Common Mode SSRH Coils, 24NV/NH Series, High Impedance Type

Overview

The KEMET SSRH24NV/NH coils are common mode chokes with a wide variety of characteristics. These gear type coils are designed with our proprietary high permeability ferrite S18H cores and are useful in various noise countermeasure fields.

The optimized core shape and product structure is ideal for demanding compact applications where large inductance is required.

Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Power supplies

Benefits

- Proprietary S18H ferrite material
- High permeability
- Large inductance due to non-divided bobbin
- Expanded current range up to 5A
- Compact size and lightweight
- Operating temperature range from −40°C to +120°C
- UL 94 V–0 flame retardant rated base and bobbin





Part Number System

SSRH	24N	H-	12	655
Series	Core Size Code	Core Orientation and Bobbin Type	Rated Current (A)	Inductance (mH) Minimum
SSRH	24N	H = Horizontal, bobbin without sectional winding structure V = Vertical, bobbin without sectional winding structure	xx = x.x A Example: 12 = 1.2 A	xxx = xx.x mH 0xx = x.x mH Example: 655 = 65.5 mH 041 = 4.1 mH

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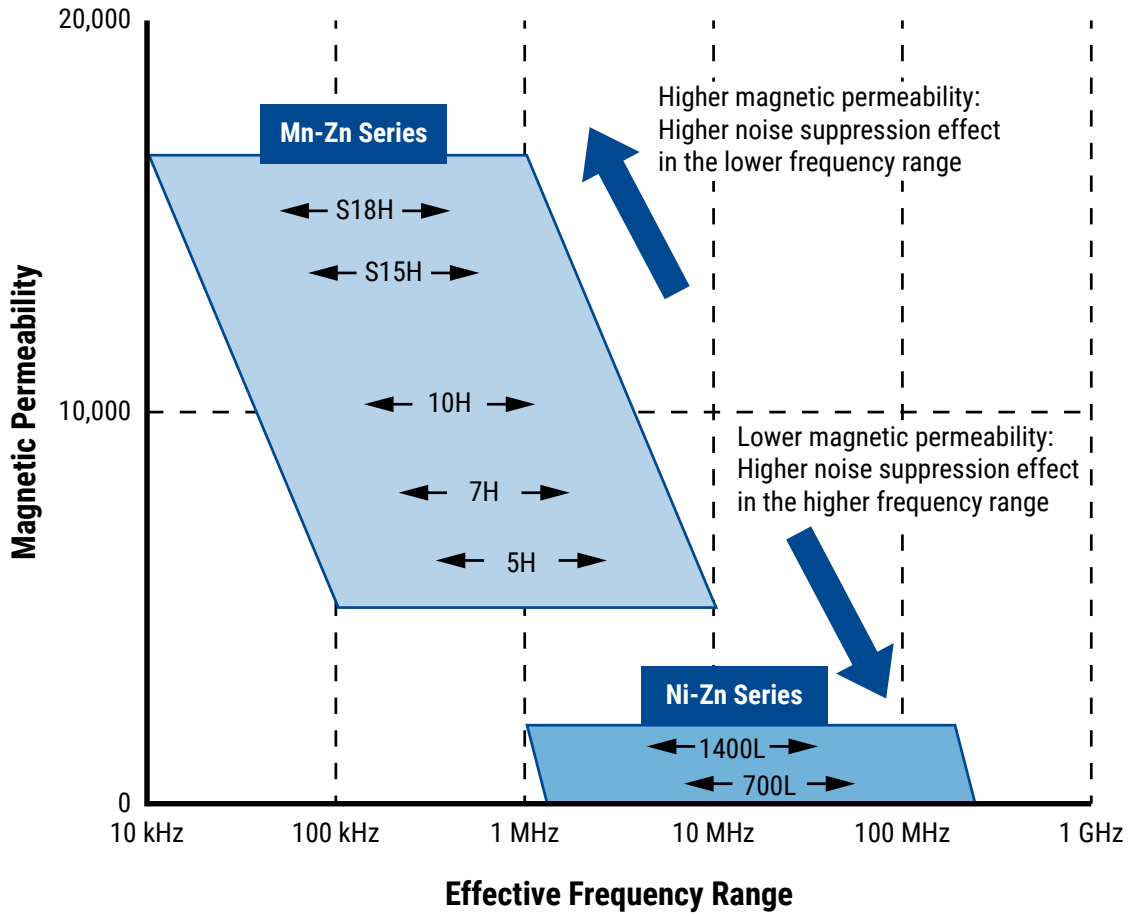
Magnetic Permeability of Ferrite Material

In order to achieve most efficient noise reduction, it is important to select the material according to the target frequency band.
Depending on its magnetic permeability, a particular ferrite material will be effective in a certain frequency band.
A schematic representation of the relationship between the magnetic permeability of each material and the corresponding effective band range is shown in Figure 1. Materials with higher magnetic permeability are effective in the lower frequency range, while those with lower magnetic permeability are effective in the higher frequency range. Thus, Mn-Zn products are mainly used for reducing conduction noise, while Ni-Zn products are commonly used for radiation noise countermeasures.

The effective frequency range varies depending on core shape, size and number of windings. This frequency dependence of the magnetic permeability as shown in the figure serves for reference purposes only and it should be tested on the actual device to determine its effectiveness.

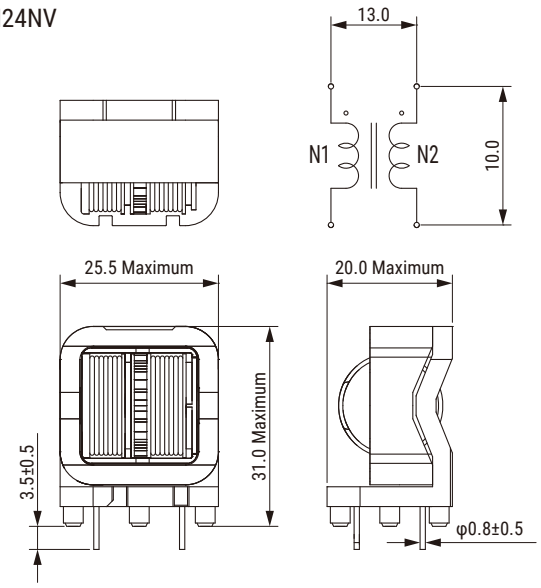
S18H, S15H, 10H, 7H, 5H, 1400L and 700L are KEMET's proprietary ferrite material names.
Other materials can also be available on request.

Figure 1 - Relationship between the magnetic permeability of each material and its effective frequency range

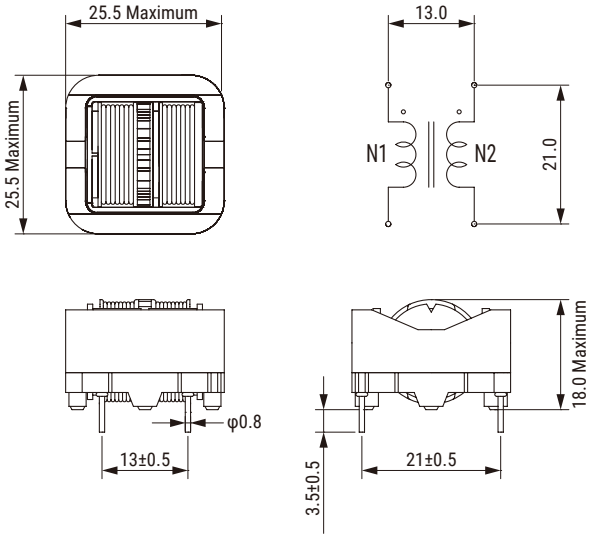


Dimensions – Millimeters

● SSRH24NV



● SSRH24NH



Environmental Compliance

All KEMET AC line filters are RoHS Compliant.

Performance Characteristics

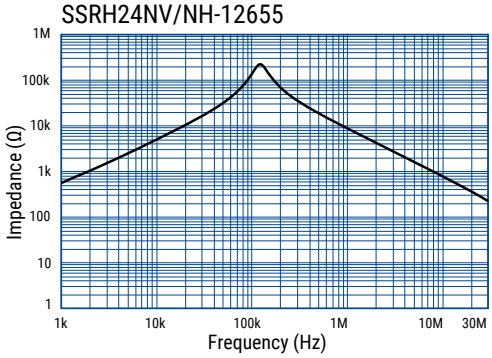
Item	Performance Characteristics
Rated Voltage	250 VAC
Withstanding Voltage	2,400 VAC (2 seconds, between lines)
Insulation Resistance	> 100 MΩ at 500 VDC (between lines)
Rated Current Range	1.2 – 5.0 A
Rated Inductance Range	4.1 – 65.5 mH minimum
Inductance Measurement Condition	10 kHz
Thermal Class	E (120°C)
Operating Temperature Range	−40°C to +120°C (include self temperature rise)

Table 1 – Ratings & Part Number Reference

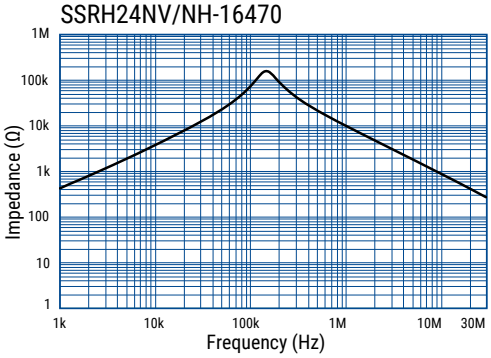
Part Number	Rated Current (A)	Inductance (mH) Minimum	DC Resistance/ Line (Ω) Maximum	Temperature Rise (K) Maximum	Wire Diameter (mm)	Weight (g) Approximate
SSRH24NH-12655	1.2	65.5	0.475	65	0.40	22.5
SSRH24NV-12655	1.2	65.5	0.475	65	0.40	25.0
SSRH24NH-16470	1.6	47.0	0.327	65	0.45	22.5
SSRH24NV-16470	1.6	47.0	0.327	65	0.45	25.0
SSRH24NH-20310	2.0	31.0	0.214	65	0.50	22.5
SSRH24NV-20310	2.0	31.0	0.214	65	0.50	25.0
SSRH24NH-25205	2.5	20.5	0.145	65	0.55	22.5
SSRH24NV-25205	2.5	20.5	0.145	65	0.55	25.0
SSRH24NH-30145	3.0	14.5	0.102	65	0.60	22.5
SSRH24NV-30145	3.0	14.5	0.102	65	0.60	25.0
SSRH24NH-35086	3.5	8.6	0.078	65	0.60	22.5
SSRH24NV-35086	3.5	8.6	0.078	65	0.60	25.0
SSRH24NH-40069	4.0	6.9	0.057	65	0.65	22.5
SSRH24NV-40069	4.0	6.9	0.057	65	0.65	25.0
SSRH24NH-45059	4.5	5.9	0.048	65	0.70	22.5
SSRH24NV-45059	4.5	5.9	0.048	65	0.70	25.0
SSRH24NH-50041	5.0	4.1	0.035	65	0.75	22.5
SSRH24NV-50041	5.0	4.1	0.035	65	0.75	25.0

Frequency Characteristics

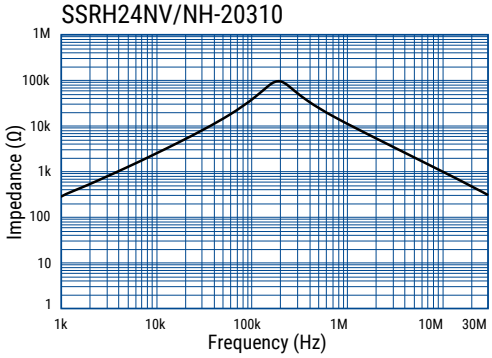
SSRH24NV/NH-12655



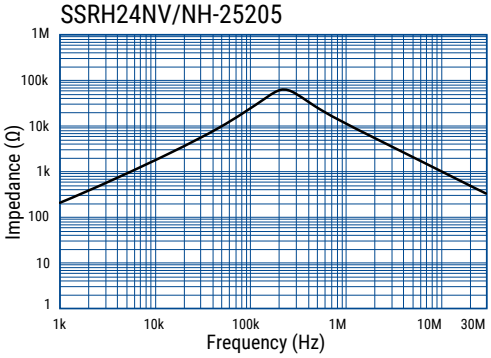
SSRH24NV/NH-16470



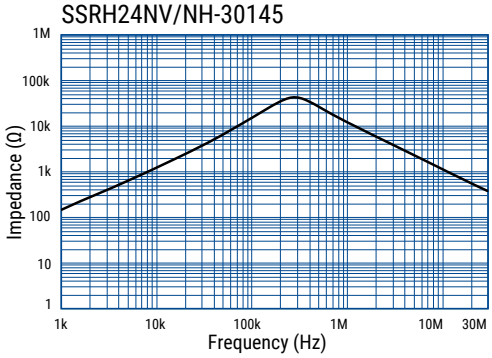
SSRH24NV/NH-20310



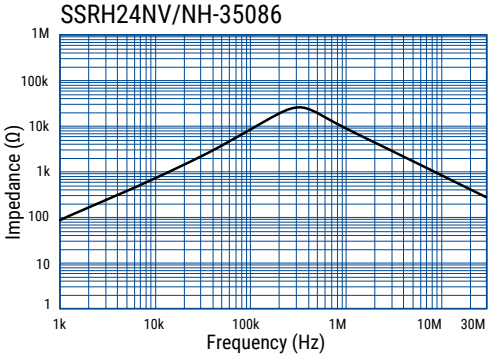
SSRH24NV/NH-25205



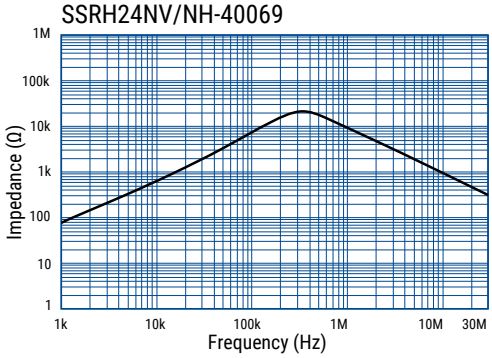
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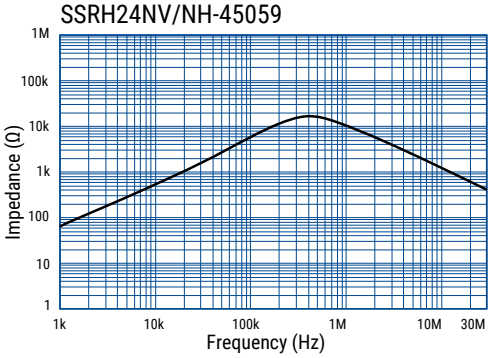
SSRH24NV/NH-35086



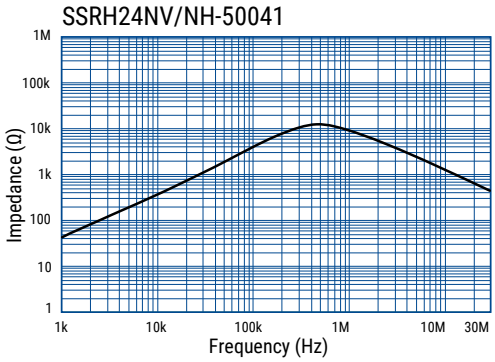
SSRH24NV/NH-40069



SSRH24NV/NH-45059



Frequency Characteristics cont.



Packaging

Type	Packaging Type	Pieces Per Box
SSRH24NH	Tray	300
SSRH24NV		240

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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