

Multilayer Ceramic Chip Inductor

積層式陶瓷晶片電感

HBLS Series for High Frequency

HBLS 系列適用於高頻率產品



INTRODUCTION 產品介紹

Multilayer inductor HBLS series made of advanced ceramics and low resistance silver conductors provides excellent Q and SRF characteristics.

HBLS 積層式晶片電感系列是由瓷料和低阻抗的銀導體組成，提供優越之品質係數及共振頻率。

FEATURE 特色

1. Support operating frequency up to 10GHz.
操作頻率可達 10 GHz。
2. Provide high quality factor.
提供高的品質係數。
3. Monolithic structure for high reliability.
單石結構確保高可靠性。
4. Excellent solderability and high heat resistance for either flow or reflow soldering.
優良的焊錫性及耐熱性，適合 Flow 及 Reflow 兩種焊錫方式。

APPLICATION 適用產品

1. RF circuit and module.
射頻電路及模組。
2. Tablet, notebook, desktop computer and peripheral equipment.
平板電腦、筆記型電腦、桌上型電腦及其週邊設備。
3. DSC, DVC, LCD Television, Set Top Box.
數位相機、數位攝影機、液晶電視機、數位機上盒。
4. Mobile phone, smart phone, PND.
行動電話、智慧手機、個人導航設備。
5. Digital communication equipment.
數位通訊設備。
6. Various electronic equipment.
各式電子設備。
7. Various automotive electronics.
各式汽車設備。

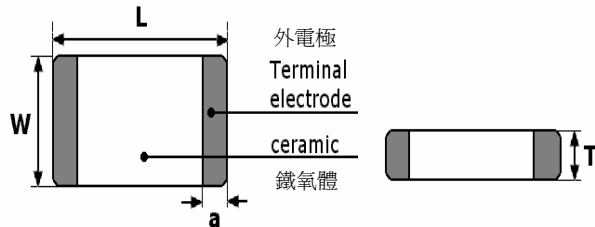
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SIZE AND DIMENSION 尺寸和邊長

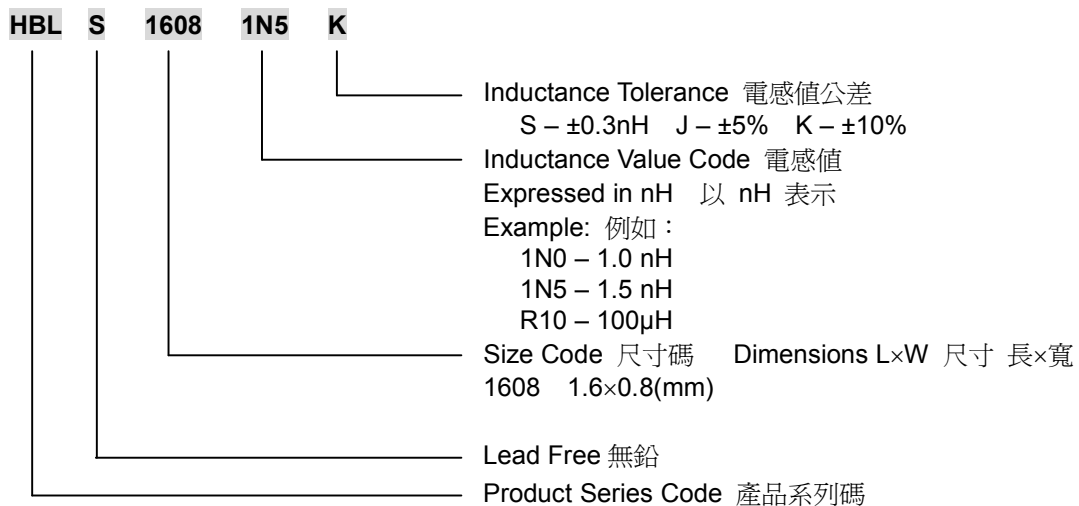


SIZE 尺寸	L 長 mm	W 寬 mm	T 厚 mm	a 銀寬 mm
0603 (0201)	0.6±0.03	0.3±0.03	0.33Max	0.1~0.2
1005 (0402)	1.0±0.05	0.5±0.05	0.5±0.05	0.1~0.3
1608 (0603)	1.6±0.15	0.8±0.15	0.8±0.15	0.2~0.6
2012 (0805)	2.0±0.2	1.25±0.2	*	0.2~0.8

Please refer to the detailed figures shown in the HBLS2012 series table.

厚度請參考 HBLS2012 系列特性表。

PART NUMBER SYSTEM 編碼系統



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Electrical Characteristics 電氣特性

Part Number 產品料號	Inductance 感值 (nH) Tolerance 公差	Q 品質 係數 Min.	Test Frequency 測試頻率 (MHz)	Self-resonant Frequency 共振頻率 (GHz) Min.	DC Resistance 直流電阻 (Ω) Max.	Rated Current 額定電流 (mA) Max.	Thickness 厚度 (mm)
HBLS0603-1N0S	1.0±0.3nH	4	100	10	0.14	250	0.33 Max.
HBLS0603-1N2S	1.2±0.3nH	4	100	10	0.14	250	0.33 Max.
HBLS0603-1N5S	1.5±0.3nH	4	100	10	0.18	230	0.33 Max.
HBLS0603-1N8S	1.8±0.3nH	4	100	10	0.19	200	0.33 Max.
HBLS0603-2N2S	2.2±0.3nH	4	100	8.8	0.22	200	0.33 Max.
HBLS0603-2N7S	2.7±0.3nH	5	100	7.7	0.25	200	0.33 Max.
HBLS0603-3N3S	3.3±0.3nH	5	100	6.7	0.30	180	0.33 Max.
HBLS0603-3N9S	3.9±0.3nH	5	100	6.0	0.30	170	0.33 Max.
HBLS0603-4N7S	4.7±0.3nH	5	100	5.3	0.40	150	0.33 Max.
HBLS0603-5N1S	5.1±0.3nH	5	100	4.7	0.40	150	0.33 Max.
HBLS0603-5N6S	5.6±0.3nH	5	100	4.2	0.40	150	0.33 Max.
HBLS0603-6N8J	6.8±5%	5	100	3.5	0.50	150	0.33 Max.
HBLS0603-8N2J	8.2±5%	5	100	3.2	0.55	150	0.33 Max.
HBLS0603-10NJ	10±5%	5	100	2.8	0.65	150	0.33 Max.
HBLS0603-12NJ	12±5%	5	100	2.4	0.70	100	0.33 Max.
HBLS0603-15NJ	15±5%	5	100	2.2	0.80	100	0.33 Max.
HBLS0603-18NJ	18±5%	5	100	2.1	0.90	100	0.33 Max.
HBLS0603-22NJ	22±5%	5	100	1.8	1.20	100	0.33 Max.
HBLS0603-27NJ	27±5%	4	100	1.8	1.80	50	0.33 Max.
HBLS0603-33NJ	33±5%	4	100	1.7	2.10	50	0.33 Max.
HBLS0603-39NJ	39±5%	4	100	1.5	2.40	50	0.33 Max.

* TEST EQUIPMENT: E4991A IMPEDANCE ANALYZER

量測儀器：E4991A 阻抗分析儀

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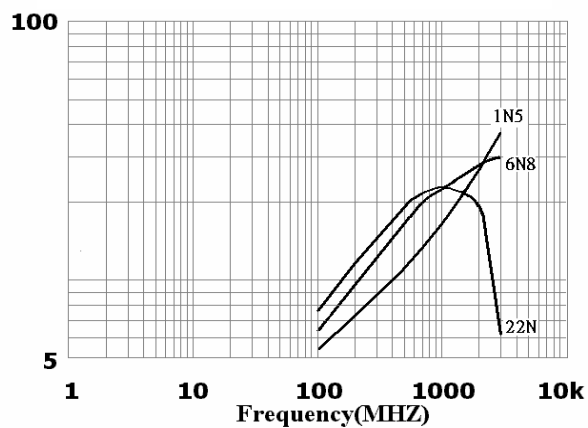
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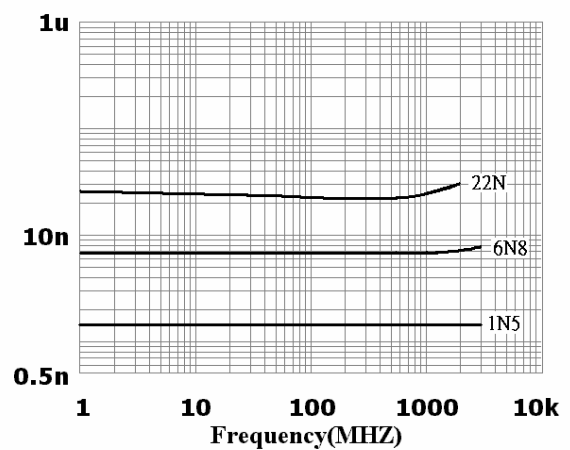
Electrical Characteristics 電氣特性

Size (尺寸): 0603 (0201)

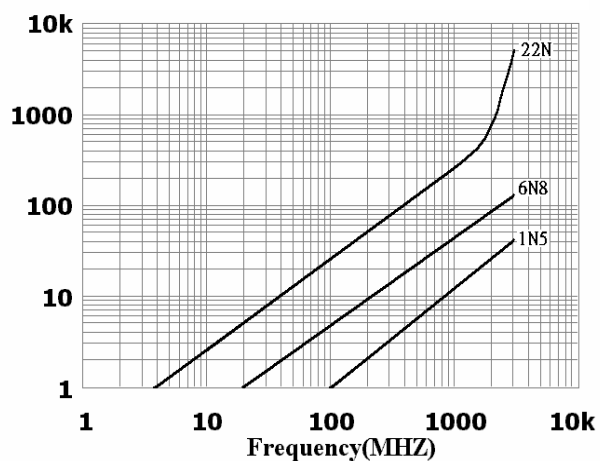
INDUCTANCE vs. FREQUENCY



Q vs. FREQUENCY



IMPEDANCE vs. FREQUENCY



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HBLS1005-1N0S	1.0±0.3nH	8	100	10	0.08	300	0.5±0.05
HBLS1005-1N2S	1.2±0.3nH	8	100	10	0.09	300	0.5±0.05
HBLS1005-1N5S	1.5±0.3nH	8	100	6	0.10	300	0.5±0.05
HBLS1005-1N8S	1.8±0.3nH	8	100	6	0.12	300	0.5±0.05
HBLS1005-2N0S	2.0±0.3nH	8	100	6	0.12	300	0.5±0.05
HBLS1005-2N2S	2.2±0.3nH	8	100	6	0.13	300	0.5±0.05
HBLS1005-2N4S	2.4±0.3nH	8	100	6	0.13	300	0.5±0.05
HBLS1005-2N7S	2.7±0.3nH	8	100	6	0.13	300	0.5±0.05
HBLS1005-3N0S	3.0±0.3nH	8	100	6	0.16	300	0.5±0.05
HBLS1005-3N3S	3.3±0.3nH	8	100	6	0.16	300	0.5±0.05
HBLS1005-3N9S	3.9±0.3nH	8	100	4	0.21	300	0.5±0.05
HBLS1005-4N7S	4.7±0.3nH	8	100	4	0.21	300	0.5±0.05
HBLS1005-5N6S	5.6±0.3nH	8	100	4	0.23	300	0.5±0.05
HBLS1005-6N8J	6.8±5%	8	100	3.9	0.25	300	0.5±0.05
HBLS1005-8N2J	8.2±5%	8	100	3.6	0.28	300	0.5±0.05
HBLS1005-10NJ	10±5%	8	100	3.2	0.31	300	0.5±0.05
HBLS1005-12NJ	12±5%	8	100	2.7	0.40	300	0.5±0.05
HBLS1005-15NJ	15±5%	8	100	2.3	0.46	300	0.5±0.05
HBLS1005-18NJ	18±5%	8	100	2.1	0.55	300	0.5±0.05
HBLS1005-22NJ	22±5%	8	100	1.9	0.60	300	0.5±0.05
HBLS1005-27NJ	27±5%	8	100	1.6	0.70	300	0.5±0.05
HBLS1005-33NJ	33±5%	8	100	1.3	0.80	200	0.5±0.05
HBLS1005-39NJ	39±5%	8	100	1.2	0.90	200	0.5±0.05
HBLS1005-47NJ	47±5%	8	100	1.0	1.00	200	0.5±0.05

* TEST EQUIPMENT: E4991A IMPEDANCE ANALYZER

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HBLS1005-56NJ	56±5%	8	100	0.75	1.00	200	0.5±0.05
HBLS1005-68NJ	68±5%	8	100	0.75	1.20	180	0.5±0.05
HBLS1005-82NJ	82±5%	8	100	0.60	1.30	150	0.5±0.05
HBLS1005-R10J	100±5%	8	100	0.60	1.50	150	0.5±0.05
HBLS1005-R12J	120±5%	8	100	0.60	1.60	150	0.5±0.05

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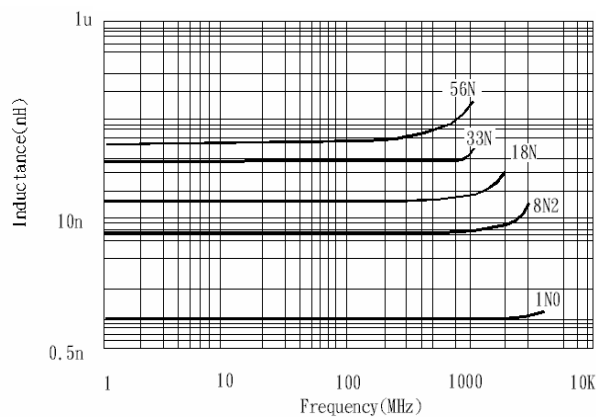
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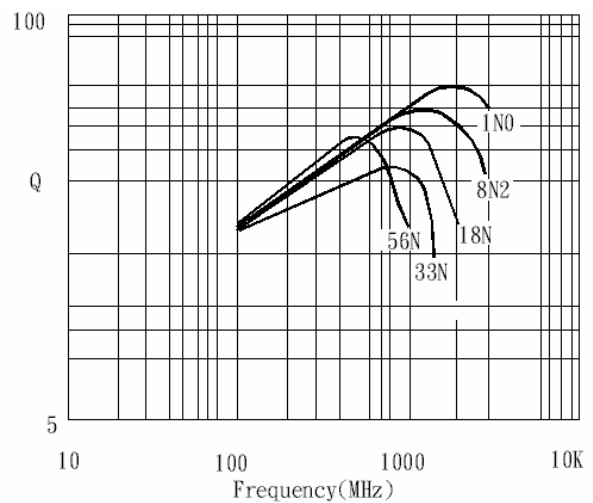
Electrical Characteristics 電氣特性

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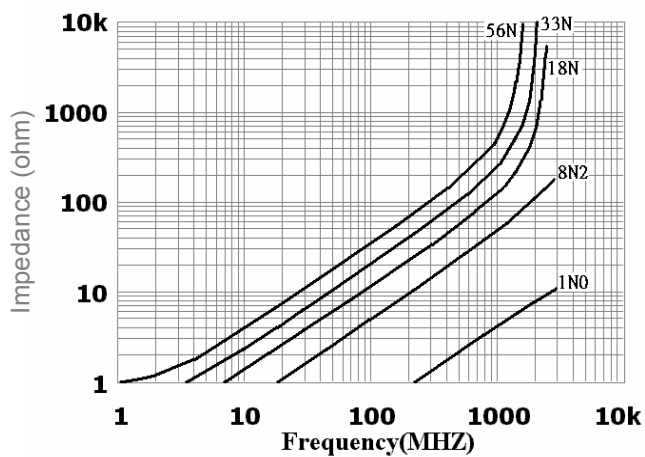
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Q vs. FREQUENCY



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HBLS1608-1N0S	1.0±0.3nH	8	100	10	0.05	300	0.8±0.15
HBLS1608-1N2S	1.2±0.3nH	8	100	10	0.05	300	0.8±0.15
HBLS1608-1N5S	1.5±0.3nH	8	100	6.0	0.10	300	0.8±0.15
HBLS1608-1N8S	1.8±0.3nH	8	100	6.0	0.10	300	0.8±0.15
HBLS1608-2N2S	2.2±0.3nH	8	100	6.0	0.10	300	0.8±0.15
HBLS1608-2N7S	2.7±0.3nH	10	100	6.0	0.10	300	0.8±0.15
HBLS1608-3N3S	3.3±0.3nH	10	100	6.0	0.12	300	0.8±0.15
HBLS1608-3N9S	3.9±0.3nH	10	100	6.0	0.14	300	0.8±0.15
HBLS1608-4N7S	4.7±0.3nH	10	100	4.0	0.16	300	0.8±0.15
HBLS1608-5N6S	5.6±0.3nH	10	100	4.0	0.18	300	0.8±0.15
HBLS1608-6N8J	6.8±5%	10	100	4.0	0.22	300	0.8±0.15
HBLS1608-8N2J	8.2±5%	10	100	3.5	0.24	300	0.8±0.15
HBLS1608-10NJ	10±5%	12	100	3.4	0.26	300	0.8±0.15
HBLS1608-12NJ	12±5%	12	100	2.6	0.28	300	0.8±0.15
HBLS1608-15NJ	15±5%	12	100	2.3	0.32	300	0.8±0.15
HBLS1608-18NJ	18±5%	12	100	2.0	0.35	300	0.8±0.15
HBLS1608-22NJ	22±5%	12	100	1.6	0.40	300	0.8±0.15
HBLS1608-27NJ	27±5%	12	100	1.4	0.45	300	0.8±0.15
HBLS1608-33NJ	33±5%	12	100	1.2	0.55	300	0.8±0.15
HBLS1608-39NJ	39±5%	12	100	1.1	0.60	300	0.8±0.15
HBLS1608-47NJ	47±5%	12	100	0.9	0.70	300	0.8±0.15
HBLS1608-56NJ	56±5%	12	100	0.9	0.75	300	0.8±0.15
HBLS1608-68NJ	68±5%	12	100	0.7	0.85	300	0.8±0.15
HBLS1608-82NJ	82±5%	12	100	0.6	0.95	300	0.8±0.15

* TEST EQUIPMENT: E4991A IMPEDANCE ANALYZER

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HBLS1608-R10J	100±5%	12	100	0.6	1.00	300	0.8±0.15
HBLS1608-R12J	120±5%	8	50	0.5	1.20	300	0.8±0.15
HBLS1608-R15J	150±5%	8	50	0.5	1.20	300	0.8±0.15
HBLS1608-R18J	180±5%	8	50	0.4	1.30	300	0.8±0.15
HBLS1608-R22J	220±5%	8	50	0.4	1.50	300	0.8±0.15

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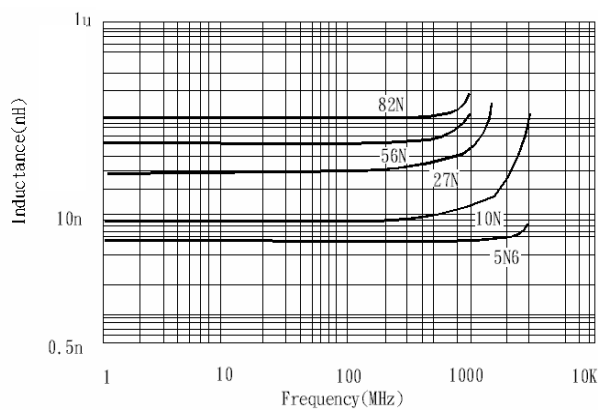
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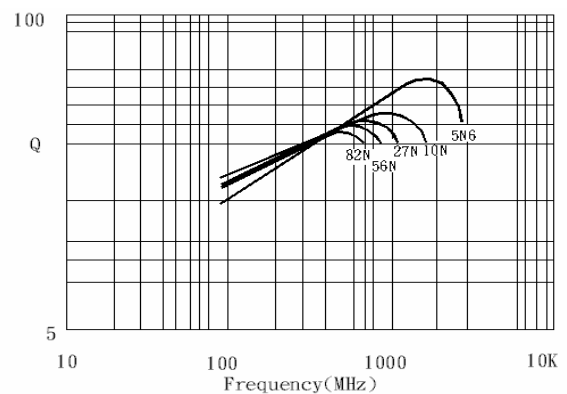
Electrical Characteristics 電氣特性

Size (尺寸): 1608 (0603)

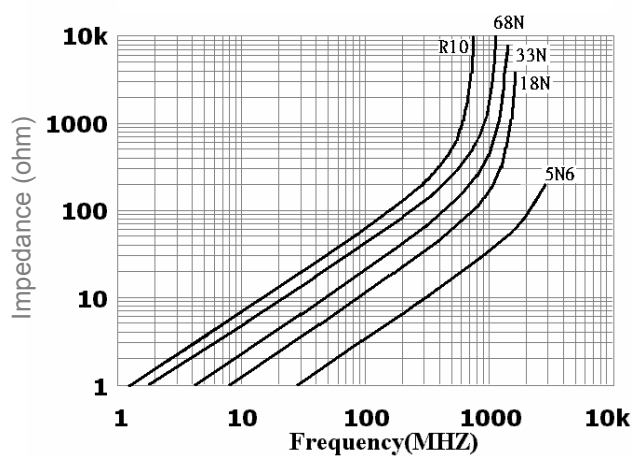
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HBLS2012-1N0S	1.0±0.3nH	10	100	10	0.10	300	0.85±0.2
HBLS2012-1N2S	1.2±0.3nH	10	100	10	0.10	300	0.85±0.2
HBLS2012-1N5S	1.5±0.3nH	10	100	4.0	0.10	300	0.85±0.2
HBLS2012-1N8S	1.8±0.3nH	10	100	4.0	0.10	300	0.85±0.2
HBLS2012-2N2S	2.2±0.3nH	10	100	4.0	0.10	300	0.85±0.2
HBLS2012-2N7S	2.7±0.3nH	12	100	4.0	0.10	300	0.85±0.2
HBLS2012-3N3S	3.3±0.3nH	12	100	4.0	0.13	300	0.85±0.2
HBLS2012-3N9S	3.9±0.3nH	12	100	4.0	0.15	300	0.85±0.2
HBLS2012-4N7S	4.7±0.3nH	12	100	3.5	0.20	300	0.85±0.2
HBLS2012-5N6S	5.6±0.3nH	15	100	3.2	0.23	300	0.85±0.2
HBLS2012-6N8J	6.8±5%	15	100	2.8	0.25	300	0.85±0.2
HBLS2012-8N2J	8.2±5%	15	100	2.4	0.28	300	0.85±0.2
HBLS2012-10NJ	10±5%	15	100	2.1	0.30	300	0.85±0.2
HBLS2012-12NJ	12±5%	15	100	1.9	0.35	300	0.85±0.2
HBLS2012-15NJ	15±5%	15	100	1.6	0.40	300	0.85±0.2
HBLS2012-18NJ	18±5%	15	100	1.5	0.45	300	0.85±0.2
HBLS2012-22NJ	22±5%	18	100	1.4	0.50	300	0.85±0.2
HBLS2012-27NJ	27±5%	18	100	1.3	0.55	300	0.85±0.2
HBLS2012-33NJ	33±5%	18	100	1.2	0.60	300	0.85±0.2
HBLS2012-39NJ	39±5%	18	100	1.0	0.65	300	0.85±0.2
HBLS2012-47NJ	47±5%	18	100	0.9	0.70	300	0.85±0.2
HBLS2012-56NJ	56±5%	18	100	0.8	0.75	300	0.85±0.2
HBLS2012-68NJ	68±5%	18	100	0.7	0.80	300	0.85±0.2
HBLS2012-82NJ	82±5%	18	100	0.6	0.90	300	0.85±0.2

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HBLS2012-R10J	100±5%	18	100	0.6	0.90	300	0.85±0.2
HBLS2012-R12J	120±5%	13	50	0.5	0.95	300	0.85±0.2
HBLS2012-R15J	150±5%	13	50	0.5	1.00	300	1.25±0.2
HBLS2012-R18J	180±5%	13	50	0.4	1.10	300	1.25±0.2
HBLS2012-R22J	220±5%	12	50	0.35	1.20	300	1.25±0.2
HBLS2012-R27J	270±5%	12	50	0.3	1.30	300	1.25±0.2
HBLS2012-R33J	330±5%	12	50	0.25	1.40	300	1.25±0.2
HBLS2012-R39J	390±5%	10	50	0.25	1.40	300	1.25±0.2
HBLS2012-R47J RDC4.0	470±5%	10	50	0.20	4.00	200	1.25±0.2
HBLS2012-R56J	560±5%	10	25	0.18	5.00	50	1.25±0.2
HBLS2012-R68J	680±5%	10	25	0.16	5.50	50	1.25±0.2

* TEST EQUIPMENT: E4991A IMPEDANCE ANALYZER

量測儀器：E4991A 阻抗分析儀

Multilayer Ceramic Chip Inductor

積層式陶瓷晶片電感

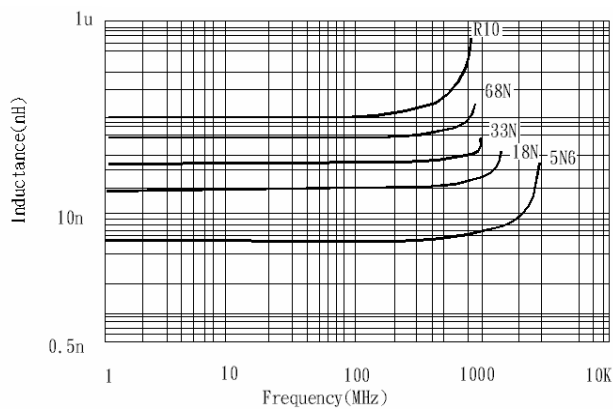
HBLS Series for High Frequency

HBLS 系列適用於高頻率產品

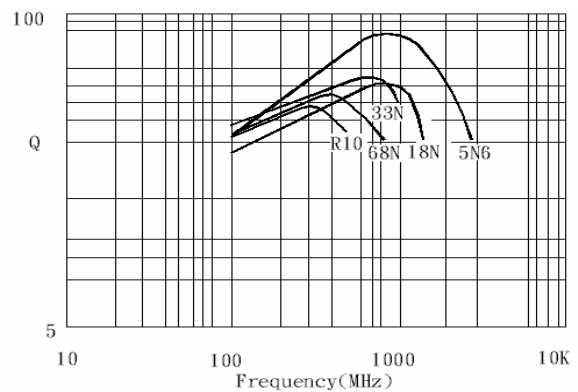
Electrical Characteristics 電氣特性

Size (尺寸): 2012 (0805)

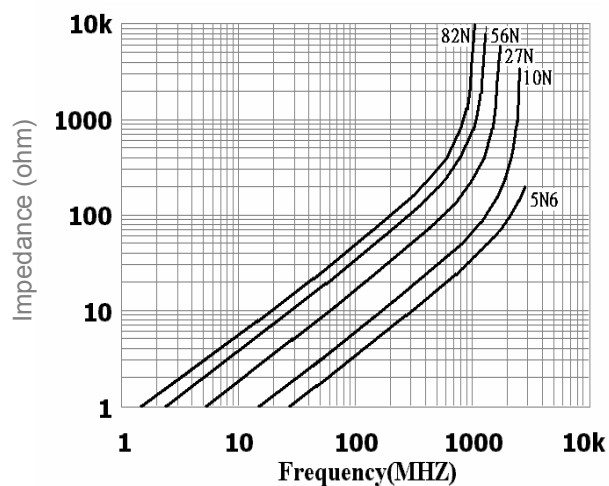
INDUCTANCE vs. FREQUENCY



Q vs. FREQUENCY



IMPEDANCE vs. FREQUENCY



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