

Multilayer Chip Inductors For High Frequency

FEATURES

- Multilayer inductor made of advanced ceramics with low-resistivity silver used as internal conductors provides excellent Q and SRF characteristics.
- Designed to address surface mount inductor needs for applications above 100MHz.
- Multilayer block structure ensures outstanding reliability, high productivity and product quality.

Operating Temperature

1005: -55~+125°C

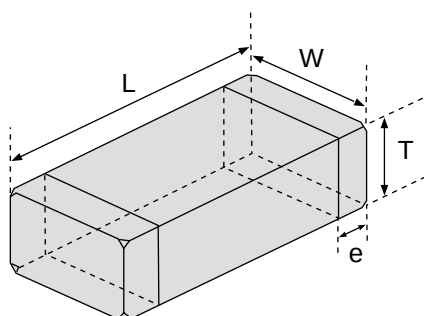
1608: -40~+85°C

2125: -40~+85°C

RECOMMENDED APPLICATIONS

- Portable telephones, PHS and pagers.
- Miscellaneous high-frequency circuits.
- EMI counter-measure in high-frequency circuits.

EXTERNAL DIMENSIONS

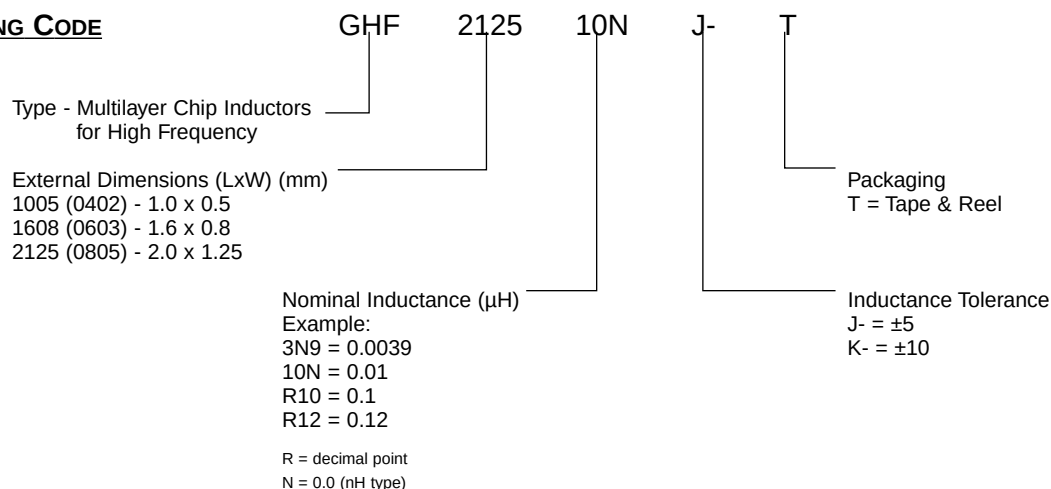


Type	L	W	T	e
GHF1005 (0402)	1.00±0.05 (0.039±0.002)	0.50±0.05 (0.020±0.002)	0.50±0.05 (0.020±0.002)	0.25±0.10 (0.010±0.004)
GHF1608 (0603)	1.6±0.15 (0.063±0.006)	0.8±0.15 (0.031±0.006)	0.8±0.15 (0.031±0.006)	0.3±0.2 (0.012±0.008)
GHF2125 (0805)	2.0±0.3 (0.079±0.012)	1.25±0.2 (0.049±0.008)	0.85±0.2 1.0±0.2 (0.033±0.008) (0.039±0.008)	0.5±0.3 (0.020±0.012)

TYPICAL VALUES

Inductance	I _{max} [mA]	R _{dcmax} [Ω]	I _{max} [mA]	R _{dcmax} [Ω]	I _{max} [mA]	R _{dcmax} [Ω]
1.5nH	200	0.15	300	0.10	300	0.10
10.0nH	200	0.73	300	0.35	300	0.30
100.0nH	—	—	300	1.00	300	0.90

ORDERING CODE



Multilayer Chip Inductors For High Frequency - GHF1005

Part No.	Inductance (nH)	Q (min.)	Measuring Frequency [MHz]	Q (Typical) Frequency					Self Resonant frequency [MHz]		DC Resistance [Ω] (max.)	Related Current [mA] (max.)	Thickness [mm] (inch)
				100	300	500	800	1000	min.	Typ.			
GHF1005 1N0S	1.0 $\pm$ 0.3nH	8	100	11	20	26	34	39	4000	>13000	0.12	300	0.50 $\pm$ 0.05 (0.02 $\pm$ 0.002)
GHF1005 1N2S	1.2 $\pm$ 0.3nH	8	100	11	20	26	34	39	4000	>13000	0.12	300	
GHF1005 1N5S	1.5 $\pm$ 0.3nH	8	100	11	20	26	34	39	4000	>13000	0.13	300	
GHF1005 1N8S	1.8 $\pm$ 0.3nH	8	100	11	18	24	30	35	4000	11000	0.14	300	
GHF1005 2N2S	2.2 $\pm$ 0.3nH	8	100	10	17	24	29	35	4000	11000	0.16	300	
GHF1005 2N7S	2.7 $\pm$ 0.3nH	8	100	10	17	23	29	34	4000	9000	0.17	300	
GHF1005 3N3K	3.3 $\pm$ 10%	8	100	10	17	24	28	34	4000	8000	0.19	300	
GHF1005 3N9K	3.9 $\pm$ 10%	8	100	10	17	23	28	33	4000	7000	0.22	300	
GHF1005 4N7K	4.7 $\pm$ 10%	8	100	10	17	23	28	33	4000	6000	0.24	300	
GHF1005 5N6K	5.6 $\pm$ 10%	8	100	10	17	22	28	33	4000	5700	0.27	250	
GHF1005 6N8K	6.8 $\pm$ 10%	8	100	10	16	22	27	33	3900	5500	0.32	250	
GHF1005 8N2K	8.2 $\pm$ 10%	8	100	10	17	22	28	32	3600	4900	0.37	250	
GHF1005 10NK	10.0 $\pm$ 10%	8	100	10	17	22	30	32	3200	4300	0.42	250	
GHF1005 12NK	12.0 $\pm$ 10%	8	100	11	18	24	31	34	2700	3900	0.50	200	
GHF1005 15NK	15.0 $\pm$ 10%	8	100	11	18	24	30	33	2300	3500	0.55	200	
GHF1005 18NK	18.0 $\pm$ 10%	8	100	11	18	24	30	32	2100	3100	0.65	200	
GHF1005 22NK	22.0 $\pm$ 10%	8	100	11	18	24	30	31	1900	2800	0.80	200	
GHF1005 27NK	27.0 $\pm$ 10%	8	100	11	18	23	27	29	1600	2300	0.90	200	
GHF1005 33NK	33.0 $\pm$ 10%	8	100	11	18	23	25	25	1300	1900	1.00	200	
GHF1005 39NK	39.0 $\pm$ 10%	8	100	11	18	22	24	23	1200	1700	1.20	150	
GHF1005 47NK	47.0 $\pm$ 10%	8	100	11	18	21	23	21	1000	1500	1.30	150	
GHF1005 56NK	56.0 $\pm$ 10%	8	100	11	18	20	21	19	750	1300	1.40	150	

Multilayer Chip Inductors For High Frequency - GHF1608

Part No.	Inductance (nH)	Q (min.)	Measuring Frequency [MHz]	Q (Typical) Frequency					Self Resonant frequency [MHz]		DC Resistance [Ω]		Related Current [mA] (max.)	Thickness [mm] (inch)
				100	300	500	800	1000	min.	Typ.	max.	Typ.		
GHF1608 1N5S	1.5±0.3nH	8	100	14	26	34	47	50	4000	>13000	0.10	0.03	300	0.8±0.15 (0.031±0.006)
GHF1608 1N8S	1.8±0.3nH	8	100	10	18	24	30	34	4000	>13000	0.12	0.06	300	
GHF1608 2N2S	2.2±0.3nH	8	100	12	22	29	37	40	4000	12000	0.16	0.06	300	
GHF1608 2N7S	2.7±0.3nH	10	100	13	24	32	41	45	4000	11000	0.20	0.06	300	
GHF1608 3N3□	3.3±10% or ±0.3nH	10	100	14	25	33	42	47	4000	9000	0.22	0.06	300	
GHF1608 3N9□	3.9±10% or ±0.3nH	10	100	13	25	33	42	46	4000	8000	0.25	0.07	300	
GHF1608 4N7□	4.7±10% or ±0.3nH	10	100	13	25	33	42	47	4000	6500	0.28	0.08	300	
GHF1608 5N6□	5.6±10% or ±0.3nH	10	100	14	25	33	42	46	4000	5800	0.29	0.09	300	
GHF1608 6N8□	6.8±10% or ±5%	10	100	14	25	33	43	47	4000	5600	0.30	0.11	300	
GHF1608 8N2□	8.2±10% or ±5%	10	100	14	26	34	44	48	3500	5200	0.33	0.13	300	
GHF1608 10N□	10.0±10% or ±5%	12	100	14	26	34	43	47	3400	4600	0.35	0.16	300	
GHF1608 12N□	12.0±10% or ±5%	12	100	14	27	35	45	49	2600	4000	0.40	0.17	300	
GHF1608 15N□	15.0±10% or ±5%	12	100	15	28	37	46	51	2300	3400	0.45	0.20	300	
GHF1608 18N□	18.0±10% or ±5%	12	100	15	27	36	44	48	2000	3000	0.50	0.21	300	
GHF1608 22N□	22.0±10% or ±5%	12	100	16	28	36	44	47	1600	2900	0.55	0.25	300	
GHF1608 27N□	27.0±10% or ±5%	12	100	16	29	37	45	46	1400	2200	0.60	0.28	300	
GHF1608 33N□	33.0±10% or ±5%	12	100	17	31	40	46	47	1200	1800	0.65	0.35	300	
GHF1608 39N□	39.0±10% or ±5%	12	100	18	31	39	44	44	1100	1600	0.70	0.38	300	
GHF1608 47N□	47.0±10% or ±5%	12	100	17	28	34	35	34	900	1600	1.00	0.45	300	
GHF1608 56N□	56.0±10% or ±5%	12	100	17	28	34	34	31	900	1400	1.00	0.50	300	
GHF1608 68N□	68.0±10% or ±5%	12	100	18	29	34	30	22	700	1200	1.00	0.55	300	
GHF1608 82N□	82.0±10% or ±5%	12	100	18	28	33	27	—	600	1100	1.00	0.60	300	
GHF1608 R10□	100.0±10% or ±5%	12	100	18	27	28	16	—	600	1000	1.00	0.65	300	
GHF1608 R12□	120.0±10% or ±5%	8	50	16	24	23	—	—	500	800	1.20	0.68	300	
GHF1608 R15□	150.0±10% or ±5%	8	50	13	19	16	—	—	500	800	1.20	0.73	300	
GHF1608 R18□	180.0±10% or ±5%	8	50	13	18	12	—	—	400	700	1.30	0.85	300	
GHF1608 R22□	220.0±10% or ±5%	8	50	12	16	—	—	—	400	600	1.50	0.95	300	

□ Please specify the Inductance Tolerance Code.

Multilayer Chip Inductors For High Frequency - GHF2125

Part No.	Inductance (nH)	Q (min.)	Measuring Frequency [MHz]	Q (Typical) Frequency					Self Resonant frequency [MHz]		DC Resistance [Ω]		Related Current [mA] (max.)	Thickness [mm] (inch)
				100	300	500	800	1000	min.	Typ.	max.	Typ.		
GHF2125 1N5S	1.5±0.3nH	10	100	21	39	57	61	68	4000	>6000	0.10	0.02	300	0.85±0.2 (0.033±0.008)
GHF2125 1N8S	1.8±0.3nH	10	100	18	35	49	55	59	4000	>6000	0.10	0.02	300	
GHF2125 2N2S	2.2±0.3nH	10	100	18	33	46	53	58	4000	>6000	0.10	0.03	300	
GHF2125 2N7S	2.7±0.3nH	12	100	19	36	50	56	60	4000	>6000	0.10	0.03	300	
GHF2125 3N3□	3.3±10% or±0.3nH	12	100	16	29	40	47	51	4000	>6000	0.13	0.04	300	
GHF2125 3N9□	3.9±10% or±0.3nH	12	100	18	33	46	54	60	4000	>6000	0.15	0.05	300	
GHF2125 4N7□	4.7±10% or±0.3nH	12	100	18	34	46	55	60	3500	>6000	0.20	0.05	300	
GHF2125 5N6□	5.6±10% or±0.3nH	15	100	20	38	51	60	66	3200	5400	0.23	0.05	300	
GHF2125 6N8□	6.8±10% or±5%	15	100	20	39	52	63	69	2800	4200	0.25	0.06	300	
GHF2125 8N2□	8.2±10% or±5%	15	100	21	40	54	63	70	2400	3700	0.28	0.07	300	
GHF2125 10N□	10.0±10% or±5%	15	100	20	38	51	60	67	2100	3100	0.30	0.09	300	
GHF2125 12N□	12.0±10% or±5%	15	100	21	39	52	60	67	1900	3000	0.35	0.10	300	
GHF2125 15N□	15.0±10% or±5%	15	100	22	42	55	63	72	1600	2600	0.40	0.11	300	
GHF2125 18N□	18.0±10% or±5%	15	100	24	44	57	63	72	1500	2300	0.45	0.13	300	
GHF2125 22N□	22.0±10% or±5%	18	100	23	43	55	60	69	1400	2100	0.50	0.16	300	
GHF2125 27N□	27.0±10% or±5%	18	100	23	42	53	58	68	1300	1800	0.55	0.17	300	
GHF2125 33N□	33.0±10% or±5%	18	100	24	43	54	55	60	1200	1700	0.60	0.19	300	
GHF2125 39N□	39.0±10% or±5%	18	100	23	41	50	47	47	1000	1400	0.65	0.25	300	
GHF2125 47N□	47.0±10% or±5%	18	100	23	41	49	43	41	900	1200	0.70	0.26	300	1.00 ^{+0.20} _{-0.30} (0.039 ^{+0.008} _{-0.012})
GHF2125 56N□	56.0±10% or±5%	18	100	23	42	48	39	38	800	1100	0.75	0.28	300	
GHF2125 68N□	68.0±10% or±5%	18	100	25	42	45	30	—	700	900	0.80	0.33	300	
GHF2125 82N□	82.0±10% or±5%	18	100	24	41	41	—	—	600	800	0.90	0.37	300	
GHF2125 R10□	100.0±10% or±5%	18	100	23	37	37	—	—	600	800	0.90	0.40	300	
GHF2125 R12□	120.0±10% or±5%	13	50	22	33	29	—	—	500	700	0.95	0.43	300	
GHF2125 R15□	150.0±10% or±5%	13	50	22	34	26	—	—	500	700	1.00	0.46	300	
GHF2125 R18□	180.0±10% or±5%	13	50	23	34	20	—	—	400	600	1.10	0.50	300	
GHF2125 R22□	220.0±10% or±5%	12	50	20	23	—	—	—	350	550	1.20	0.75	300	
GHF2125 R27□	270.0±10% or±5%	12	50	20	19	—	—	—	300	480	1.30	0.85	300	
GHF2125 R33□	330.0±10% or±5%	12	50	22	15	—	—	—	250	400	1.40	0.90	300	
GHF2125 R39□	390.0±10% or±5%	10	50	17	12	—	—	—	250	400	1.30	0.85	300	
GHF2125 R47□	470.0±10% or±5%	10	50	17	—	—	—	—	200	350	1.50	0.95	300	

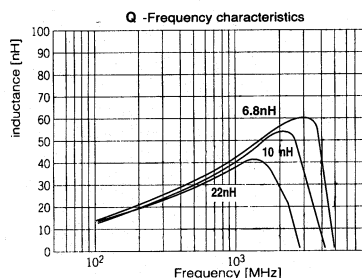
□ Please specify the Inductance Tolerance Code.

Multilayer Chip Inductors For High Frequency

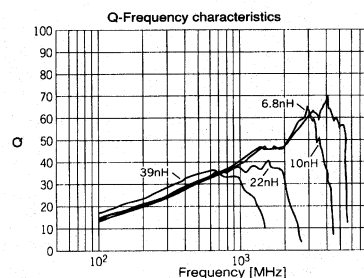
ELECTRICAL CHARACTERISTICS

Typical Q-Characteristics (measured by HP8719C)

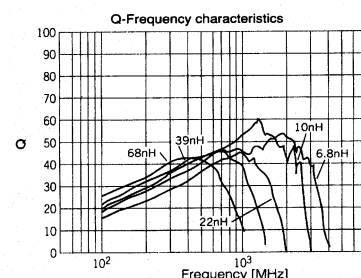
GHF1005



GHF1608

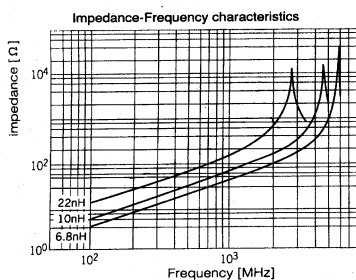


GHF2125

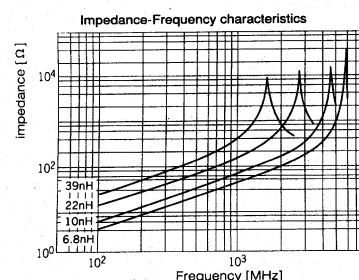


Typical Impedance vs Frequency Characteristics (measured by HP8719C)

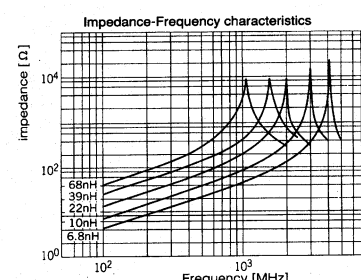
GHF1005



GHF1608

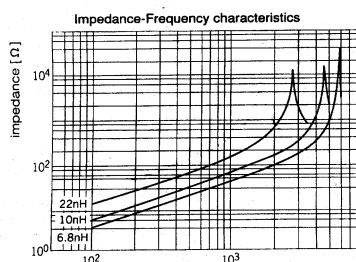


GHF2125

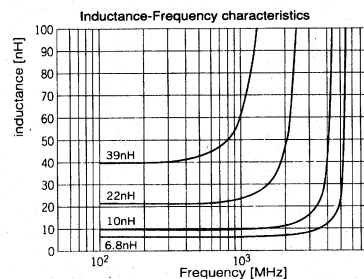


Typical Inductance vs Frequency Characteristics (measured by HP8719C)

GHF1005



GHF1608



GHF2125

