Multilayer Chip Inductors For High Frequency

FEATURES

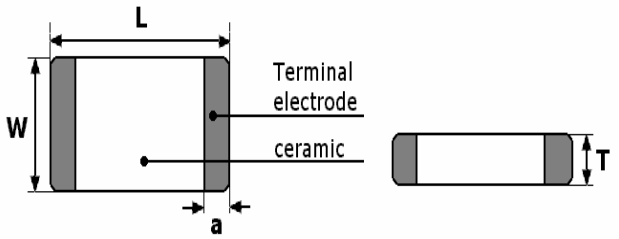
• Multilayer inductor made of advanced ceramics with low-resistivity silver used as internal conductors provides excellent Q and SRF characteristics. NON MAGNETIC

• Designed to address surface mount inductor needs for applications above 100MHz.

• Multilayer block structure ensures outstanding reliability, high productivity and product quality.

Operating Temperature

0603: -40~+125°C
1005: -40~+125°C
1608: -40~+125°C
2125: -40~+125°C



SIZE	L(mm)	W(mm)	T(mm)	a(mm)
0603 (0201)	0.6±0.03	0.3±0.03	0.33Max	0.1~0.2
1005 (0402)	1.0±0.05	0.5±0.03	0.5±0.05	0.1~0.3
1608 (0603)	1.6±0.15	0.8±0.15	0.8±0.15	0.2~0.6
2125 (0805)	2.0±0.2	1.25±0.2	*	0.2~0.8

* GHF2125 THICKNESS 0.85±0.2 UP TO 120nH
* GHF2125 THICKNESS 1.25±0.2 150nH TO 680nH

ORDERING CODE

GHF2125 10NJ - T

Type - Multilayer Chip Inductors for High Frequency

External Dimensions (LxW) (mm)
0603 (0201) - 0.6 x 0.3
1005 (0402) - 1.0 x 0.5
1608 (0603) - 1.6X0.8
2125 (0805) - 2.0x1.25

Nominal Inductance (µH)
Example:
3N9 = 0.0039
10N = 0.01
R10 = 0.1
R12 = 0.12

R = decimal point
N = 0.0 (nH type)

Inductance Tolerance (%)
S- = ±.3nH
J- = ±5
K- = ±10

Packaging
T = Tape & Reel

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GHF Series for High Frequency Multilayer Ceramic Chip Inductor Charicteristics

Part Number	Inductance (nH) Tolerance	Q Min.	Test Frequency (MHz)	Self-resonant Frequency (GHz) Min.	DC Resistance (Ω) Max.	Rated Current (mA) Max.	Thickness (mm)
GHF0603 1N0S	1.0±0.3nH	4	100	10	0.14	250	0.33 Max.
GHF0603 1N2S	1.2±0.3nH	4	100	10	0.14	250	0.33 Max.
GHF0603 1N5S	1.5±0.3nH	4	100	10	0.18	230	0.33 Max.
GHF0603 1N8S	1.8±0.3nH	4	100	10	0.19	200	0.33 Max.
GHF0603 2N2S	2.2±0.3nH	4	100	8.8	0.22	200	0.33 Max.
GHF0603 2N7S	2.7±0.3nH	5	100	7.7	0.25	200	0.33 Max.
GHF0603 3N3S	3.3±0.3nH	5	100	6.7	0.30	180	0.33 Max.
GHF0603 3N9S	3.9±0.3nH	5	100	6.0	0.30	170	0.33 Max.
GHF0603 4N7S	4.7±0.3nH	5	100	5.3	0.40	150	0.33 Max.
GHF0603 5N1S	5.1±0.3nH	5	100	4.7	0.40	150	0.33 Max.
GHF0603 5N6S	5.6±0.3nH	5	100	4.2	0.40	150	0.33 Max.
GHF0603 6N8J	6.8±5%	5	100	3.5	0.50	150	0.33 Max.
GHF0603 8N2J	8.2±5%	5	100	3.2	0.55	150	0.33 Max.
GHF0603 10NJ	10±5%	5	100	2.8	0.65	150	0.33 Max.
GHF0603 12NJ	12±5%	5	100	2.4	0.70	100	0.33 Max.
GHF0603 15NJ	15±5%	5	100	2.2	0.80	100	0.33 Max.
GHF0603 18NJ	18±5%	5	100	2.1	0.90	100	0.33 Max.
GHF0603 22NJ	22±5%	5	100	1.8	1.20	100	0.33 Max.
GHF0603 27NJ	27±5%	4	100	1.8	1.80	50	0.33 Max.
GHF0603 33NJ	33±5%	4	100	1.7	2.10	50	0.33 Max.
GHF0603 39NJ	39±5%	4	100	1.5	2.40	50	0.33 Max.

＊TEST EQUIPMENT: E4991A IMPEDANCE ANALYZER

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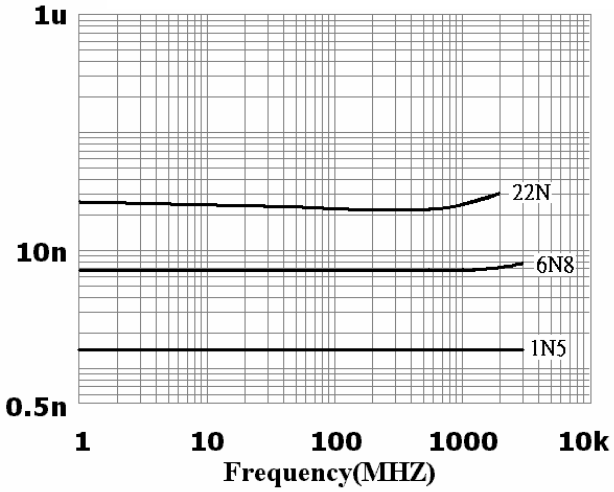
Multilayer Ceramic Chip Inductor

GHF Series for High Frequency

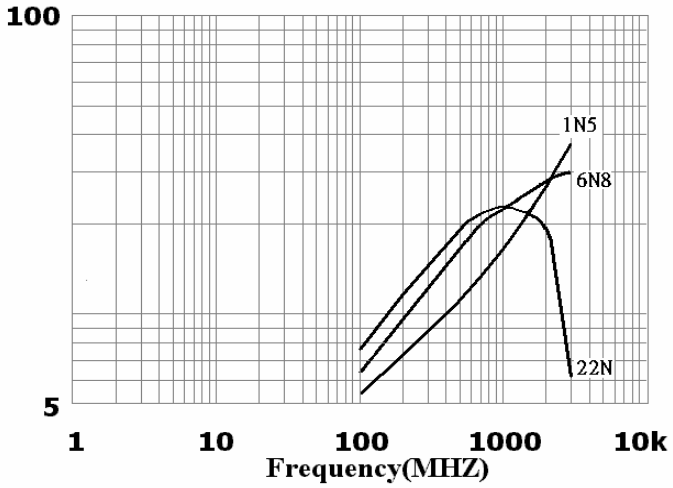
Electrical Characteristics

Size: 0603 (0201)

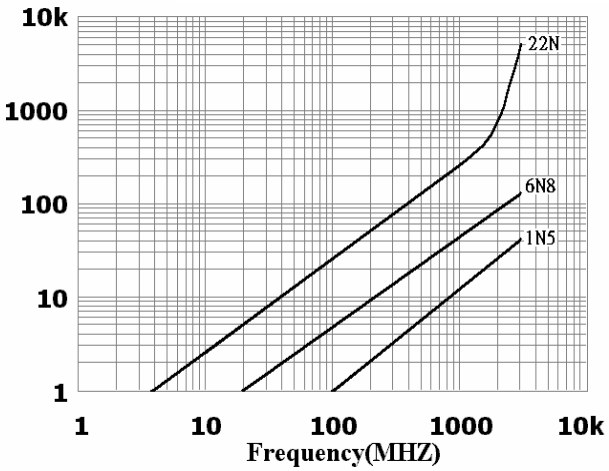
INDUCTANCE vs. FREQUENCY



Q vs. FREQUENCY



IMPEDANCE vs. FREQUENCY



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Multilayer Ceramic Chip Inductor

GHF Series for High Frequency Electrical Characteristics

Part Number	Inductance (nH) Tolerance	Q Min.	Test Frequency (MHz)	Self-resonant Frequency (GHz) Min.	DC Resistance (Ω) Max.	Rated Current (mA) Max.	Thickness (mm)
GHF1005 1N0S	1.0±0.3nH	8	100	10	0.08	300	0.5±0.05
GHF1005 1N2S	1.2±0.3nH	8	100	10	0.09	300	0.5±0.05
GHF1005 1N5S	1.5±0.3nH	8	100	6	0.10	300	0.5±0.05
GHF1005 1N8S	1.8±0.3nH	8	100	6	0.12	300	0.5±0.05
GHF1005 2N0S	2.0±0.3nH	8	100	6	0.12	300	0.5±0.05
GHF1005 2N2S	2.2±0.3nH	8	100	6	0.13	300	0.5±0.05
GHF1005 2N4S	2.4±0.3nH	8	100	6	0.13	300	0.5±0.05
GHF1005 2N7S	2.7±0.3nH	8	100	6	0.13	300	0.5±0.05
GHF1005 3N0S	3.0±0.3nH	8	100	6	0.16	300	0.5±0.05
GHF1005 3N3S	3.3±0.3nH	8	100	6	0.16	300	0.5±0.05
GHF1005 3N9S	3.9±0.3nH	8	100	4	0.21	300	0.5±0.05
GHF1005 4N7S	4.7±0.3nH	8	100	4	0.21	300	0.5±0.05
GHF1005 5N6S	5.6±0.3nH	8	100	4	0.23	300	0.5±0.05
GHF1005 6N8J	6.8±5%	8	100	3.9	0.25	300	0.5±0.05
GHF1005 8N2J	8.2±5%	8	100	3.6	0.28	300	0.5±0.05
GHF1005 10NJ	10±5%	8	100	3.2	0.31	300	0.5±0.05
GHF1005 12NJ	12±5%	8	100	2.7	0.40	300	0.5±0.05
GHF1005 15NJ	15±5%	8	100	2.3	0.46	300	0.5±0.05
GHF1005 18NJ	18±5%	8	100	2.1	0.55	300	0.5±0.05
GHF1005 22NJ	22±5%	8	100	1.9	0.60	300	0.5±0.05
GHF1005 27NJ	27±5%	8	100	1.6	0.70	300	0.5±0.05
GHF1005 33NJ	33±5%	8	100	1.3	0.80	200	0.5±0.05
GHF1005 39NJ	39±5%	8	100	1.2	0.90	200	0.5±0.05
GHF1005 47NJ	47±5%	8	100	1.0	1.00	200	0.5±0.05

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Multilayer Ceramic Chip Inductor

GHF Series for High Frequency Electrical Characteristics

Part Number	Inductance (nH) Tolerance	Q Min.	Test Frequency (MHz)	Self-resonant Frequency (GHz) Min.	DC Resistance (Ω) Max.	Rated Current (mA) Max.	Thickness (mm)
GHF1005 56NJ	56±5%	8	100	0.75	1.00	200	0.5±0.05
GHF1005_68NJ	68±5%	8	100	0.75	1.20	180	0.5±0.05
GHF1005 82NJ	82±5%	8	100	0.60	1.30	150	0.5±0.05
GHF1005_R10J	100±5%	8	100	0.60	1.50	150	0.5±0.05
GHF1005 R12J	120±5%	8	100	0.60	1.60	150	0.5±0.05

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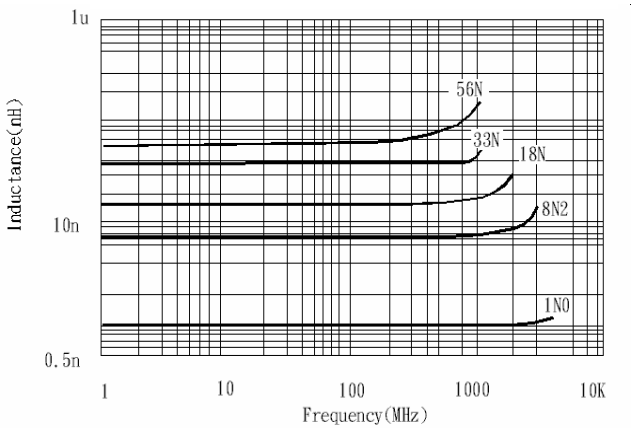
Multilayer Ceramic Chip Inductor

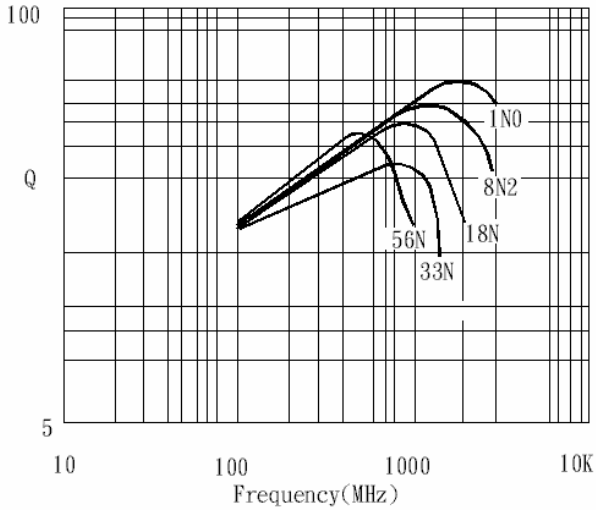
GHF Series for High Frequency
Electrical Characteristics

Size: 1005 (0402)

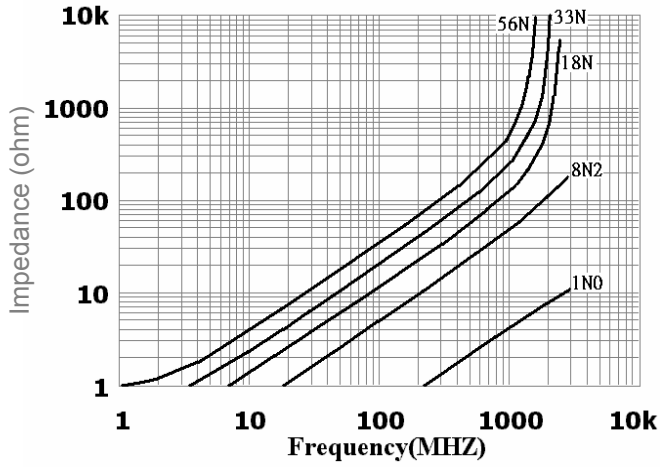
INDUCTANCE vs. FREQUENCY



Q vs. FREQUENCY



IMPEDANCE vs. FREQUENCY



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Multilayer Ceramic Chip Inductor

GHF Series for High Frequency

Electrical Characteristics

Part Number	Inductance (nH) Tolerance	Q Min.	Test Frequency (MHz)	Self-resonant Frequency (GHz) Min.	DC Resistance (Ω) Max.	Rated Current (mA) Max.	Thickness (mm)
GHF1608 1N0S	1.0±0.3nH	8	100	10	0.05	300	0.8±0.15
GHF1608 1N2S	1.2±0.3nH	8	100	10	0.05	300	0.8±0.15
GHF1608 1N5S	1.5±0.3nH	8	100	6.0	0.10	300	0.8±0.15
GHF1608 1N8S	1.8±0.3nH	8	100	6.0	0.10	300	0.8±0.15
GHF1608 2N2S	2.2±0.3nH	8	100	6.0	0.10	300	0.8±0.15
GHF1608 2N7S	2.7±0.3nH	10	100	6.0	0.10	300	0.8±0.15
GHF1608 3N3S	3.3±0.3nH	10	100	6.0	0.12	300	0.8±0.15
GHF1608 3N9S	3.9±0.3nH	10	100	6.0	0.14	300	0.8±0.15
GHF1608 4N7S	4.7±0.3nH	10	100	4.0	0.16	300	0.8±0.15
GHF1608 5N6S	5.6±0.3nH	10	100	4.0	0.18	300	0.8±0.15
GHF1608 6N8J	6.8±5%	10	100	4.0	0.22	300	0.8±0.15
GHF1608_8N2J	8.2±5%	10	100	3.5	0.24	300	0.8±0.15
GHF1608 10NJ	10±5%	12	100	3.4	0.26	300	0.8±0.15
GHF1608_12NJ	12±5%	12	100	2.6	0.28	300	0.8±0.15
GHF1608 15NJ	15±5%	12	100	2.3	0.32	300	0.8±0.15
GHF1608_18NJ	18±5%	12	100	2.0	0.35	300	0.8±0.15
GHF1608 22NJ	22±5%	12	100	1.6	0.40	300	0.8±0.15
GHF1608_27NJ	27±5%	12	100	1.4	0.45	300	0.8±0.15
GHF1608 33NJ	33±5%	12	100	1.2	0.55	300	0.8±0.15
GHF1608_39NJ	39±5%	12	100	1.1	0.60	300	0.8±0.15
GHF1608 47NJ	47±5%	12	100	0.9	0.70	300	0.8±0.15
GHF1608_56NJ	56±5%	12	100	0.9	0.75	300	0.8±0.15
HGHF1608 68NJ	68±5%	12	100	0.7	0.85	300	0.8±0.15
GHF1608_82NJ	82±5%	12	100	0.6	0.95	300	0.8±0.15

∗TEST EQUIPMENT: E4991A IMPEDANCE ANALYZER

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GHF Series for High Frequency Electrical Characteristics

Part Number	Inductance (nH) Tolerance	Q Min.	Test Frequency (MHz)	Self-resonant Frequency (GHz) Min.	DC Resistance (Ω) Max.	Rated Current (mA) Max.	Thickness (mm)
GHF1608 R10J	100±5%	12	100	0.6	1.00	300	0.8±0.15
GHF1608_R12J	120±5%	8	50	0.5	1.20	300	0.8±0.15
GHF1608 R15J	150±5%	8	50	0.5	1.20	300	0.8±0.15
GHF1608 R18J	180±5%	8	50	0.4	1.30	300	0.8±0.15
GHF1608 R22J	220±5%	8	50	0.4	1.50	300	0.8±0.15

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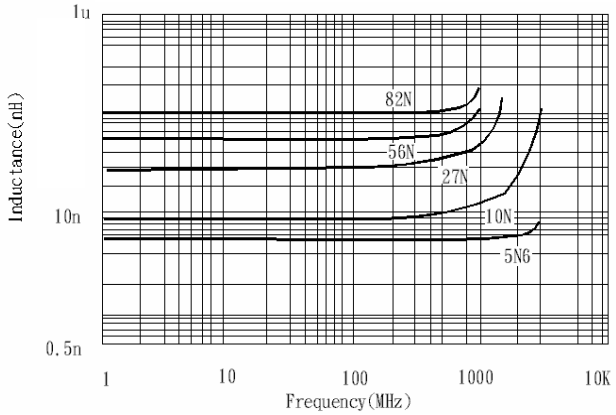
Multilayer Ceramic Chip Inductor

GHF Series for High Frequency

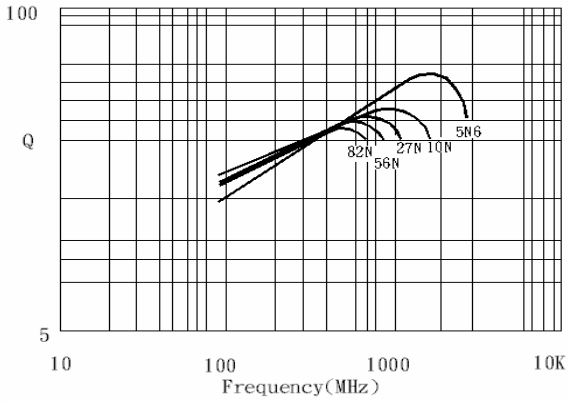
Electrical Characteristics

Size: 1608 (0603)

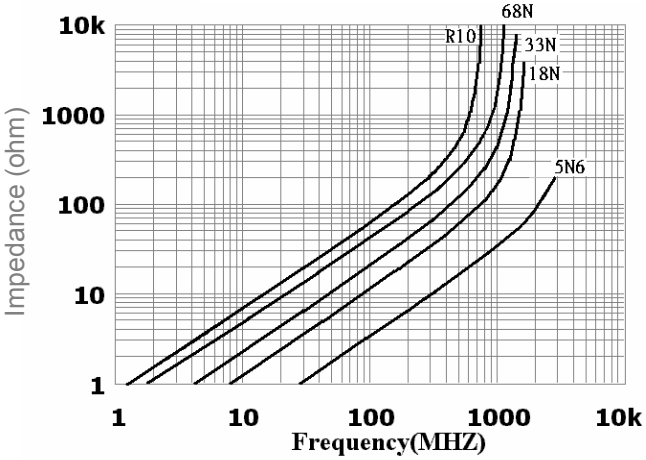
INDUCTANCE vs. FREQUENCY



Q vs. FREQUENCY



IMPEDANCE vs. FREQUENCY



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Multilayer Ceramic Chip Inductor

GHF Series for High Frequency Electrical Characteristics

Part Number	Inductance (nH) Tolerance	Q Min.	Test Frequency (MHz)	Self-resonant Frequency (GHz) Min.	DC Resistance (Ω) Max.	Rated Current (mA) Max.	Thickness (mm)
GHF2125 1N0S	1.0±0.3nH	10	100	10	0.10	300	0.85±0.2
GHF2125 1N2S	1.2±0.3nH	10	100	10	0.10	300	0.85±0.2
GHF2125 1N5S	1.5±0.3nH	10	100	4.0	0.10	300	0.85±0.2
GHF2125 1N8S	1.8±0.3nH	10	100	4.0	0.10	300	0.85±0.2
GHF2125 2N2S	2.2±0.3nH	10	100	4.0	0.10	300	0.85±0.2
GHF2125 2N7S	2.7±0.3nH	12	100	4.0	0.10	300	0.85±0.2
GHF2125 3N3S	3.3±0.3nH	12	100	4.0	0.13	300	0.85±0.2
GHF2125 3N9S	3.9±0.3nH	12	100	4.0	0.15	300	0.85±0.2
GHF2125 4N7S	4.7±0.3nH	12	100	3.5	0.20	300	0.85±0.2
GHF2125 5N6S	5.6±0.3nH	15	100	3.2	0.23	300	0.85±0.2
GHF2125 6N8J	6.8±5%	15	100	2.8	0.25	300	0.85±0.2
GHF2125 8N2J	8.2±5%	15	100	2.4	0.28	300	0.85±0.2
GHF2125 10NJ	10±5%	15	100	2.1	0.30	300	0.85±0.2
GHF2125 12NJ	12±5%	15	100	1.9	0.35	300	0.85±0.2
GHF2125 15NJ	15±5%	15	100	1.6	0.40	300	0.85±0.2
GHF2125 18NJ	18±5%	15	100	1.5	0.45	300	0.85±0.2
GHF2125 22NJ	22±5%	18	100	1.4	0.50	300	0.85±0.2
GHF2125 27NJ	27±5%	18	100	1.3	0.55	300	0.85±0.2
GHF2125 33NJ	33±5%	18	100	1.2	0.60	300	0.85±0.2
GHF2125 39NJ	39±5%	18	100	1.0	0.65	300	0.85±0.2
GHF2125 47NJ	47±5%	18	100	0.9	0.70	300	0.85±0.2
GHF2125 56NJ	56±5%	18	100	0.8	0.75	300	0.85±0.2
GHF2125 68NJ	68±5%	18	100	0.7	0.80	300	0.85±0.2
GHF2125 82NJ	82±5%	18	100	0.6	0.90	300	0.85±0.2

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Multilayer Ceramic Chip Inductor

GHF Series for High Frequency

Electrical Characteristics

Part Number	Inductance (nH) Tolerance	Q Min.	Test Frequency (MHz)	Self-resonant Frequency (GHz) Min.	DC Resistance (Ω) Max.	Rated Current (mA) Max.	Thickness (mm)
GHF2125 R10J	100±5%	18	100	0.6	0.90	300	0.85±0.2
GHF2125 R12J	120±5%	13	50	0.5	0.95	300	0.85±0.2
GHF2125 R15J	150±5%	13	50	0.5	1.00	300	1.25±0.2
GHF2125 R18J	180±5%	13	50	0.4	1.10	300	1.25±0.2
GHF2125 R22J	220±5%	12	50	0.35	1.20	300	1.25±0.2
GHF2125 R27J	270±5%	12	50	0.3	1.30	300	1.25±0.2
GHF2125 R33J	330±5%	12	50	0.25	1.40	300	1.25±0.2
GHF2125 R39J	390±5%	10	50	0.25	1.40	300	1.25±0.2
GHF2125 R47J	470±5%	10	50	0.20	4.00	200	1.25±0.2
GHF2125 R56J	560±5%	10	25	0.18	5.00	50	1.25±0.2
GHF2125 R68J	680±5%	10	25	0.16	5.50	50	1.25±0.2

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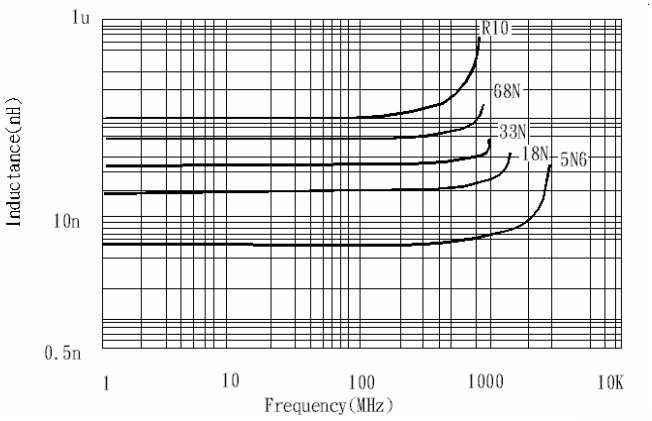
Multilayer Ceramic Chip Inductor

GHF Series for High Frequency

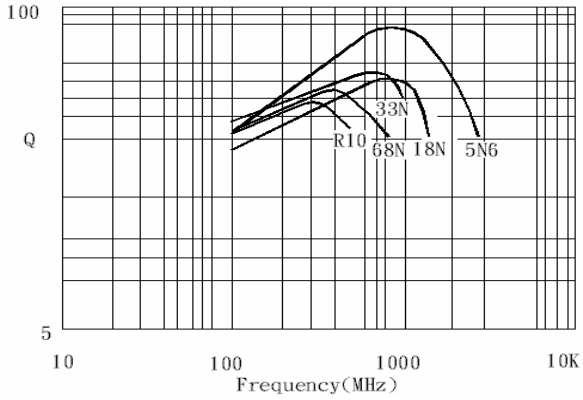
Electrical Characteristics

Size: 2125 (0805)

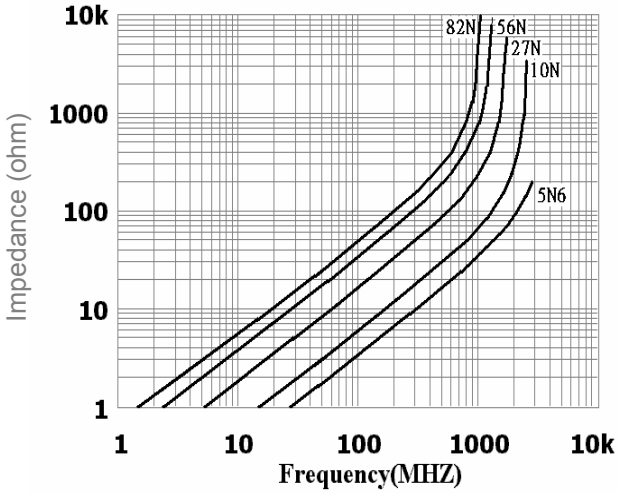
INDUCTANCE vs. FREQUENCY



Q vs. FREQUENCY



IMPEDANCE vs. FREQUENCY



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