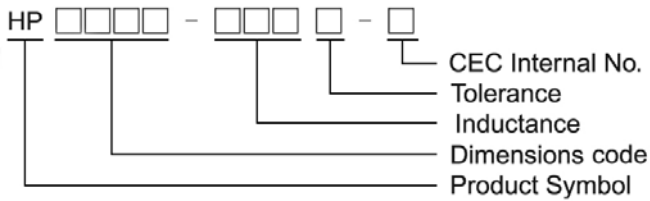
Features

- RoHS Compliant and Halogen Free
- Ceramic body and wire wound construction provide high Q and SRFs
- Higher Q and lower DCR than other inductors
- Exceptional current handling capability
- HP series is for high power and high frequency application

Applications

- Wireless embedded portable devices
- GPS receiver
- Base Station
- Repeater
- Set Top Box
- Cable / IP Modem
- Security system and other RF modules

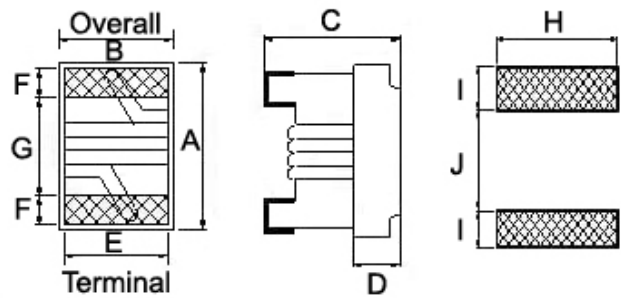
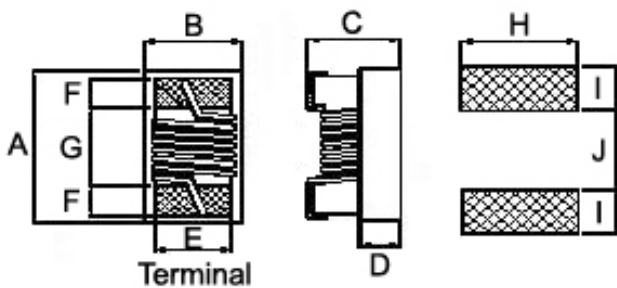
Product Identification



Shape and Dimensions / Recommended Pattern

HP0402

HP0603



Dimensions

	A	B	C	D	E	F	G	H	I	J
HP0402	1.1 ± 0.05	0.70 ± 0.05	0.6 ± 0.05	0.25	0.45	0.20	0.54	0.66	0.36	0.51
HP0603	1.6 ^{+0.2} _{-0.1}	1.00 ± 0.1	0.82 ^{+0.2} _{-0.1}	0.30	0.70	0.30	0.95	1.02	0.64	0.64

Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Test Frequency (MHz)	Q Min	Test Frequency (MHz)	SRF (GHz) Min	RDC (Ω) Max	I _{rms} (mA) Max
HP0402-1N0□-N	1.0	±0.1nH	250	18	250	16.0	0.030	2300
HP0402-2N0□-N	2.0	±0.2nH	250	18	250	15.2	0.038	2100
HP0402-2N2□-N	2.2	±0.2nH	250	25	250	15.1	0.045	2100
HP0402-2N4□-N	2.4	±0.2nH	250	25	250	14.0	0.045	2000
HP0402-2N7□-N	2.7	±0.2nH	250	20	250	13.0	0.090	1500
HP0402-3N3□-N	3.3	3 / 5	250	20	250	12.8	0.050	1700
HP0402-3N6□-N	3.6	3 / 5	250	28	250	11.7	0.065	1700
HP0402-3N9□-N	3.9	3 / 5	250	28	250	9.50	0.065	1700
HP0402-4N3□-N	4.3	3 / 5	250	22	250	7.15	0.060	1600
HP0402-4N7□-N	4.7	3 / 5	250	18	250	6.85	0.115	1500
HP0402-5N1□-N	5.1	3 / 5	250	20	250	6.80	0.125	1200
HP0402-5N6□-N	5.6	3 / 5	250	28	250	6.80	0.070	1600
HP0402-6N2□-N	6.2	3 / 5	250	25	250	5.80	0.070	1600
HP0402-6N8□-N	6.8	3 / 5	250	25	250	5.80	0.095	1500
HP0402-7N5□-N	7.5	3 / 5	250	25	250	5.40	0.130	1400
HP0402-8N2□-N	8.2	3 / 5	250	30	250	5.40	0.080	1500
HP0402-8N7□-N	8.7	3 / 5	250	30	250	5.00	0.085	1500
HP0402-9N0□-N	9.0	3 / 5	250	28	250	5.00	0.090	1400
HP0402-9N5□-N	9.5	3 / 5	250	30	250	4.70	0.095	1400
HP0402-10N□-N	10	3 / 5	250	30	250	4.70	0.120	1300
HP0402-11N□-N	11	3 / 5	250	30	250	4.70	0.095	1400
HP0402-12N□-N	12	3 / 5	250	25	250	4.40	0.110	1200
HP0402-13N□-N	13	3 / 5	250	30	250	4.20	0.140	870
HP0402-15N□-N	15	3 / 5	250	30	250	3.90	0.130	1100
HP0402-16N□-N	16	3 / 5	250	30	250	3.70	0.150	850
HP0402-18N□-N	18	3 / 5	250	30	250	3.55	0.160	900
HP0402-19N□-N	19	3 / 5	250	30	250	3.50	0.175	850
HP0402-20N□-N	20	3 / 5	250	30	250	3.50	0.220	780
HP0402-21N□-N	21	3 / 5	250	30	250	1.70	0.360	450
HP0402-22N□-N	22	3 / 5	250	30	250	3.30	0.210	800
HP0402-23N□-N	23	3 / 5	250	30	250	3.15	0.210	700
HP0402-24N□-N	24	3 / 5	250	30	250	3.15	0.260	700
HP0402-25N□-N	25	3 / 5	250	30	250	3.15	0.310	700
HP0402-26N□-N	26	3 / 5	250	30	250	3.15	0.275	700
HP0402-27N□-N	27	3 / 5	250	30	250	3.20	0.300	450
HP0402-30N□-N	30	3 / 5	250	30	250	2.90	0.350	450
HP0402-33N□-N	33	3 / 5	250	30	250	2.80	0.380	490
HP0402-36N□-N	36	3 / 5	250	30	250	2.80	0.480	480
HP0402-37N□-N	37	3 / 5	250	30	250	2.70	0.490	470
HP0402-39N□-N	39	3 / 5	250	29Typ.	250	2.60	0.520	450
HP0402-40N□-N	40	3 / 5	250	30	250	2.60	0.520	450
HP0402-43N□-N	43	3 / 5	250	30	250	2.50	0.720	450
HP0402-47N□-N	47	3 / 5	250	30	250	2.40	0.720	420
HP0402-51N□-N	51	3 / 5	250	30	250	2.30	0.980	360

Note: When ordering, please specify tolerance code. Tolerance : B=±0.1nH , C=±0.2nH , H=±3% , J=±5%

- Operating temperature range - 40°C ~ 125°C(Including self - temperature rise)
- I_{rms} for a 15°C temperature rise from 25°C ambient with current
- Measure Equipment :

L & Q : Agilent E4991A+Agilent HP16197A

SRF : Agilent HP8753D/Agilent HP8722ES

RDC : DIGITAL MILLINHM METER CHROMA 16502

I_{rms} : HP4284A+HP42841A/HP4285A+HP42841A



Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Test Frequency (MHz)	Q Typ.	Test Frequency (MHz)	SRF (GHz) Typ.	Rdc (Ω) Max	Irms (mA) Max	Color
HP0603-1N8□-N	1.8	5	250	23	250	16.0	0.033	2100	Black
HP0603-2N2□-N	2.2	5	250	13	250	15.0	0.182	900	Brown
HP0603-3N9□-N	3.9	5	250	26	250	7.50	0.062	1600	Red
HP0603-4N3□-N	4.3	3 / 5	250	26	250	7.50	0.088	1300	Orange
HP0603-4N7□-N	4.7	3 / 5	250	25	250	7.90	0.130	1100	Yellow
HP0603-6N8□-N	6.8	3 / 5	250	40	250	5.80	0.065	1400	Green
HP0603-7N2□-N	7.2	3 / 5	250	32	250	5.40	0.100	1400	Blue
HP0603-7N5□-N	7.5	3 / 5	250	32	250	5.30	0.100	1300	Violet
HP0603-11N□-N	11	3 / 5	250	41	250	4.10	0.086	1400	Gray
HP0603-15N□-N	15	3 / 5	250	42	250	3.60	0.110	1200	White
HP0603-16N□-N	16	3 / 5	250	40	250	3.50	0.125	1100	Black
HP0603-22N□-N	22	3 / 5	250	40	250	3.15	0.195	850	Brown
HP0603-23N□-N	23	3 / 5	250	40	250	3.00	0.150	850	Red
HP0603-24N□-N	24	3 / 5	250	42	250	2.95	0.125	1100	Orange
HP0603-27N□-N	27	3 / 5	250	42	250	2.80	0.200	780	Yellow
HP0603-30N□-N	30	3 / 5	250	49	250	2.80	0.130	920	Green
HP0603-33N□-N	33	3 / 5	250	45	250	2.70	0.170	680	Blue
HP0603-36N□-N	36	3 / 5	250	44	250	2.50	0.225	720	Violet
HP0603-39N□-N	39	3 / 5	250	48	250	2.45	0.190	680	Gray
HP0603-43N□-N	43	3 / 5	250	45	250	2.45	0.225	810	White
HP0603-47N□-N	47	3 / 5	200	43	250	2.30	0.240	680	Black
HP0603-51N□-N	51	3 / 5	200	42	250	2.30	0.280	660	Brown
HP0603-56N□-N	56	3 / 5	200	43	250	2.20	0.300	610	Red
HP0603-68N□-N	68	3 / 5	200	43	250	2.00	0.330	600	Orange
HP0603-72N□-N	72	3 / 5	150	37	250	1.90	0.420	550	Yellow
HP0603-75N□-N	75	3 / 5	150	37	250	1.90	0.520	500	Green
HP0603-82N□-N	82	3 / 5	150	38	250	1.80	0.460	510	Blue
HP0603-91N□-N	91	3 / 5	150	45	250	1.65	0.580	440	Violet
HP0603-R10□-N	100	3 / 5	150	49	250	1.70	0.540	470	Gray
HP0603-R11□-N	110	3 / 5	150	47	250	1.60	0.620	440	White
HP0603-R12□-N	120	3 / 5	150	47	250	1.55	0.720	420	Black
HP0603-R15□-N	150	3 / 5	150	47	250	1.35	1.150	390	Brown
HP0603-R18□-N	180	3 / 5	100	48	250	1.30	1.500	310	Red
HP0603-R20□-N	200	3 / 5	100	47	250	1.25	2.000	280	Orange
HP0603-R21□-N	210	3 / 5	100	48	250	1.20	2.000	280	Yellow
HP0603-R22□-N	220	3 / 5	100	47	250	1.10	2.000	280	Green
HP0603-R25□-N	250	3 / 5	100	45	250	1.05	3.000	240	Blue
HP0603-R27□-N	270	3 / 5	100	46	250	1.05	2.250	260	Violet
HP0603-R30□-N	300	3 / 5	100	47	250	0.99	2.800	220	Gray
HP0603-R33□-N	330	3 / 5	100	46	250	0.93	3.600	180	White
HP0603-R36□-N	360	3 / 5	100	47	250	0.93	4.000	170	Black
HP0603-R39□-N	390	3 / 5	100	47	250	0.88	4.000	170	Brown

Note: When ordering, please specify tolerance code. Tolerance : H=±3% , J=±5%

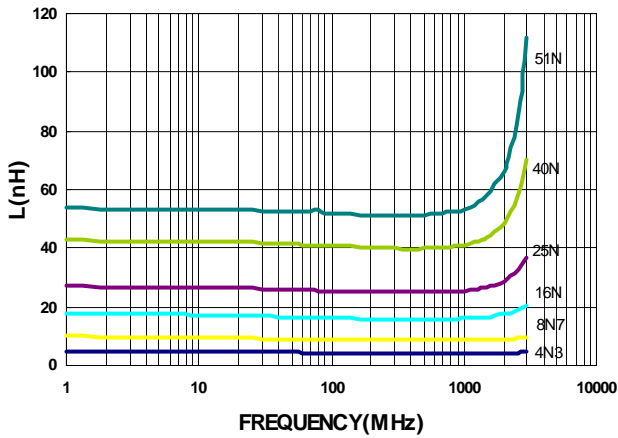
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- Irms for a 15°C temperature rise from 25°C ambient with current
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 Irms : HP4284A+HP42841A/HP4285A+HP42841A

SMD Wire Wound Ceramic Chip Inductors - HP Series

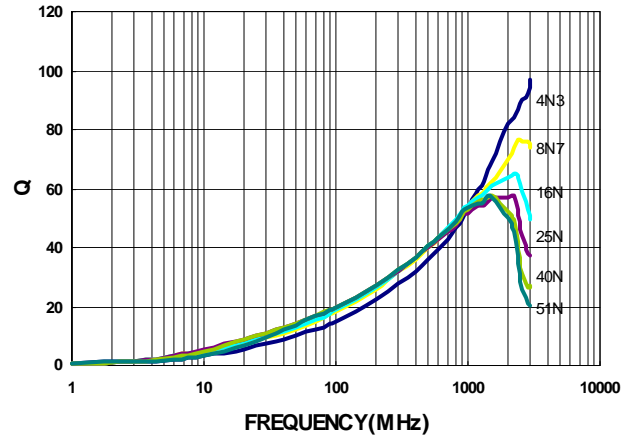
Test Instruments : Agilent E4991A Material/Impedance Analyzer

HP0402

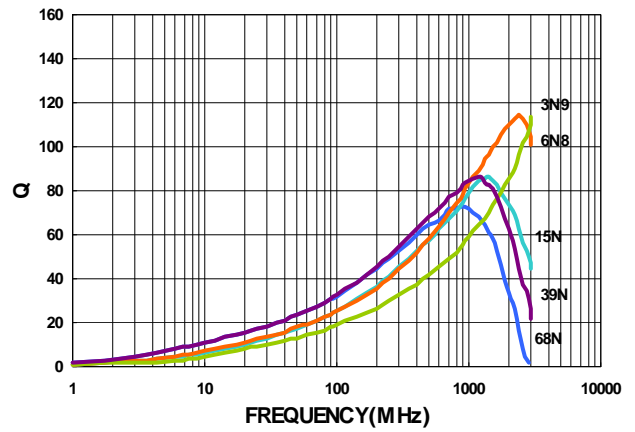
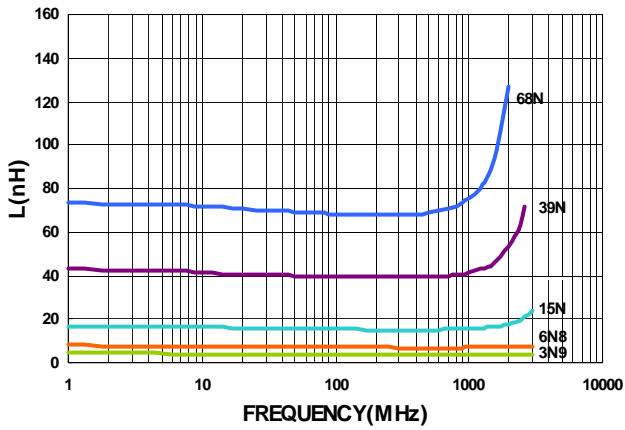
Typical **L** vs. **F** Frequency



Typical **Q** vs. **F** Frequency



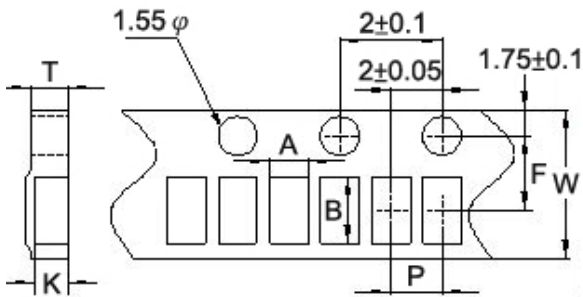
HP0603



Packaging Specifications

Tape Dimensions

Figure 1



Tape Material

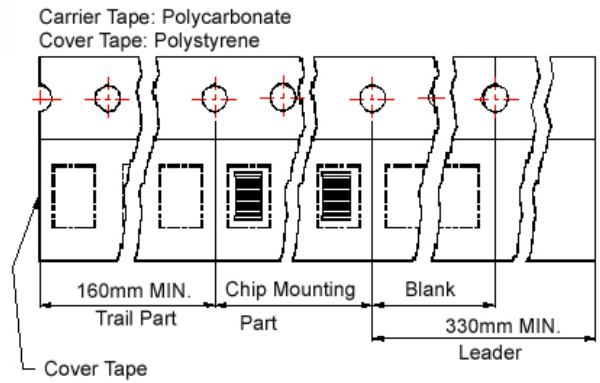
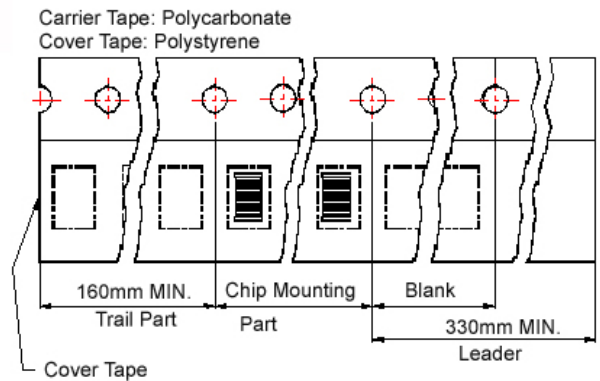
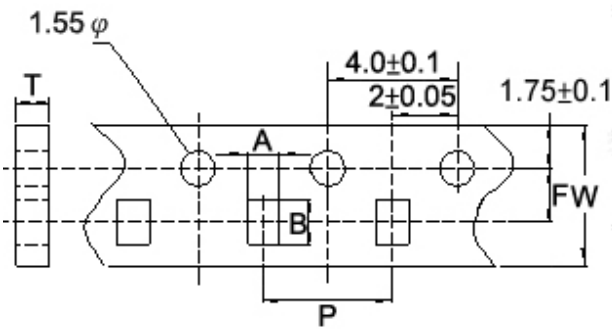
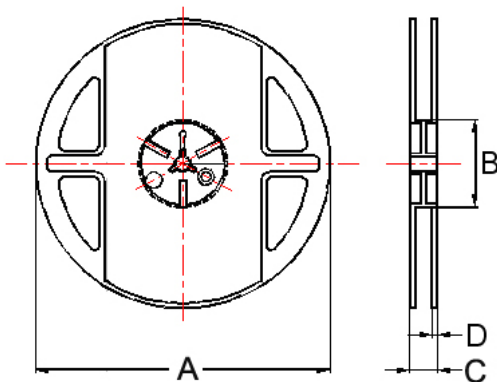


Figure 2



Reel Dimensions



Dimensions in mm

TYPE	Fig.	Tape Dimensions							Reel Dimensions				Quantity PCS / Reel
		A	B	T	W	P	F	K	A	B	C	D	
HP0402	1	0.83	1.20	0.75	8	2	3.5	0.64	178	60	12	1.5	4000
HP0603	2	1.20	1.80	0.97	8	4	3.5	-	178	60	12	1.5	4000