Differential Mode Coils, HHBC Series (Fe-Si)

Overview

The KEMET HHBC coils are normal mode chokes with a wide variety of characteristics. These coils are designed with Fe-Si dust cores and are useful in various fields, such as DC/DC converters and differential noise countermeasures.

Applications

- Switching power supply outlet
- DC-DC converter
- Phase compensation
- Boost converter
- Normal mode noise countermeasure

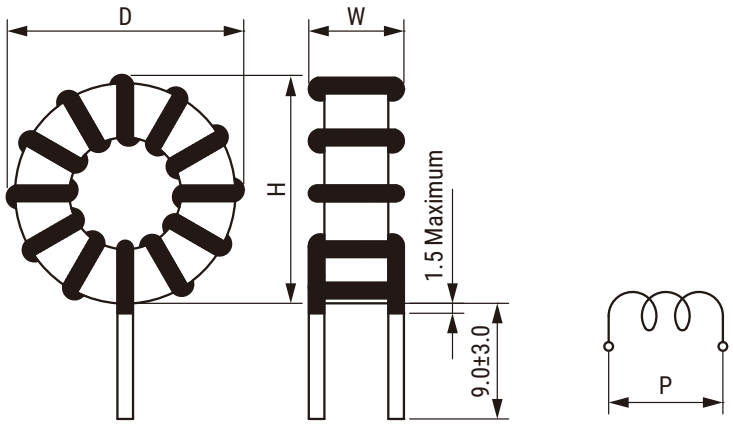
Benefits

- Fe-Si dust core material
- Available for noise countermeasure as well as general use
- Good balance of core loss and DC superposition characteristics
- Wide variety of sizes and specifications
- Operating temperature range from −40°C to +125°C

Part Number System

HHBC	8S-	0R6	A	0024	V
Series	Dimension Code (See Dimensions)	Wire Diameter (mm)	Windings	Inductance (µH) at 0 A ±20%	Core Orientation
HHBC	8S 10 12 13 14 20 24N 24W	R = Decimal point Examples: 0R6 = 0.6 mm 1R0 = 1.0 mm	A = Single B = Double	00xx = xx µH 0xxx = xxx µH Examples: 0024 = 24 µH 0107 = 107 µH	V = Vertical

Dimensions – Millimeters



Part Number	Dimensions (mm)			
	D Maximum	W Maximum	H Maximum	P[1] Typical
HHBC8S-0R6A0024V	16.0	8.8	16.0	7.0
HHBC8S-0R6A0043V	17.0	9.1	17.0	7.0
HHBC8S-0R6A0067V	17.0	9.6	17.0	7.5
HHBC10-0R8A0038V	21.5	11.7	21.5	8.0
HHBC10-0R8A0068V	21.5	12.3	21.5	8.0
HHBC10-0R8A0107V	22.0	12.1	22.0	9.0
HHBC12-1R0A0028V	26.0	12.1	26.0	9.0
HHBC12-1R0A0051V	26.0	12.4	26.0	9.0
HHBC12-1R0A0080V	26.4	13.3	26.4	9.5
HHBC13-1R2A0045V	30.0	14.9	30.0	11.0
HHBC13-1R2A0081V	30.0	15.7	30.0	11.0
HHBC13-1R2A0127V	30.0	16.2	30.0	12.0
HHBC14-1R2A0067V	33.5	17.1	33.5	14.0
HHBC14-1R2A0120V	34.0	18.6	34.0	15.0
HHBC14-1R2A0187V	34.0	19.4	34.0	15.0
HHBC20-1R7A0054V	41.2	19.5	41.2	14.0
HHBC20-1R7A0097V	41.2	20.3	41.2	14.0
HHBC20-1R7A0152V	41.2	20.4	41.2	15.0
HHBC24N-2R0A0219V	50.5	26.5	50.5	19.0
HHBC24W-2R1A0311V	57.6	30.5	57.6	24.0
HHBC24N-2R3A0104V	49.5	25.8	49.5	22.0
HHBC24W-2R4A0174V	57.6	30.9	57.6	24.0
HHBC24N-2R1B0039V	50.1	25.7	50.1	20.0
HHBC24W-2R1B0065V	57.6	31.2	57.6	23.0

[1] *p listed above for reference only. Values not guaranteed.*

Environmental Compliance

All KEMET AC Line Filters are RoHS Compliant.

Performance Characteristics

Item	Performance Characteristics
Rated Current Range	2 – 30 A
Rated Inductance Range	24 – 311 µH at 0 A ±20%
Inductance Measurement Condition	100 kHz, 1 mA
Wire Type	1 UEW & 1 PEW
Operating Temperature Range	−40°C to +125°C (include self temperature rise)

Table 1 – Ratings & Part Number Reference

Part Number	Rated Current (A)	Inductance (µH)		DC Resistance/ Line (mΩ) Maximum	Temperature Rise[1] (K) Maximum	Wire Diameter (mm)	Weight (g) Approximate
		at 0 A ±20%	Rated current ±25%				
HHBC8S-0R6A0024V	2	24	22.9	41.1	15	0.6	4
HHBC8S-0R6A0043V	2	43	41.1	54.1	20	0.6	4
HHBC8S-0R6A0067V	2	67	62.6	67.8	25	0.6	4
HHBC10-0R8A0038V	3	38	37.0	31.2	15	0.8	9
HHBC10-0R8A0068V	3	68	64.5	42.3	20	0.8	10
HHBC10-0R8A0107V	3	107	98.5	53.0	25	0.8	11
HHBC12-1R0A0028V	5	28	26.5	21.1	25	1.0	13
HHBC12-1R0A0051V	5	51	47.2	28.0	25	1.0	14
HHBC12-1R0A0080V	5	80	69.7	35.6	40	1.0	16
HHBC13-1R2A0045V	6	45	42.7	18.3	25	1.2	23
HHBC13-1R2A0081V	6	81	73.2	24.7	30	1.2	26
HHBC13-1R2A0127V	6	127	112.6	31.7	35	1.2	30
HHBC14-1R2A0067V	8	67	63.0	22.2	40	1.2	37
HHBC14-1R2A0120V	8	120	107.6	29.9	50	1.2	41
HHBC14-1R2A0187V	8	187	159.7	37.6	60	1.2	45
HHBC20-1R7A0054V	12	54	49.2	11.5	35	1.7	56
HHBC20-1R7A0097V	12	97	81.9	16.0	45	1.7	65
HHBC20-1R7A0152V	12	152	117.0	20.4	60	1.7	72
HHBC24N-2R0A0219V	15	219	173.0	19.5	65	2.0	149
HHBC24W-2R1A0311V	15	311	247.7	20.1	55	2.1	248
HHBC24N-2R3A0104V	20	104	85.7	10.4	55	2.3	143
HHBC24W-2R4A0174V	20	174	140.4	11.8	50	2.4	245
HHBC24N-2R1B0039V	30	39	33.1	6.8	50	2.1 x 2 Parallel	147
HHBC24W-2R1B0065V	30	65	53.9	6.2	50	2.1 x 2 Parallel	241

[1] The temperature rise during mounting is affected by the mounted coil and the harmonic components of the electric current. When selecting a product, please make sure that the coil temperature will not exceed the listed operating temperature range under planned operating conditions.

DC-Superposed Characteristics

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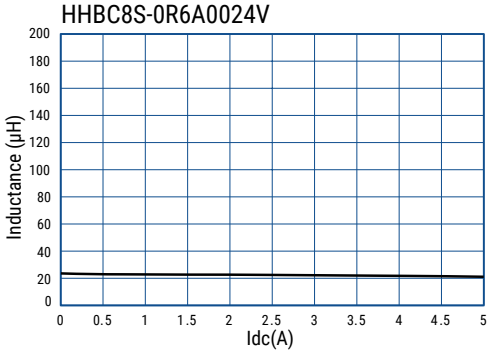

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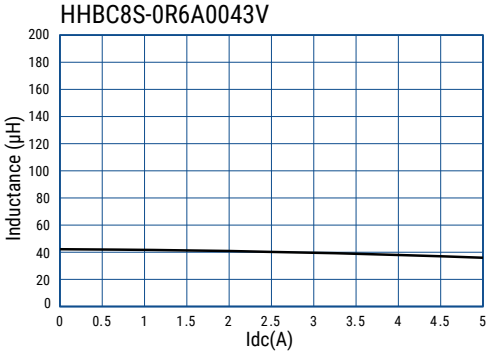

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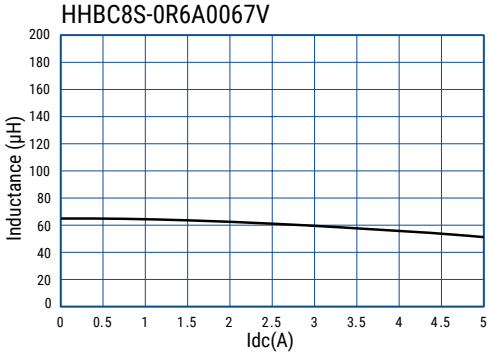

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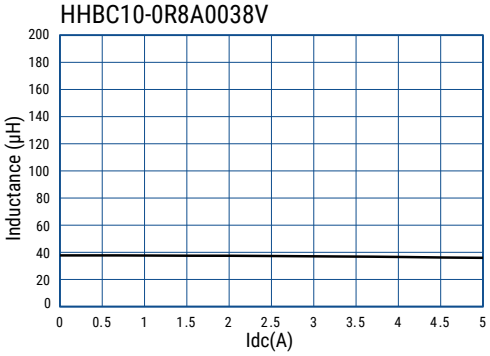

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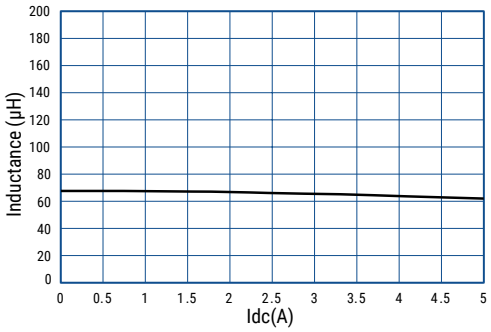

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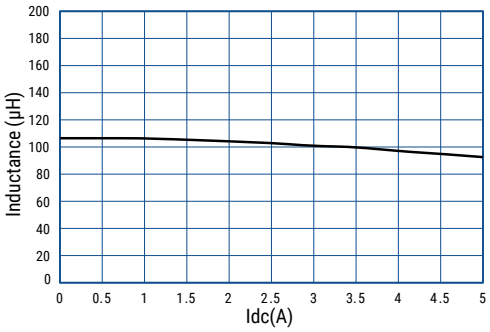

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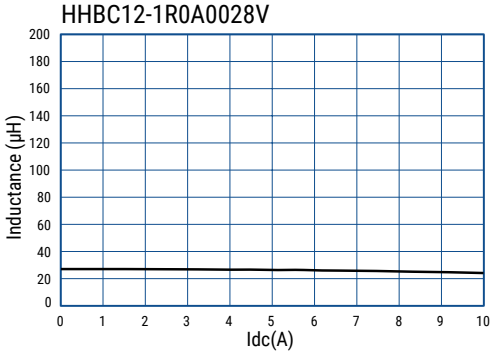

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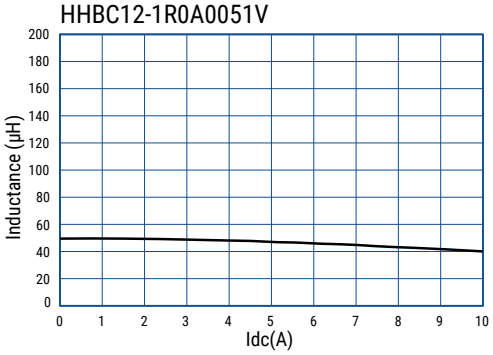

DC-Superposed Characteristics cont.

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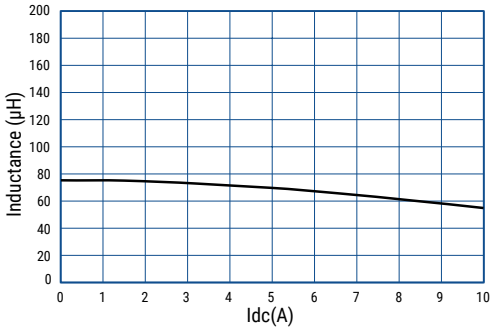

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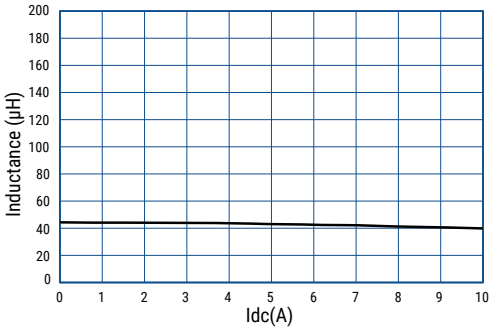

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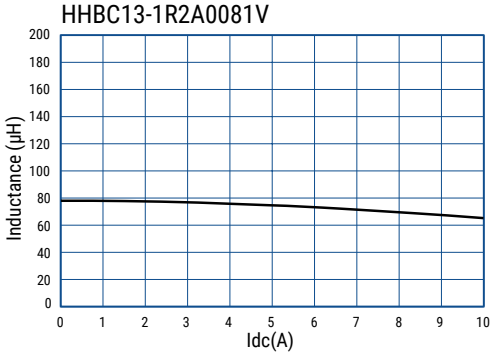

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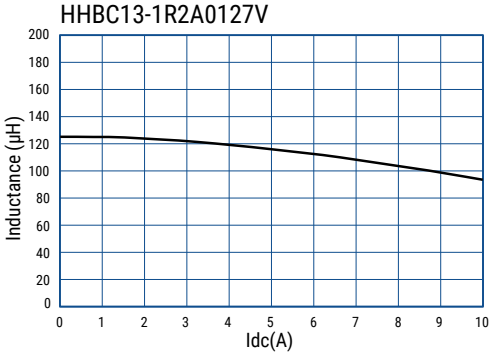

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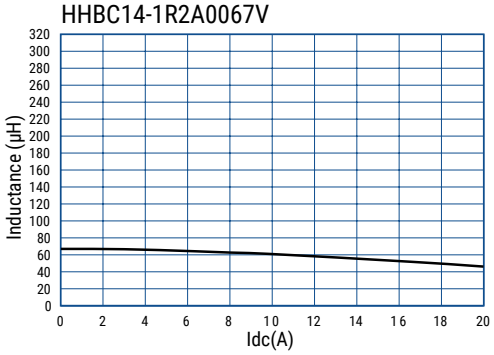

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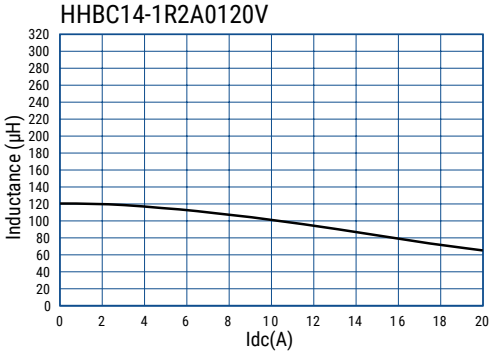

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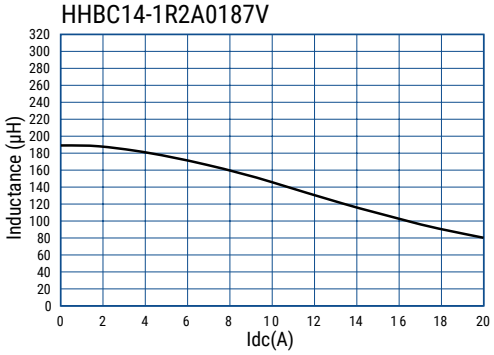

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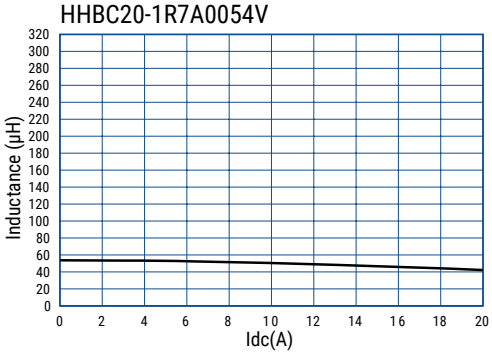

DC-Superposed Characteristics cont.

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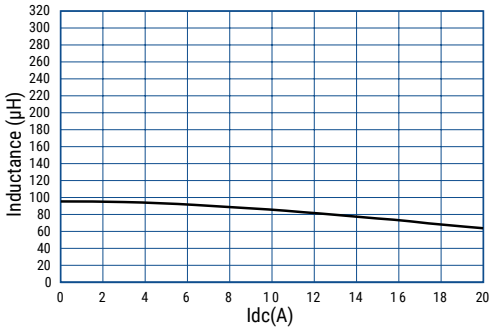

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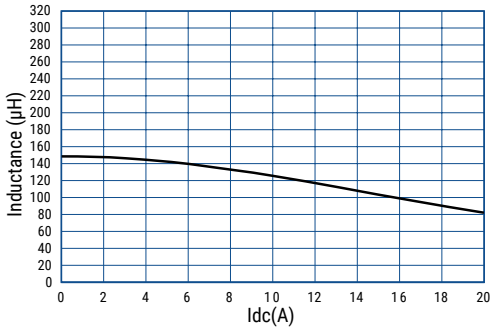

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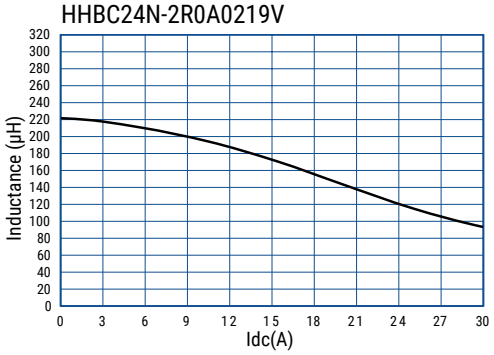

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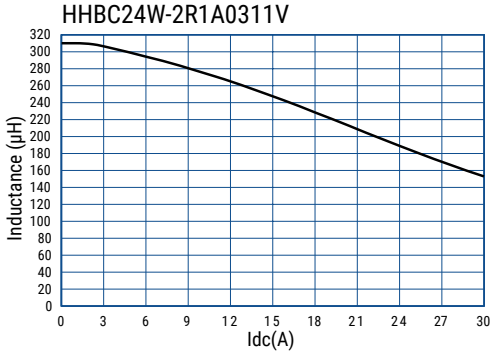

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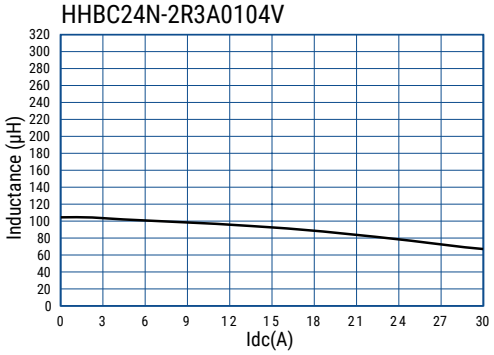

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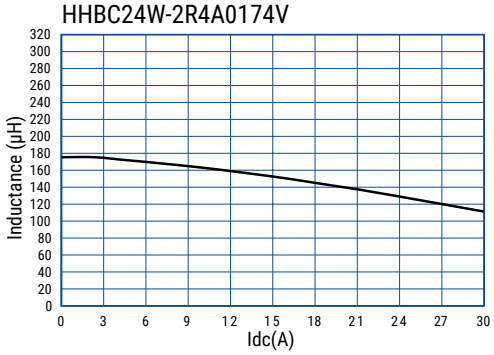

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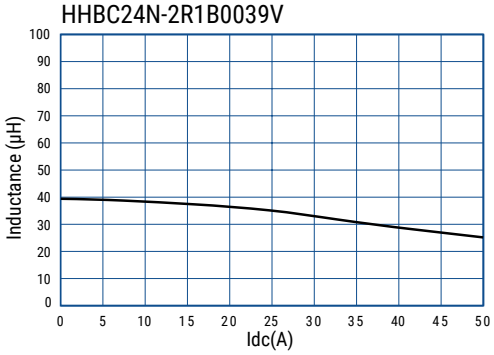

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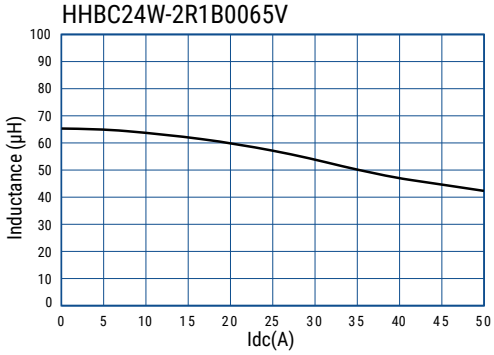

Inductance Characteristics

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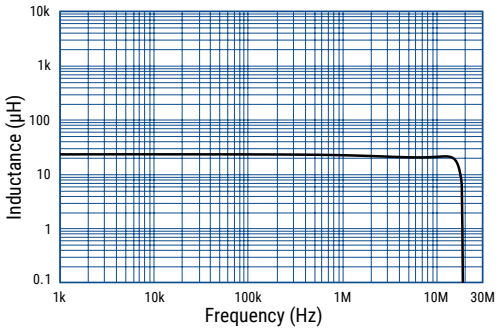

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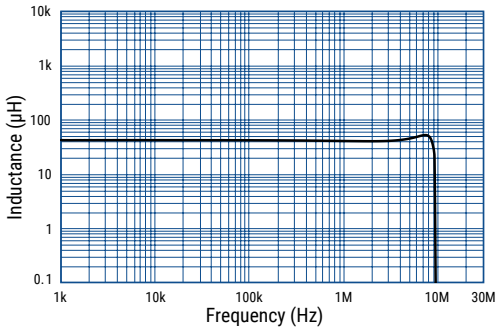

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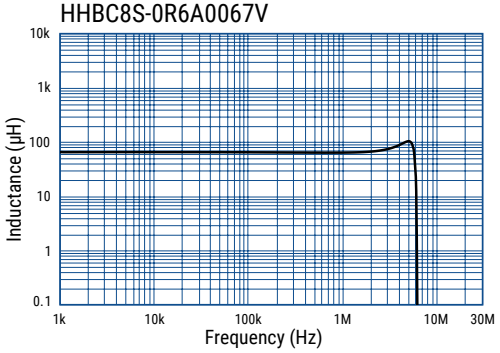

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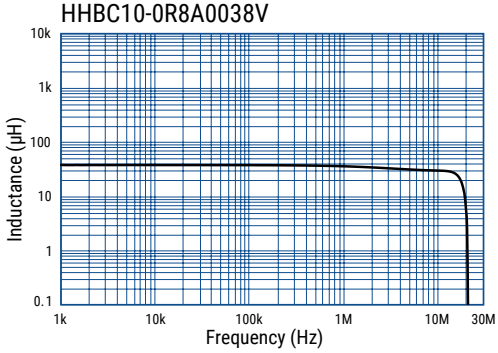

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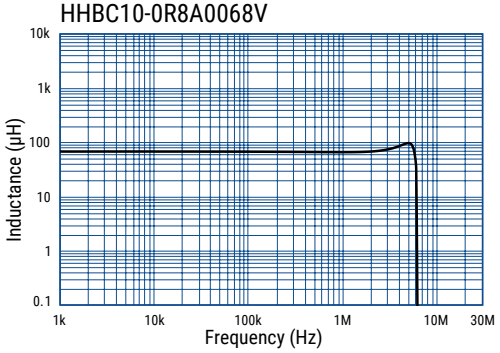

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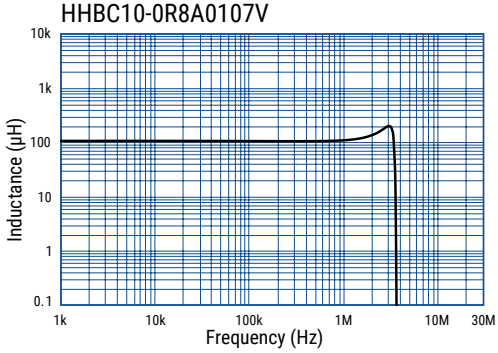

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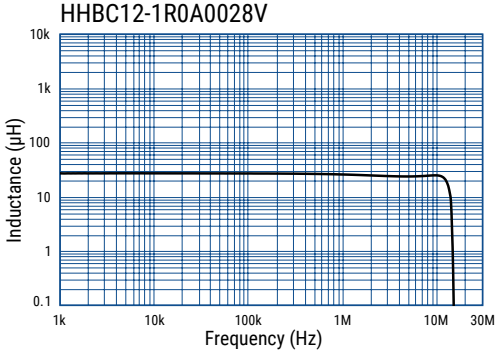

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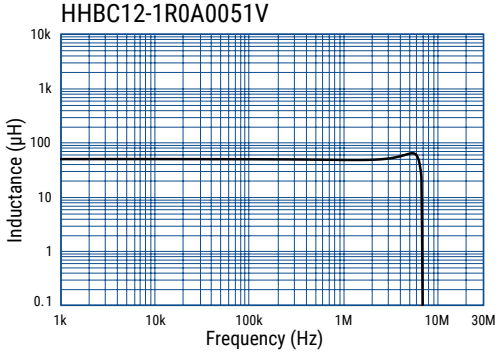

Inductance Characteristics cont.

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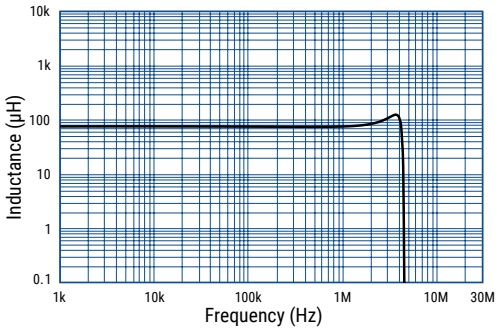

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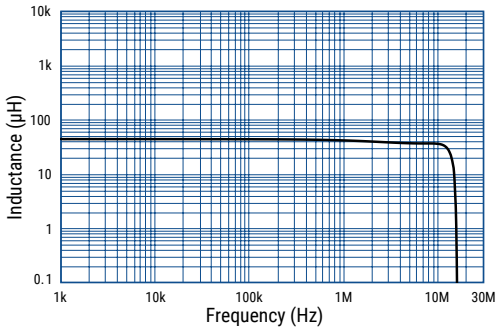

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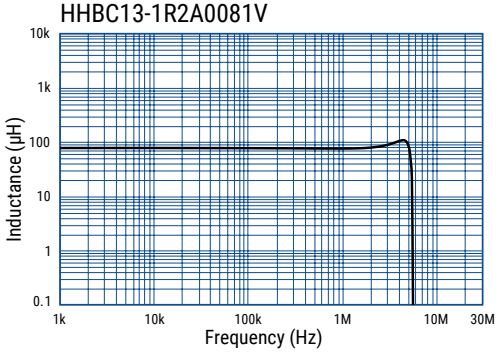

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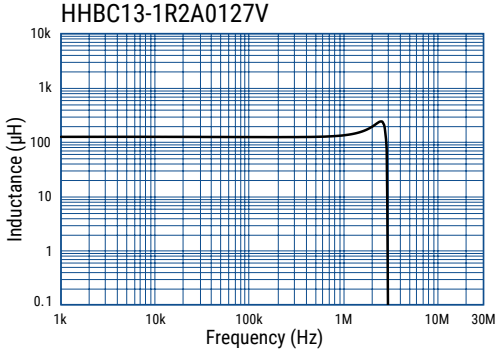

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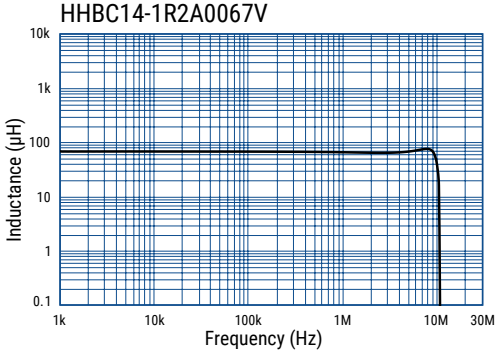

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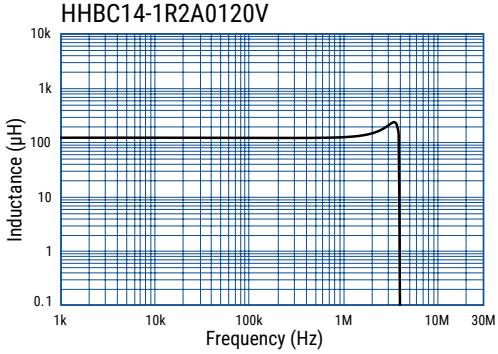

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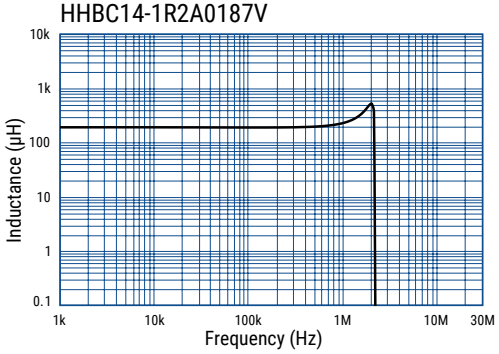

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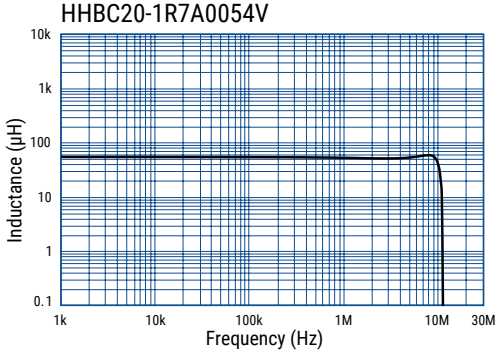

Inductance Characteristics cont.

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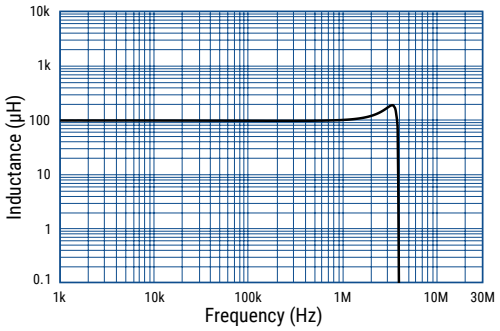

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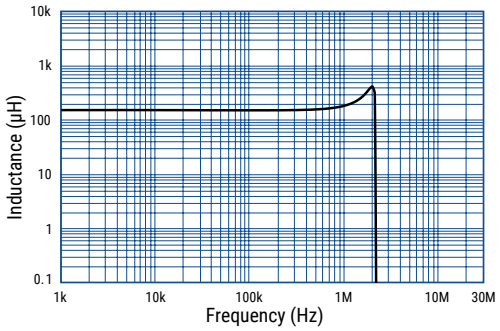

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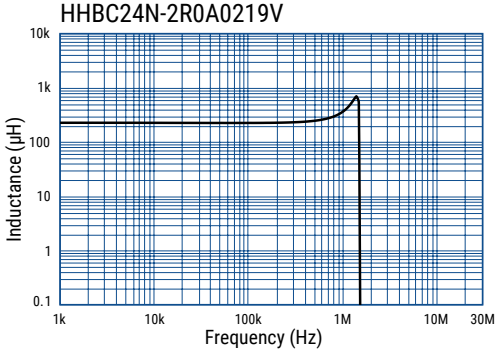

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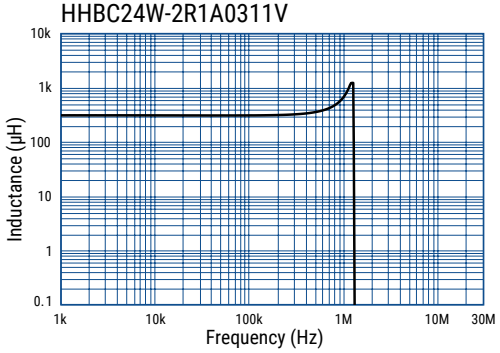

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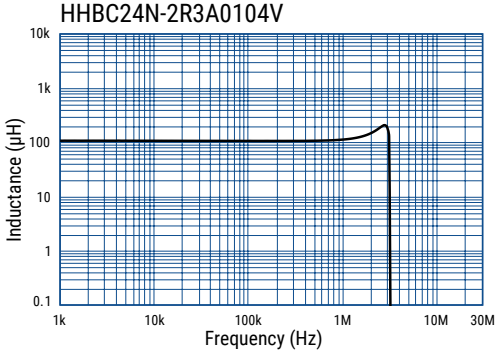

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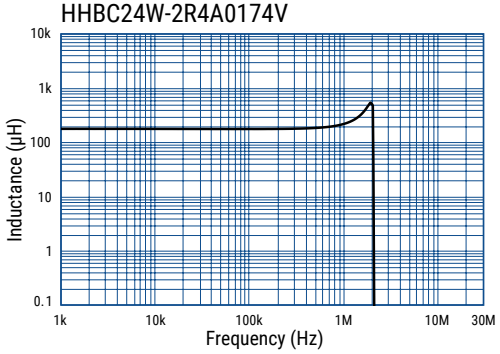

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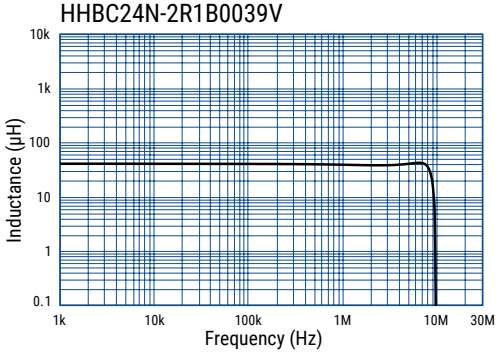

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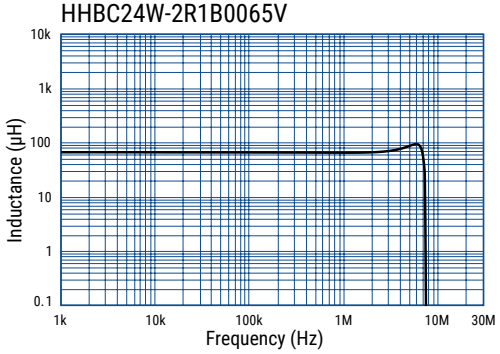

Frequency Characteristics

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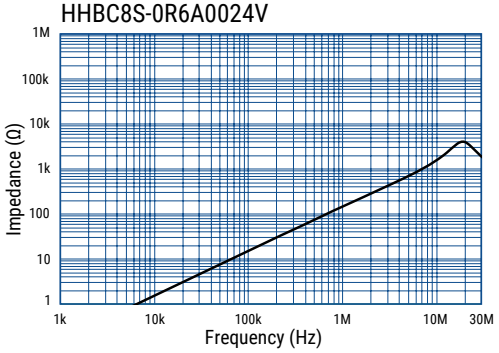

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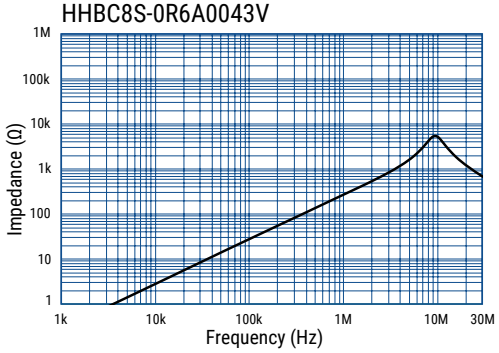

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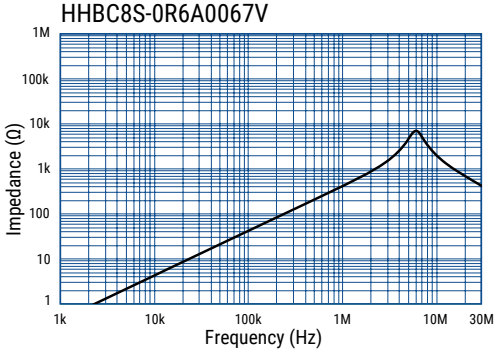

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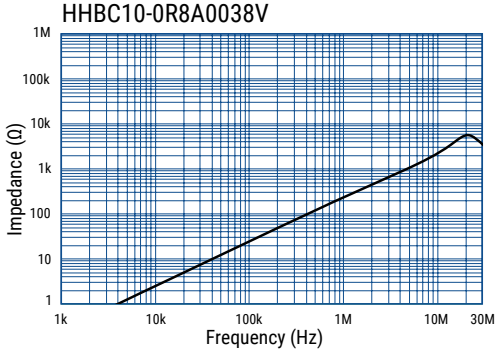

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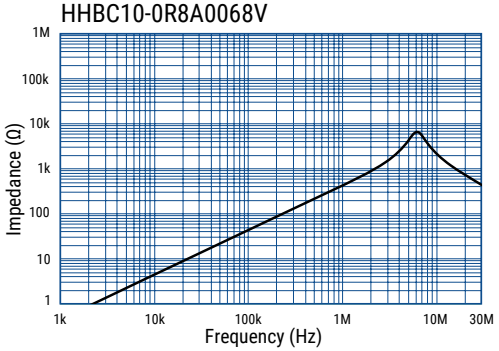

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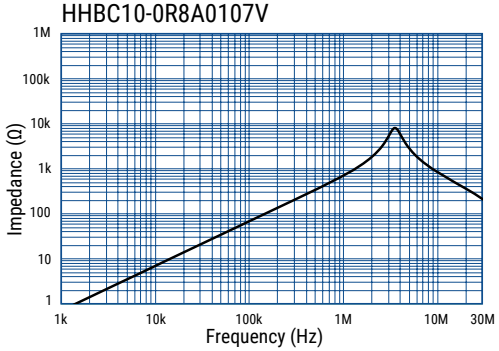

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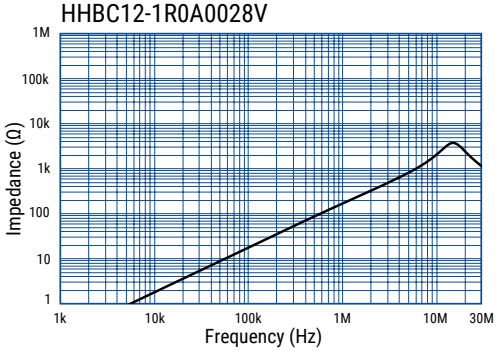

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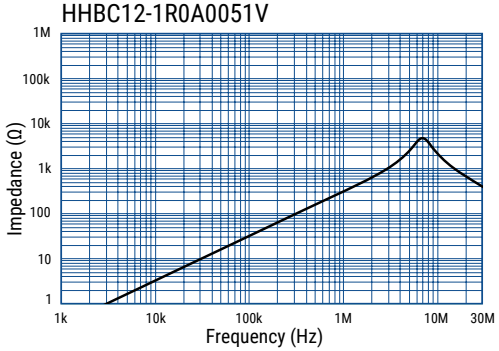

Frequency Characteristics cont.

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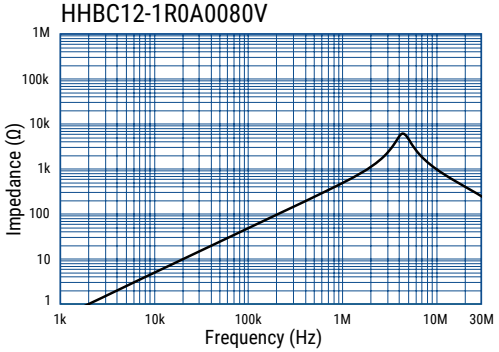

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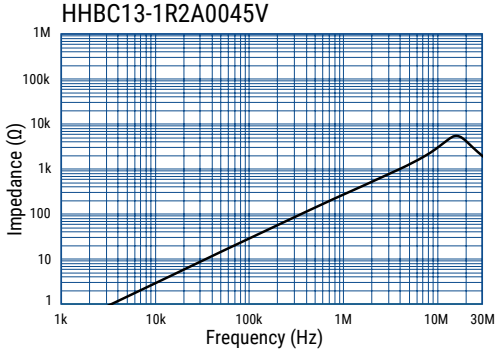

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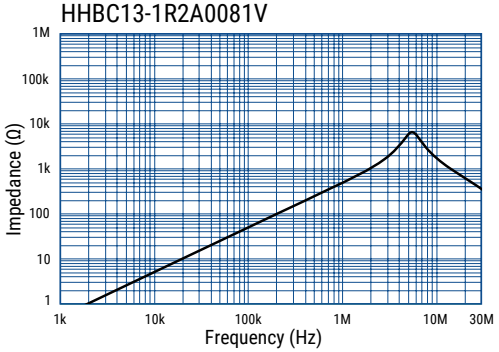

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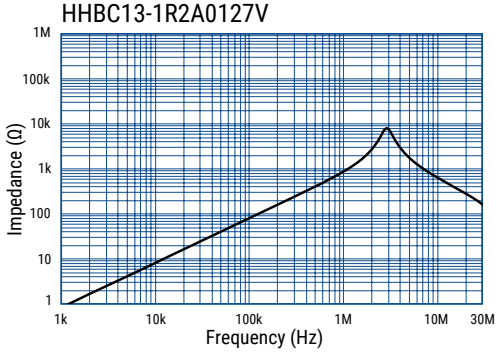

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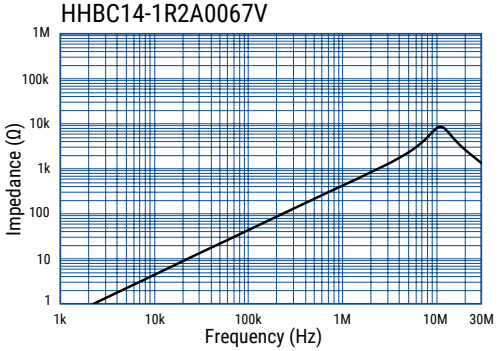

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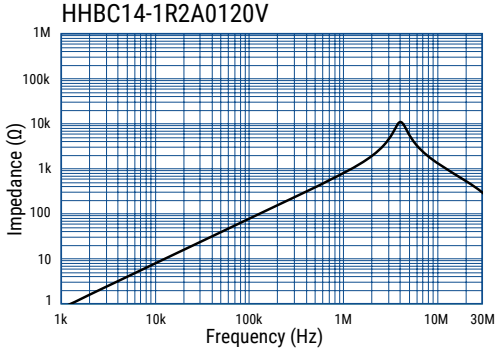

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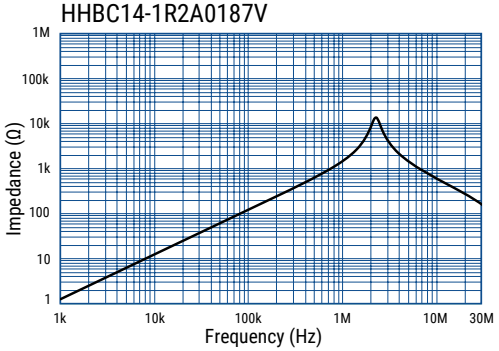

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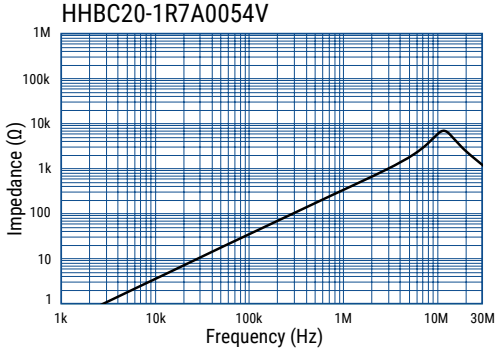

Frequency Characteristics cont.

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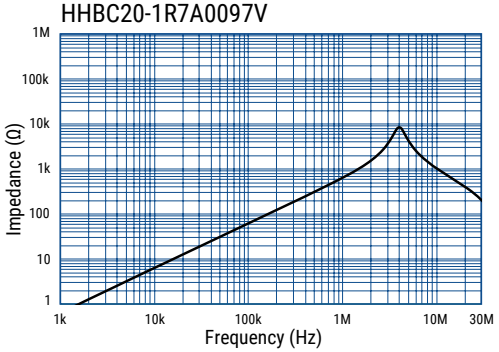

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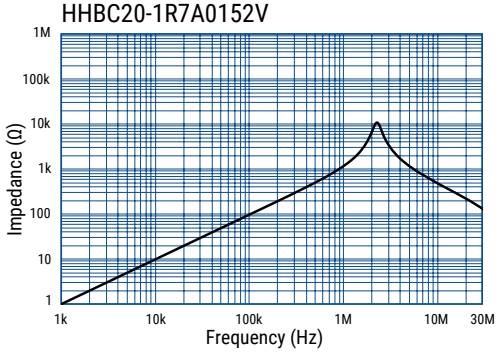

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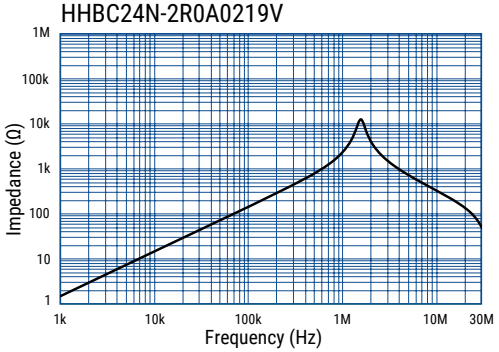

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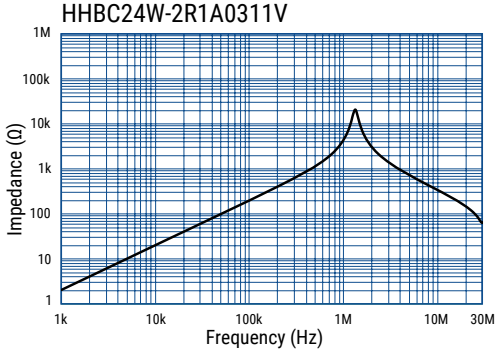

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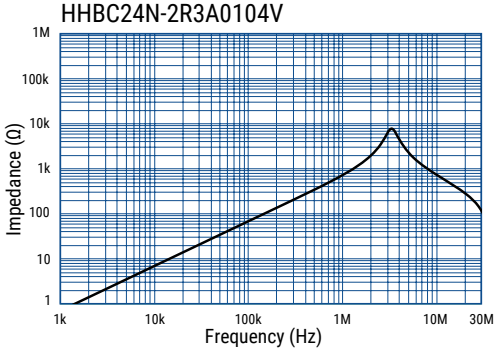

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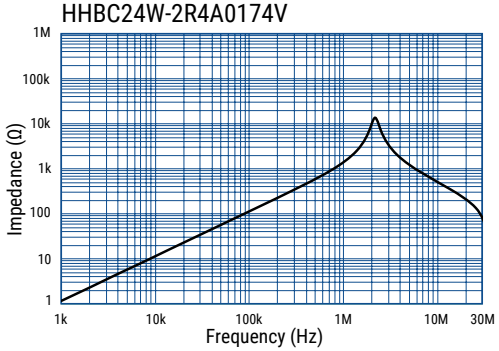

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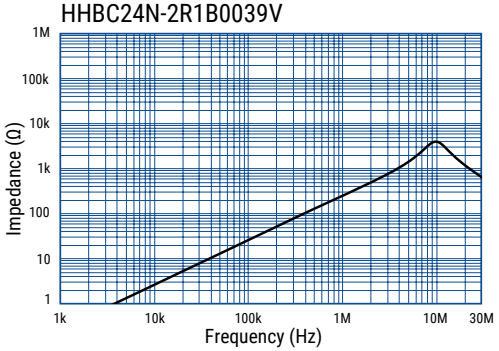

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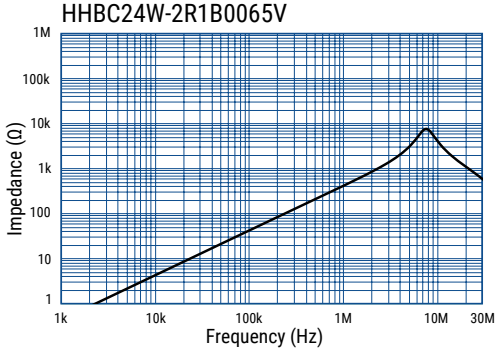

Packaging

Type	Packaging Type	Pieces Per Box
HHBC8S	Tray	700
HHBC10		240
HHBC12		
HHBC13		150
HHBC14		120
HHBC20		80
HHBC24N		60
HHBC24W		45

Handling Precautions

Precautions for product storage
AC Line Filters should be stored in normal working environments. While the chokes themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage.

KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 70% relative humidity. Atmospheres should be free of chlorine and sulfur bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts. Avoid storage near strong magnetic fields, as this might magnetize the product.

For optimized solderability, AC line filters stock should be used promptly and preferably within 6 months of receipt.

Product temperature rise values
The values listed for temperature rise are the result of self-heating in wires when the rated current (commercial frequency) is applied.

When using the product, check and evaluate the value of the core temperature rise under actual operating conditions.

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OCEAN CHIPS
Океан Электроники
Поставка электронных компонентов

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Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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AVIC JONHON

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«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).

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