



**THE DATASHEET OF
FSRH041D85RNB00B**



| | |
|------------------------------------|--------------------------------|
| FERRITECORE FSRH Series | Reference Specification |
|------------------------------------|--------------------------------|

1. Scope

This reference specification is applied to ferrite core (FSRH Series) used for noise suppression.
Please contact us when using this product for any other applications than described in the above.

2. Murata Part Number

Please see P.3/11.

< Part Numbering >

| | | | | | | | | |
|-------------------------------------|-------------------|-------------------|----------|----------------------------|-------------------|--------------------------------------|----------|----------|
| <u>F</u> <u>S</u> | <u>R</u> <u>H</u> | <u>0</u> <u>2</u> | <u>1</u> | <u>0</u> <u>4</u> <u>9</u> | <u>R</u> <u>N</u> | <u>B</u> <u>0</u> | <u>0</u> | <u>B</u> |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| (1) Ferrite | | | | | | (6) Material | | |
| (2) Beads Core | | | | | | (7) Process | | |
| (3) Dimensions | | | | | | 00: Standard Type B0: Barrel Type | | |
| (4) Outer Dimension Supplement Code | | | | | | | | |
| (5) Length | | | | | | (8) Individual Specification Code | | |
| | | | | | | (9) Packing Code B: Bulk / T: Tray | | |

3. Material

| | | | |
|-----------------|---------------------|-------------------|-------------------------|
| Ferrite | Permeability (Ref.) | Curie temperature | Electrical resistance |
| RN (Ni-Zn Type) | 550 ± 30% | ≥ 130 °C | ≥ 10 ⁵ Ω · m |

4. Use in the environment

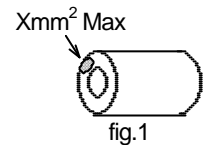
Operating temperature : -25~+85°C
Storage temperature : -25~+125°C

5. Shape and Dimension

Please see P.5/8~8/8.

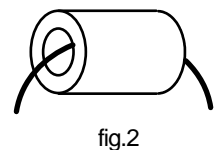
6. Appearance Standard

- Please see P.4/8 as for Limit size of defect (Xmm²) fig. 1
- If there is any doubt about the appearance, the worst samples shall be made.



7. Electrical Characteristic

| No. | Ferrite | Specification | Test Methods |
|-----|--|------------------------|---|
| 7.1 | Impedance | Please see P.4/8. | Instruments : AGILENT4191A (or equivalent) Frequency : 100MHz Lead wire : 2UEW AWG#18 (Please see P.4/8) Temperature : 23±2°C Impedance shall be measured at fig.2 |
| 7.2 | Frequency-characteristics of Impedance (reference) | Please see P. 5/8~8/8. | |



8. Inspection

Test condition

Characteristics shall be measured at 20±15°C, 85% RH under. If the measured value should be doubted, characteristics shall be measured at 23±2°C, 85% RH under again.

Inspection Level: ANSI/ASQC Z1.4-1993, Revel S-4, Normal, Single inspection

| Inspection item | Judgment | Measurement |
|-----------------|----------------|-------------------------|
| Characteristic | n=10,Ac=0,Re=1 | HP4191A (or equivalent) |
| Appearance | AQL 2.5% | Visual Inspection |
| Dimension | n=10,Ac=0,Re=1 | Slide Calipers... etc. |

9. Packing

- Quantity in package • weight...Please see P.4/8.
- Basic packing

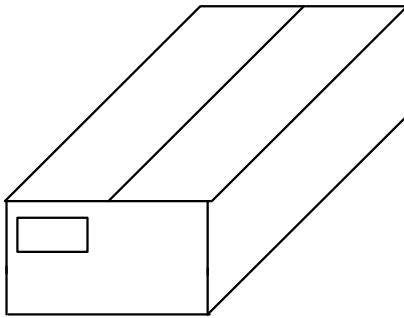


fig.3 Outer case

| Outer Case Dimensions(mm) | | | Inner Case |
|---------------------------|-----|-----|-----------------------------------|
| W | D | H | |
| 406 | 265 | 118 | <FSRH*****B> Inner Case (Bulk) |
| | | | <FSRH*****T> Tray |

※Above Outer Case size is typical

When quantity is less than standard quantity, size or kind of outer case and inner case is changed if needed.

- Marking for Outside package

Customer name Purchasing Order Number, Customer Part Number, MURATA part number, Inspection number(*1),RoHS Marking(*2), Quantity, etc

*1) « Expression of Inspection No. »

$\frac{\square\square}{(1)}$ $\frac{\text{OOOO}}{(2)}$ $\frac{\text{XXX}}{(3)}$

- (1) Factory Code
- (2) Date

First digit : Year / Last digit of year
 Second digit : Month / Jan. to Sep. → 1 to 9, Oct. to Dec. → O,N,D
 Third, Fourth digit : Day

- (3) Serial No.

*2) « Expression of RoHS Marking »

ROHS - $\frac{Y(\Delta)}{(1)(2)}$

- (1) RoHS regulation conformity parts.
- (2) MURATA classification number

10. Changes of specification

Any changes in these devices shall be enforced after consultation.

11. ⚠CAUTION

- 1) Limitation of Applications

Please contact us before using our products for the under mentioned applications requiring especially high reliability in order to prevent defects which might directly cause damage to other party's life, body or property (listed below).

- (1) Aircraft equipment
- (2) Aerospace equipment
- (3) Undersea equipment
- (4) Nuclear control apparatus
- (5) Medical equipment
- (6) Transportation equipment (automobiles, trains, ships, etc.)
- (7) Traffic signal equipment
- (8) Disaster prevention / crime prevention equipment
- (9) Data-processing equipment
- (10) Applications of similar complexity or with reliability requirements comparable to the applications listed in the above

- 2) Be sure to provide an appropriate fail-safe function on your product to prevent a second damage that may be caused by the abnormal function or the failure of our product.

12. Notice

- 1) Protect product from damage that may occur in transit such as cracking of core.
- 2) Handle product with care. Do not drop.
- 3) Do not apply excessive force to the product.
- 4) Core should be taken to damage of lead wire when it is inserting or rolling in core.
- 5) This product is designed for use in the environment specified in this approval drawing; do not be used in the following environments or under the following conditions.
 - (1) Ambient air containing corrosive gas. (Cl₂, H₂S, NH₃, SO₂, NO_x, etc.)
 - (2) In liquid.
 - (3) Other environments similar to (1) through (2).

Please contact us before using our products for the below mentioned environments.

13. ⚠ Note:

- 1) Please make sure that your product has been evaluated in view of your specifications with our product being mounted to your product.
 - 2) You are requested not to use our product deviating from the reference specifications.
 - 3) The contents of this reference specification are subject to change without advance notice.
- Please approve our product specifications or transact the approval sheet for product specifications before ordering.

Murata Part Number, Appearance,Characteristic,Packing List

| MURATA Part Number | Material | appearance (Xmm ²) | Dimension | Characteristic | | | Packing quantity | | Mass | |
|-----------------------|----------|-----------------------------------|-----------|------------------|------------|------|------------------|------------|-----------|------------|
| | | | | Impedance | Lead wire | | Min. Qty. | Total Qty. | Unit Mass | Total Mass |
| FSRH021049RNB01B | RN | 1.5 | fig.1 | $\geq 27\Omega$ | $\phi 0.6$ | 30mm | 20,000 | 100,000 | 0.05g | 5.8kg |
| FSRH030060RNB00B | RN | 2 | fig.2 | $\geq 48\Omega$ | $\phi 0.8$ | 25mm | 10,000 | 50,000 | 0.23g | 12.0kg |
| FSRH041D85RNB00B | RN | 2 | fig.3 | $\geq 40\Omega$ | $\phi 0.8$ | 25mm | 10,000 | 50,000 | 0.23g | 12.0kg |
| FSRH044C00RNB00B | RN | 2 | fig.4 | $\geq 30\Omega$ | $\phi 0.8$ | 50mm | 10,000 | 50,000 | 0.13g | 7.0kg |
| FSRH044040RNB00B | RN | 2 | fig.4 | $\geq 35\Omega$ | $\phi 0.8$ | 50mm | 5,000 | 25,000 | 0.17g | 4.8kg |
| FSRH044050RNB00B | RN | 2 | fig.4 | $\geq 37\Omega$ | $\phi 0.8$ | 50mm | 10,000 | 50,000 | 0.21g | 11.0kg |
| FSRH050050RN000B | RN | 2 | fig.5 | $\geq 44\Omega$ | $\phi 0.8$ | 30mm | 6,000 | 30,000 | 0.4g | 12.5kg |
| FSRH070080RN000B | RN | 2.5 | fig.6 | $\geq 41\Omega$ | $\phi 0.8$ | 50mm | 1,500 | 7,500 | 1.1g | 8.4kg |
| FSRH070140RN000B | RN | 2.5 | fig.6 | $\geq 54\Omega$ | $\phi 0.8$ | 50mm | 1,000 | 5,000 | 1.9g | 10.2kg |
| FSRH090100RN000B | RN | 4 | fig.7 | $\geq 48\Omega$ | AWG18 | 65mm | 800 | 4,000 | 2.2g | 9.8kg |
| FSRH090160RN000B | RN | 4 | fig.7 | $\geq 73\Omega$ | AWG18 | 60mm | 500 | 2,500 | 3.6g | 9.9kg |
| FSRH090200RN000T | RN | 5 | fig.7 | $\geq 95\Omega$ | AWG18 | 65mm | 200 | 1,200 | 4.5g | 6.4kg |
| FSRH091100RN000B | RN | 4 | fig.8 | $\geq 66\Omega$ | AWG18 | 60mm | 800 | 4,000 | 2.5g | 10.9kg |
| FSRH091160RN000T | RN | 4 | fig.8 | $\geq 100\Omega$ | AWG18 | 60mm | 210 | 1,260 | 4.0g | 6.0kg |

※When quantity is less than standard quantity, size or kind of outer case and inner case is changed if needed.

Shape and Dimension (UNIT : mm)

Frequency-characteristics of Impedance (reference)
 Instruments : AGILENT4191A / Lead wire: Through
 (Please see P.4/8.)

fig. 1

| | | |
|--------------------|--|--------|
| Murata Part Number | | Barrel |
| FSRH021049RNB01B | | ○ |

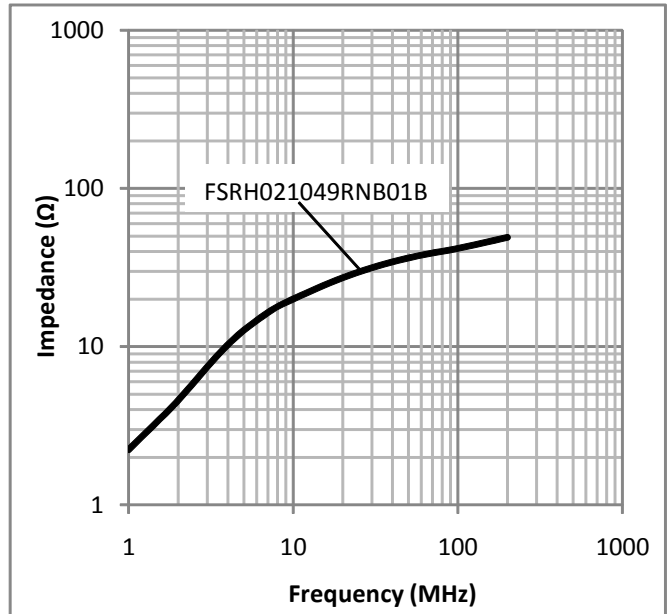
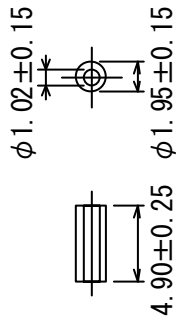
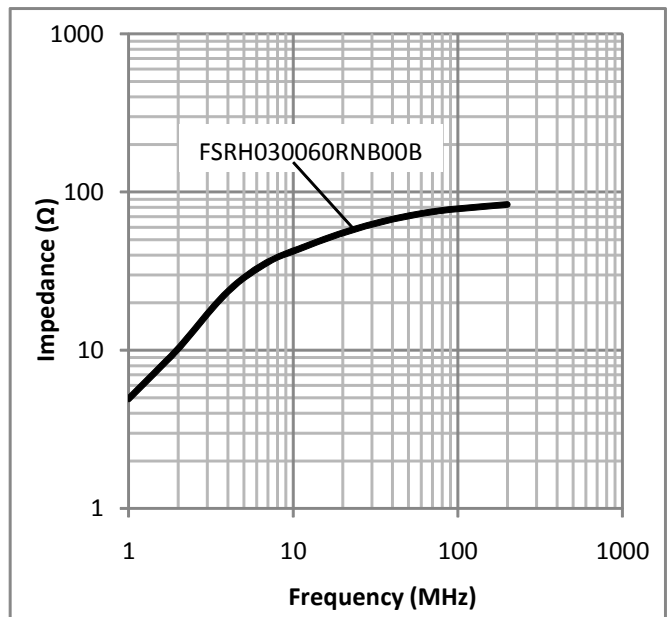
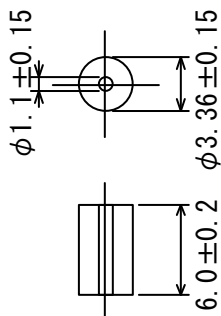


fig. 2

| | | |
|--------------------|--|--------|
| Murata Part Number | | Barrel |
| FSRH030060RNB00B | | ○ |



Shape and Dimension (UNIT : mm)

Frequency-characteristics of Impedance (reference)
 Instruments : AGILENT4191A / Lead wire: Through
 (Please see P.4/8.)

fig. 3

| Murata Part Number | Barrel |
|--------------------|--------|
| FSRH041D85RNB00B | - |

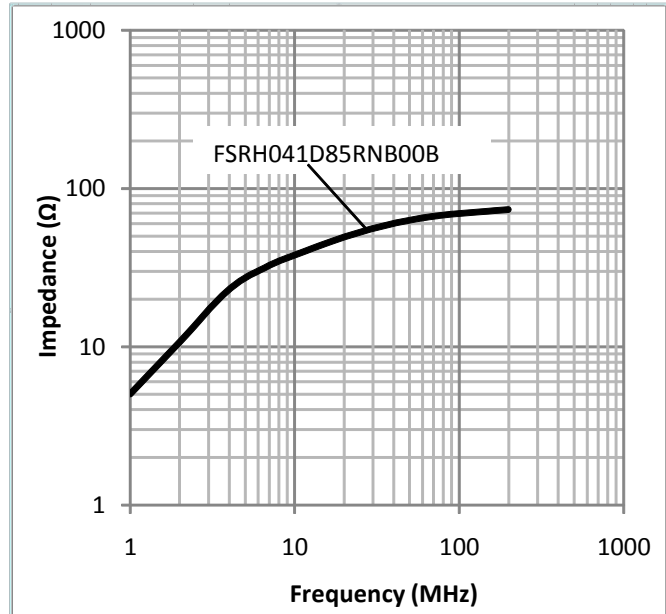
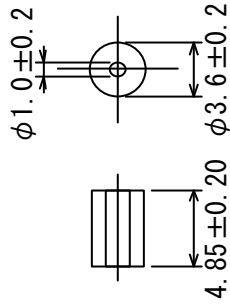
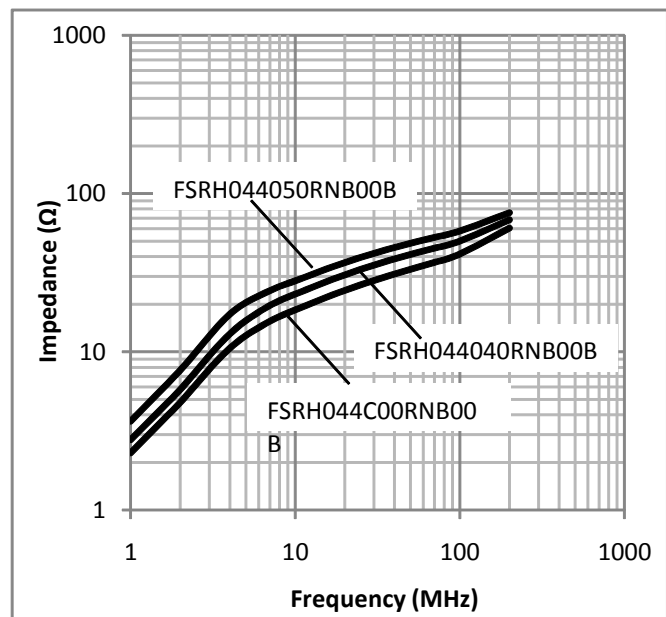
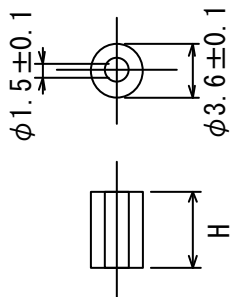


fig. 4

| Murata Part Number | H | Barrel |
|--------------------|----------------|--------|
| FSRH044C00RNB00B | 3.0 ± 0.15 | - |
| FSRH044040RNB00B | 4.0 ± 0.15 | - |
| FSRH044050RNB00B | 5.0 ± 0.15 | - |



Shape and Dimension (UNIT : mm)

Frequency-characteristics of Impedance (reference)
 Instruments : AGILENT4191A / Lead wire: Through
 (Please see P.4/8.)

fig. 5

| Murata Part Number | H | Barrel |
|--------------------|---------|--------|
| FSRH050050RN000B | 5.0±0.3 | - |

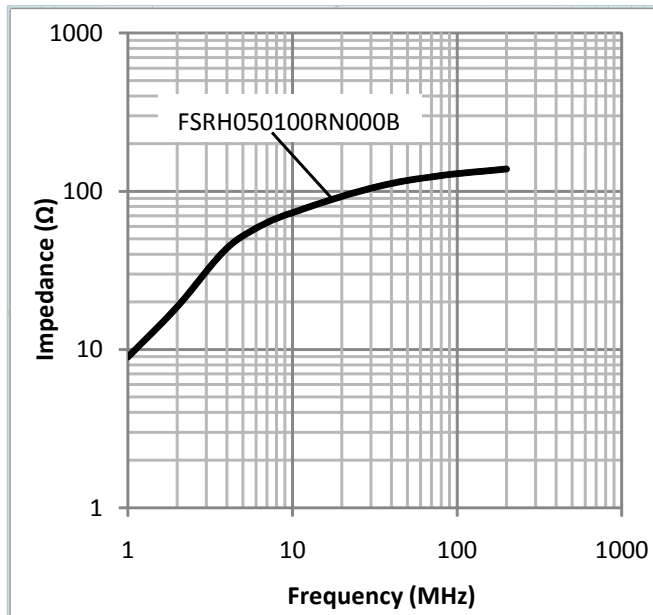
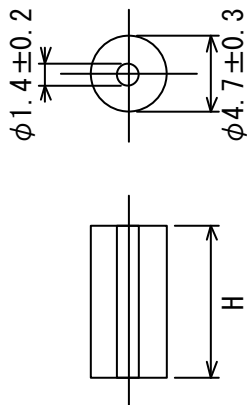
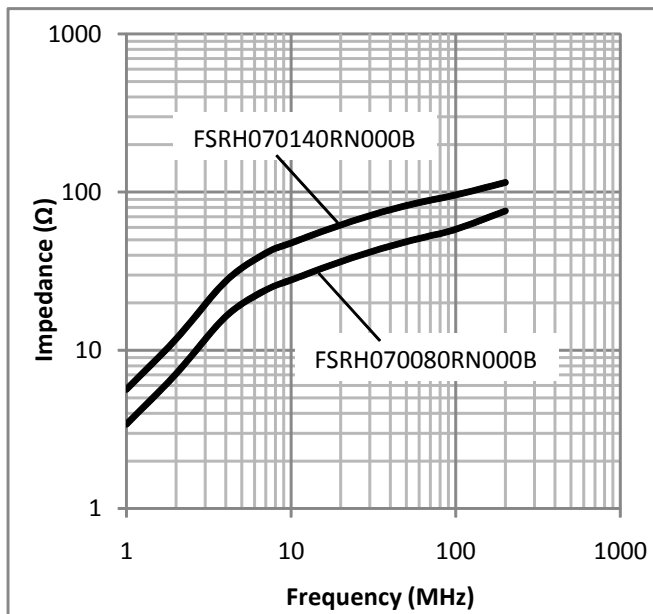
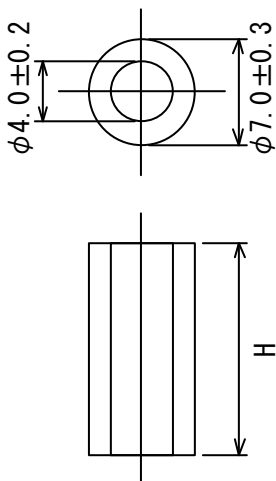


fig. 6

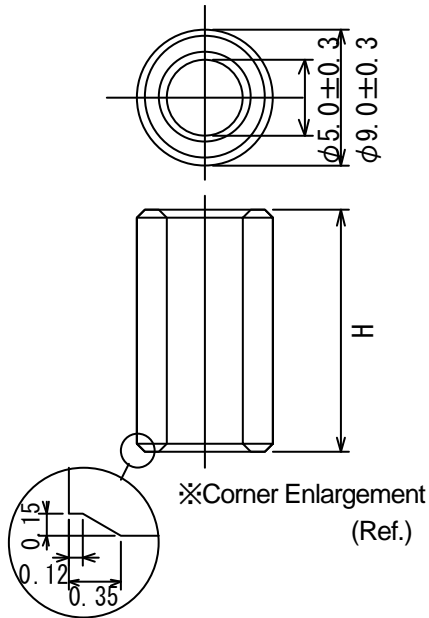
| Murata Part Number | H | Barrel |
|--------------------|----------|--------|
| FSRH070080RN000B | 8.0±0.5 | - |
| FSRH070140RN000B | 14.0±0.5 | - |



Shape and Dimension (UNIT : mm)

Frequency-characteristics of Impedance (reference)
 Instruments : AGILENT4191A / Lead wire: Through
 (Please see P.4/8.)

fig. 7



| Murata Part Number | H | Barrel |
|--------------------|----------|--------|
| FSRH090100RN000B | 10.0±0.5 | - |
| FSRH090160RN000B | 16.0±0.5 | - |
| FSRH090200RN000T | 20.0±0.8 | - |

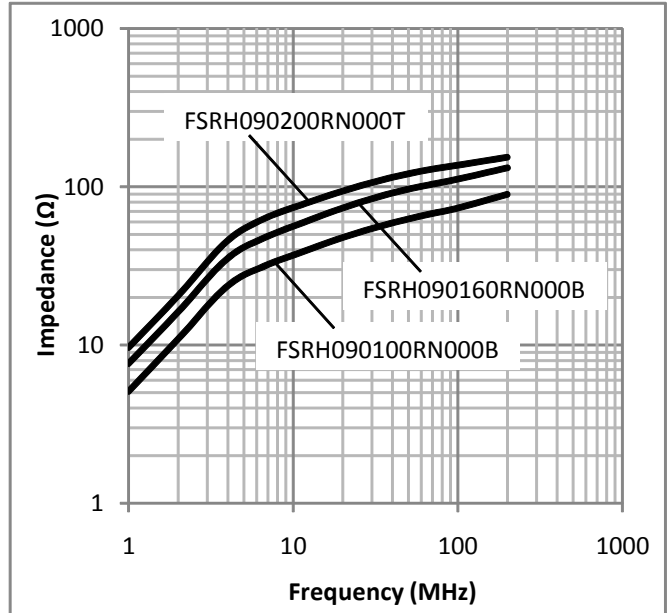
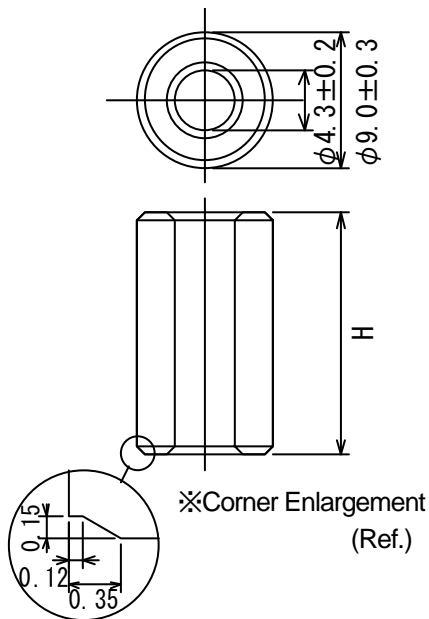
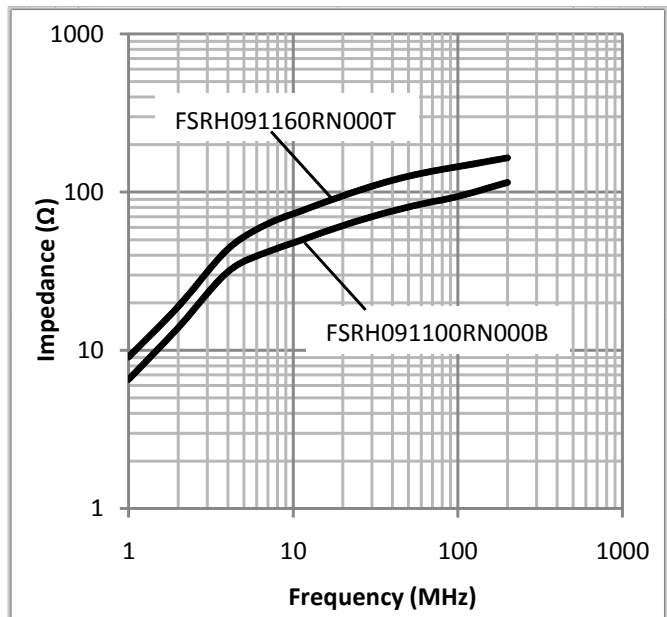


fig. 8



| Murata Part Number | H | Barrel |
|--------------------|----------|--------|
| FSRH091100RN000B | 10.0±0.5 | - |
| FSRH091160RN000T | 16.0±0.5 | - |



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