

Overview

The KEMET SNG coils are earth inductors with a wide variety of characteristics. These coils are designed with our proprietary ferrite cores and are useful noise countermeasures for ground wires.

Applications

- Industrial equipment
- Home appliances

Benefits

- Proprietary 700L and 5H ferrite material and equivalents
- Ground wire noise suppression
- Wide variety of sizes and specifications
- Operating temperature range from -25°C to $+105^{\circ}\text{C}$
- UL 94 V-2 flame retardant rated cap
- TÜV approved (for the Mn-Zn ferrite parts)



Part Number System

| SNG- | 19 | D | A- | 014 |
|--------|----------------|--|------------------------------------|---|
| Series | Core Size Code | Core Type | Core Case Type | Inductance (μH) +50%/-30% |
| SNG | 19 25 | Blank = Mn-Zn ferrite D = Ni-Zn ferrite | A = Normal B = With fixing hole | 0xx = xx μH xxx = xxx μH Examples: 014 = 14 μH 600 = 600 μH |

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Екатеринбург (343)384-55-89

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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.

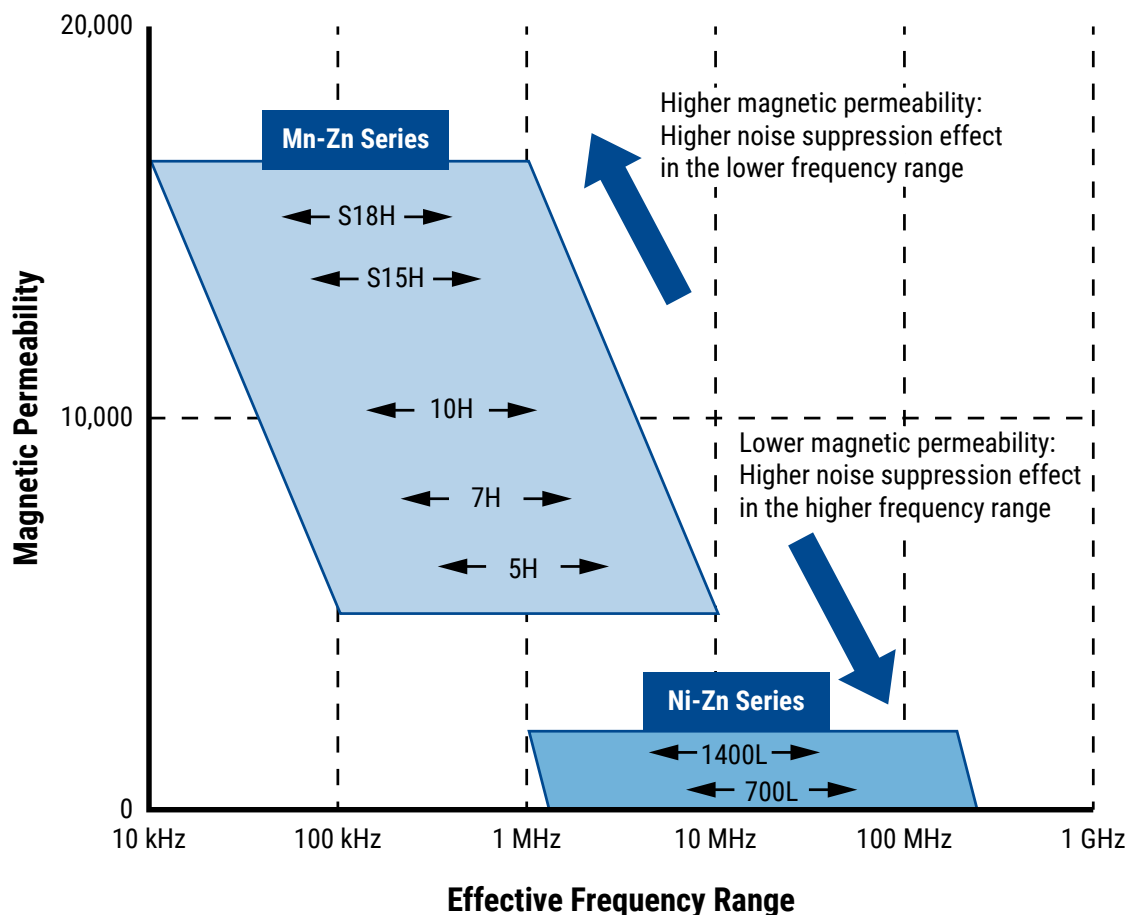
Depending on its magnetic permeability, a particular ferrite material will be effective in a certain frequency band.

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.

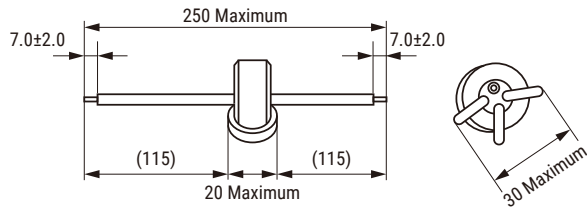
S18H, S15H, 10H, 7H, 5H, 1400L and 700L are KEMET's proprietary ferrite material names. Other materials can also be available on request.

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

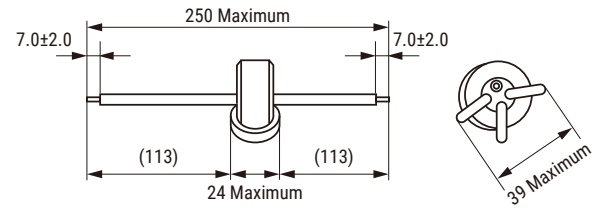


Dimensions – Millimeters

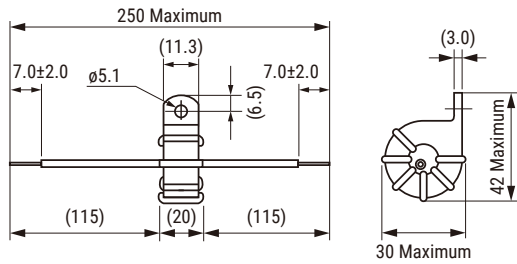
● SNG-19A-080, SNG-19DA-014



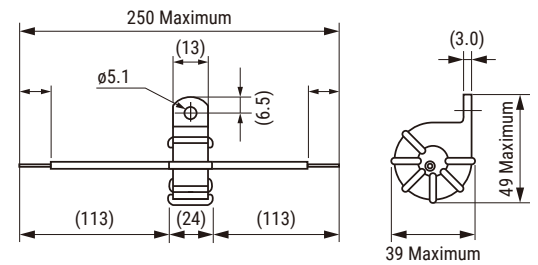
● SNG-25A-600, SNG-25DA-086



● SNG-19B-080, SNG-19DB-014



● SNG-25B-600, SNG-25DB-086



Environmental Compliance

All KEMET AC Line Filters are RoHS Compliant.



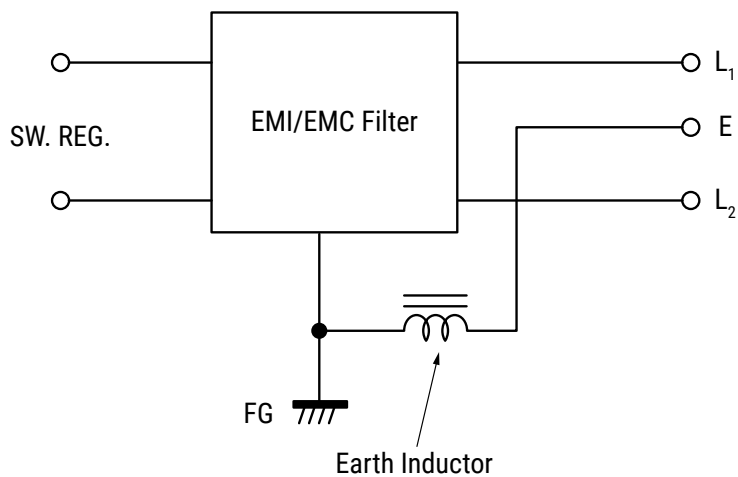
Performance Characteristics

| Item | Performance Characteristics |
|----------------------------------|--|
| Rated Voltage | 250 VAC/VDC |
| Withstanding Voltage | 2,500 VAC (1 minute, between insulation cap and terminal) |
| Insulation Resistance | > 20 MΩ at 500 VDC (1 minute, between insulation cap and terminal) |
| Rated Inductance Range | 14 – 600 μH |
| Inductance Tolerance | +50%, -30% |
| Inductance Measurement Condition | 160 kHz |
| Thermal Class | A (105°C) |
| Operating Temperature Range | -25°C to +105°C (include self temperature rise) |
| Approvals | TÜV |

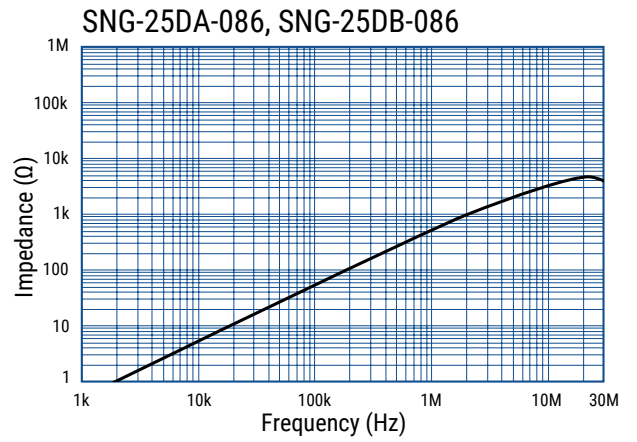
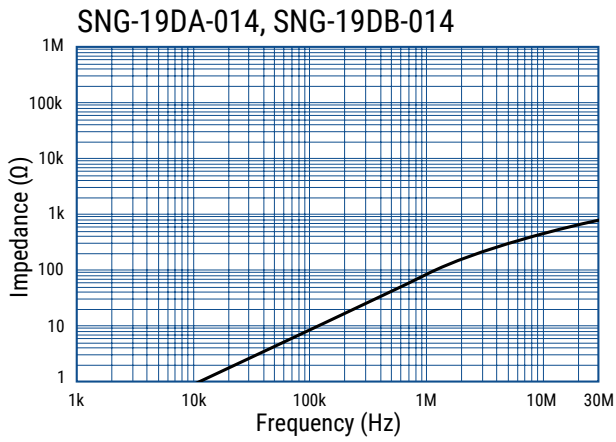
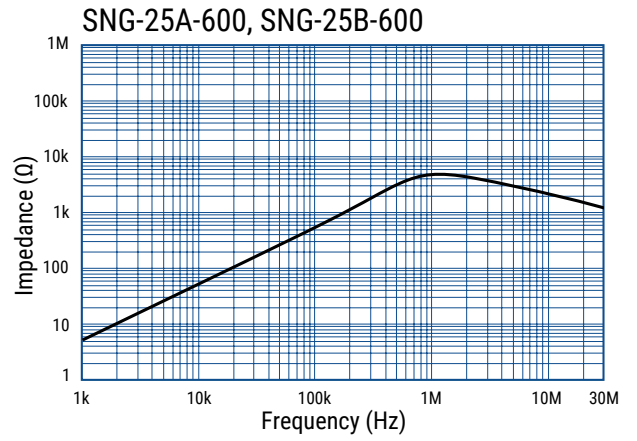
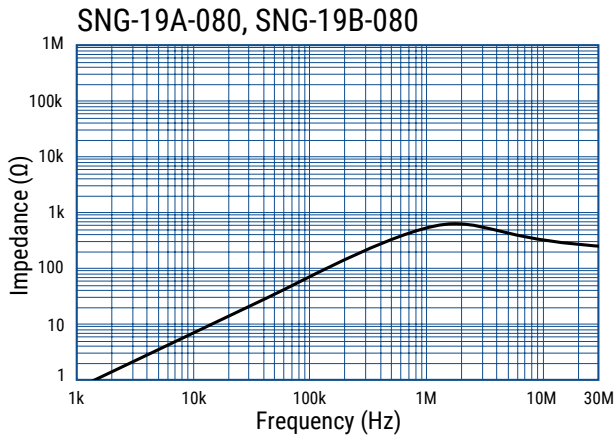
Table 1 – Ratings & Part Number Reference

| Part Number | Rated Voltage (VAC/VDC) | Inductance (μH) +50%, -30% | DC Resistance/Line (mΩ) Maximum | Weight (g) Approximate | Approval |
|--------------|-------------------------|----------------------------|---------------------------------|------------------------|----------|
| SNG-19A-080 | 250 | 80 | 10 | 19 | TÜV |
| SNG-19B-080 | 250 | 80 | 10 | 19 | TÜV |
| SNG-25A-600 | 250 | 600 | 20 | 38 | TÜV |
| SNG-25B-600 | 250 | 600 | 20 | 38 | TÜV |
| SNG-19DA-014 | 250 | 14 | 10 | 20 | - |
| SNG-19DB-014 | 250 | 14 | 10 | 20 | - |
| SNG-25DA-086 | 250 | 86 | 20 | 38 | - |
| SNG-25DB-086 | 250 | 86 | 20 | 38 | - |

Attenuation & Circuit Diagram



Frequency Characteristics



Packaging

| Type | Packaging Type | Pieces Per Box |
|--------|----------------|----------------|
| SNG-19 | Bulk | 250 |
| SNG-25 | | |

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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