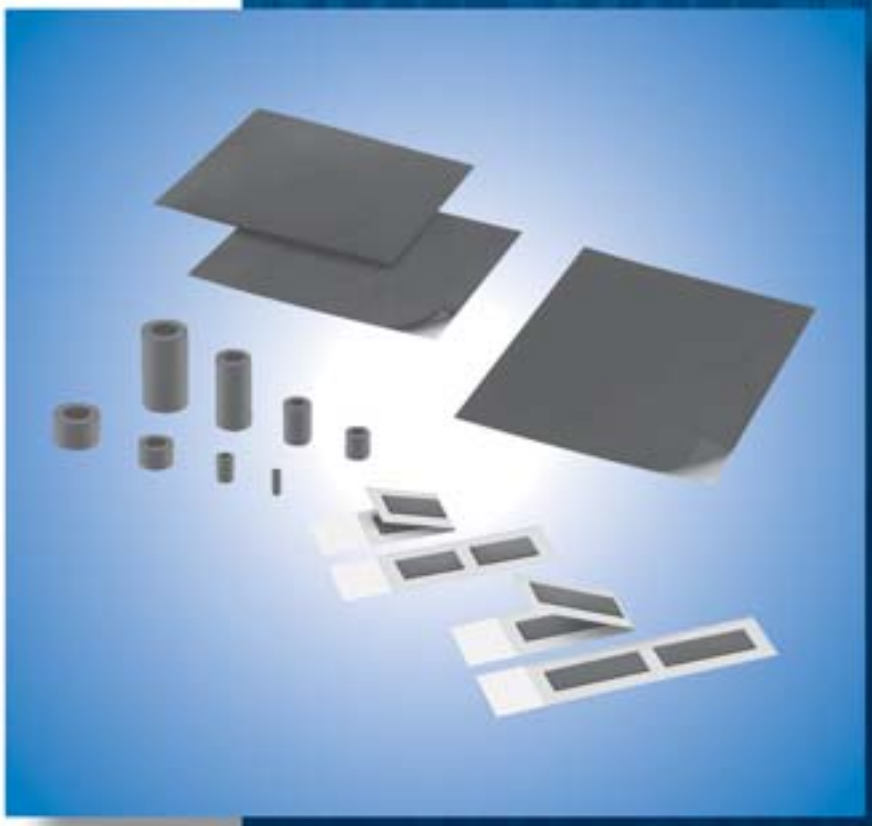
O63E.pdf
Mar.12,2012

Ferrite Core for EMI Suppression Microwave Absorber



muRata Innovator in Electronics

Murata Manufacturing Co., Ltd.

Cat.No.O63E-10

EU RoHS Compliant

- All the products in this catalog comply with EU RoHS.
- EU RoHS is "the European Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment."
- For more details, please refer to our website 'Murata's Approach for EU RoHS' (http://www.murata.com/info/rohs.html).

CONTENTS

1 FS

Ferrite Core

● Part Numbering

Ferrite Core

(Part Number)

FS	RB	12	1	060	RT	B0	0	T
❶	❷	❸	❹	❺	❻	❼	❽	❾

❶Product ID

Product ID	
FS	Ferrite

❷Series

Code	Series
RH	Beads Core
RB	Ring Core
RC	for Flat Cable
SA	Plate Core

❸Dimensions (Example)

Code	Dimensions
12	Approximately 12mm
05	Approximately 5mm

❹Outer Dimension Supplement Code

Code	Outer Dimension Supplement Code
0	Serial number is added in case their internal diameters are not the same.

❺Length (Example)

Code	Length
120	12.0mm
050	5.0mm
A50	1.50mm
B50	2.50mm
Z50	0.50mm
Z55	0.55mm

Expressed by three figures or combination of a letter and two figures. A to J (except I) indicates one to nine. Z indicates Zero.

❻Material

Code	Material
RN	Ni-Zn μ=550
RT	Ni-Zn μ=1600
RX	Ni-Zn μ=750

❼Process

Code	Process
00	Standard Type
B0	Barrel Type
N0/N3	Two or more cores Type

❽Individual Specification Code

Code	Individual Specification Code
0	Standard Type

❾Packaging

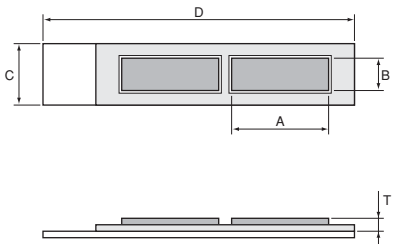
Code	Packaging
B	Bulk
S	Sheet
T	Tray

Ferrite Core for EMI Suppression

Thin Type Sandwich Core

■ Features

1. Fifty percent thinner and eighty percent lighter than a conventional thin type flat cable core.
2. Effective noise suppression in a thin package.
3. Easy to attach to the data-line cable.
4. Shatterproof, with continuous noise reduction due to masking tape protection.



Sandwich Core-Thin Type

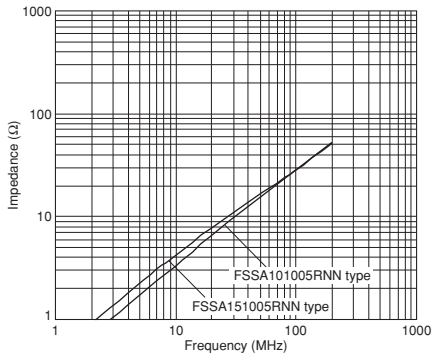
■ Applications

1. For data-processing equipment
   (PC, PDA, game machines, etc.),
   and peripheral equipment
   (Printer, HDD, Display, etc.)
2. For digital equipment
   (DSC, DVC, DVD recorder, mobile phone,
   digital audio, optical drive, PDP/LCD/FED,
   facsimile, etc.)

Part Number	A: Outer Dimension of Ferrite Core	B: Width Dimension	T: Thickness Dimension of Ferrite Core	C: Width of Adhesion Film	D: Length of Adhesion Film	Impedance at 100MHz	Note
FSSA101005RNN00S	10.0mm ±0.35mm	5.0mm ±0.3mm	0.5mm ±0.1mm	9.5mm ±0.5mm	35.0mm ±0.5mm	28ohm (typ.)	-
FSSA101005RNN30S	10.0mm ±0.35mm	5.0mm ±0.3mm	0.5mm ±0.1mm	9.5mm ±0.5mm	35.0mm ±0.5mm	28ohm (typ.)	Tape: UL510FR
FSSA151005RNN00S	15.0mm ±0.35mm	5.0mm ±0.3mm	0.5mm ±0.1mm	9.5mm ±0.5mm	45.0mm ±0.5mm	28ohm (typ.)	-
FSSA151005RNN30S	15.0mm ±0.35mm	5.0mm ±0.3mm	0.5mm ±0.1mm	9.5mm ±0.5mm	45.0mm ±0.5mm	28ohm (typ.)	Tape: UL510FR

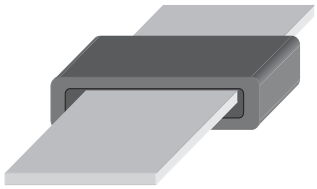
■ Impedance vs Frequency Characteristics

FSSA101/151RNN Type

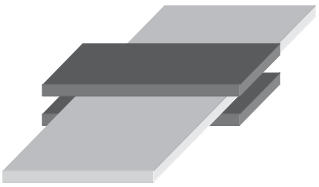


■ How to Use Thin Type Sandwich Core

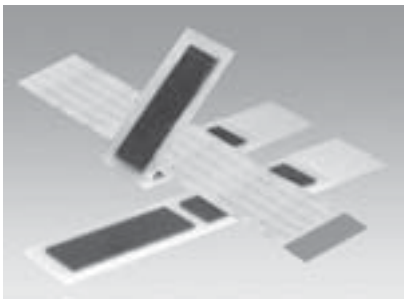
Thin Type Sandwich Core can be substituted for conventional Thin Type Flat Cable Core.



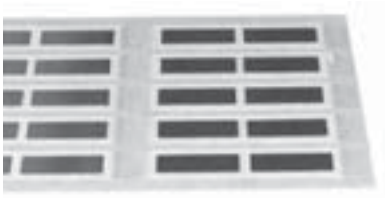
Flat Cable Core



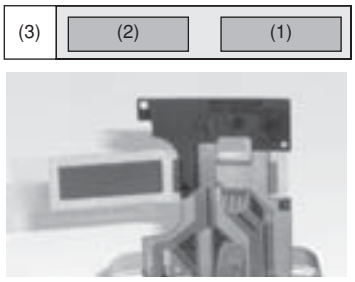
Thin Type Sandwich Cores



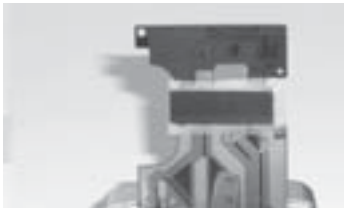
Assembly Procedure Example



Suppliance form: Sheet
Multiple Sandwich Cores are positioned as set sticks on a provision form sheet, two cores per set. Each set can be easily removed from the sheet like a sticker.



Please attach (1) in the required place.
The adhesive tape allows for easy placement.



After turning up (2), the tape is affixed on both sides.
Once attached, (3) should be folded to complete assembly.

Ferrite Core for EMI Suppression

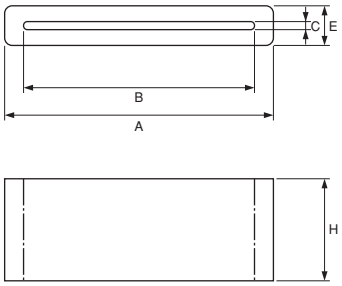
Core for Flat Cables

Thin Type

■ Features

Murata offers a wide variety of thin type small set cores providing solutions for many requirements.
The flat ribbon cable core series has a thickness of less than 4mm, due to the core set becoming smaller and more lightweight.
The ultra-thin type core series is less than 2mm thick, making it suitable to meet various requirements.
When you require a thinner core, please choose "Thin Type Sandwich Core."

Thin Type



OC-C

E dim. < 4mm

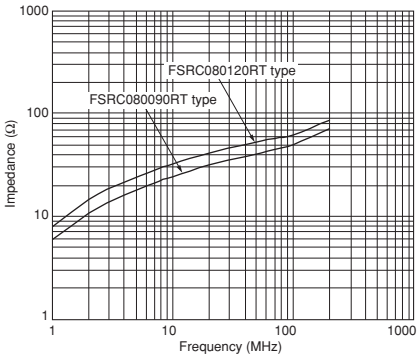
■ Applications

1. For data-processing equipment (PC, PDA, game machine, etc.), and peripheral equipment (printer, HDD, display, etc.)
2. For digital equipment (DSC, DVC, DVD recorder, mobile phone, digital audio, optical drive, PDP/LCD/FED, facsimile, etc.)

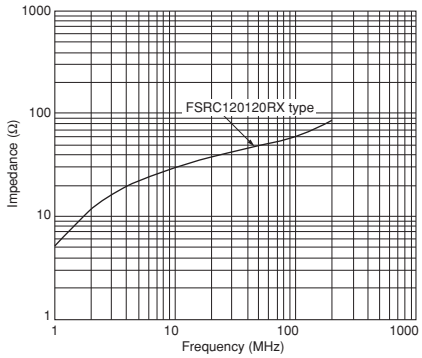
Part Number	A: Outer Dimension	B: Inner Dimension	H: Length Dimension	E: Width Dimension	C: Gap Dimension	Impedance at 100MHz	Number of Turns	Note
FSRC080090RTB00B	8.0mm ±0.3mm	6.0mm ±0.25mm	9.0mm ±0.25mm	2.7mm ±0.3mm	0.7mm ±0.25mm	51ohm (typ.)	1	Thin Type
FSRC080120RTB00B	8.0mm ±0.3mm	6.0mm ±0.25mm	12.0mm ±0.25mm	2.7mm ±0.3mm	0.7mm ±0.25mm	63ohm (typ.)	1	Thin Type
FSRC120120RXB00B	11.5mm ±0.5mm	8.0mm ±0.25mm	12.0mm ±0.25mm	3.0mm ±0.25mm	0.7mm ±0.25mm	59ohm (typ.)	1	Thin Type
FSRC171060RTB00T	17.0mm ±0.4mm	13.6mm ±0.4mm	6.0mm ±0.4mm	2.8mm ±0.4mm	0.7mm ±0.3mm	37ohm (typ.)	1	Thin Type
FSRC171090RTB00T	17.0mm ±0.4mm	13.6mm ±0.4mm	9.0mm ±0.4mm	2.8mm ±0.4mm	0.7mm ±0.3mm	44ohm (typ.)	1	Thin Type
FSRC171120RTB00T	17.0mm ±0.4mm	13.6mm ±0.4mm	12.0mm ±0.4mm	2.8mm ±0.4mm	0.7mm ±0.3mm	53ohm (typ.)	1	Thin Type
FSRC222060RX000T	22.8mm ±0.5mm	18.7mm ±0.5mm	6.0mm ±0.4mm	2.8mm ±0.4mm	0.7mm ±0.3mm	37ohm (typ.)	1	Thin Type
FSRC222090RX000T	22.8mm ±0.5mm	18.7mm ±0.5mm	9.0mm ±0.4mm	2.8mm ±0.4mm	0.7mm ±0.3mm	46ohm (typ.)	1	Thin Type
FSRC222120RX000T	22.8mm ±0.5mm	18.7mm ±0.5mm	12.0mm ±0.4mm	2.8mm ±0.4mm	0.7mm ±0.3mm	53ohm (typ.)	1	Thin Type

■ Impedance vs Frequency Characteristics

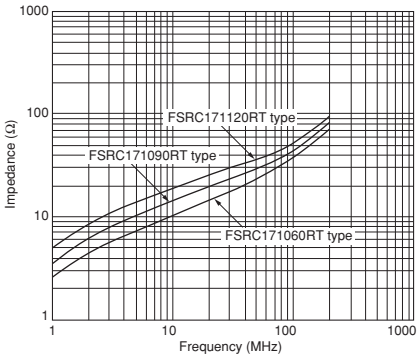
FSRC080 Type



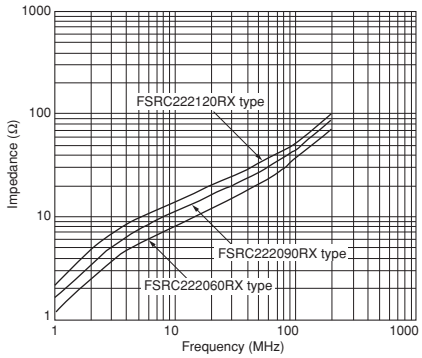
FSRC120 Type



FSRC171 Type



FSRC222 Type



Standard Type

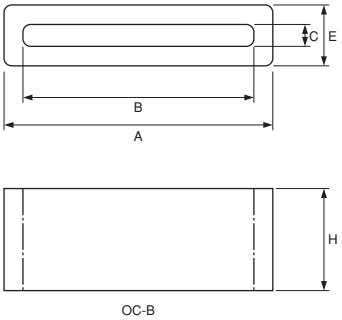
■ Features

Murata offers the largest line-up of this type in the world. Our wide offering of core products enables us to meet many of today's application requirements.

■ Applications

1. For data-processing equipment (PC, PDA, game machine, etc.), and peripheral equipment (printer, HDD, display, etc.)
2. For digital equipment (DSC, DVC, DVD recorder, mobile phone, digital audio, optical drive, PDP/LCD/FED, facsimile, etc.)

Standard Type



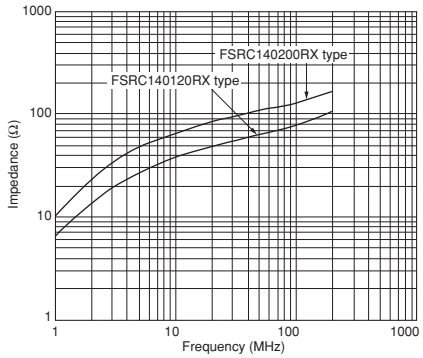
OC-B

Normal type

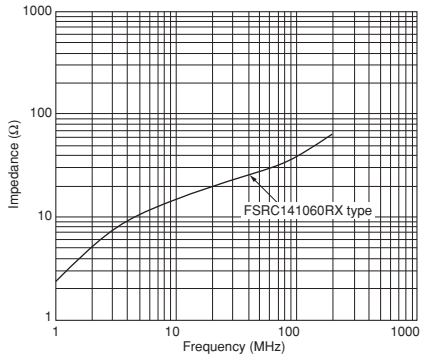
Part Number	A: Outer Dimension	B: Inner Dimension	H: Length Dimension	E: Width Dimension	C: Gap Dimension	Impedance at 100MHz	Number of Turns	Note
FSRC140120RX000T	13.8mm ±0.4mm	9.6mm ±0.4mm	12.0mm ±0.4mm	5.0mm ±0.4mm	0.8mm ±0.4mm	78ohm (typ.)	1	-
FSRC140200RXB00T	13.8mm ±0.4mm	9.6mm ±0.4mm	20.0mm ±0.7mm	5.0mm ±0.4mm	0.8mm ±0.4mm	126ohm (typ.)	1	-
FSRC141060RXB00T	13.8mm ±0.4mm	10.8mm ±0.4mm	6.0mm ±0.4mm	5.0mm ±0.4mm	1.3mm ±0.4mm	39ohm (typ.)	1	-
FSRC170090RTB00T	17.0mm ±0.4mm	13.0mm ±0.4mm	9.0mm ±0.4mm	5.0mm ±0.4mm	0.8mm ±0.4mm	53ohm (typ.)	1	-
FSRC170120RT000T	17.0mm ±0.4mm	13.0mm ±0.4mm	12.0mm ±0.4mm	5.0mm ±0.4mm	0.8mm ±0.4mm	75ohm (typ.)	1	-
FSRC240150RX000T	23.8mm ±0.5mm	18.8mm ±0.5mm	15.0mm ±0.4mm	6.3mm ±0.4mm	1.1mm ±0.3mm	76ohm (typ.)	1	-

■ Impedance vs Frequency Characteristics

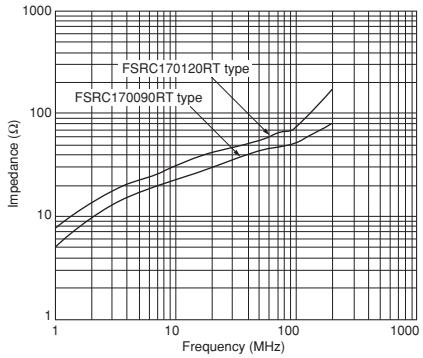
FSRC140 Type



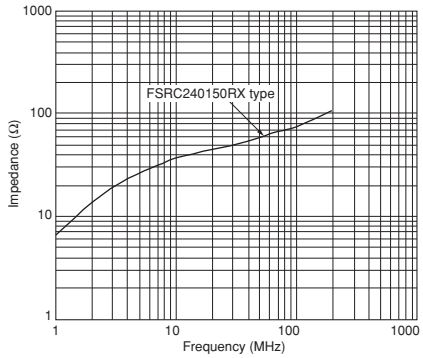
FSRC141 Type



FSRC170 Type



FSRC240 Type



Wide Type

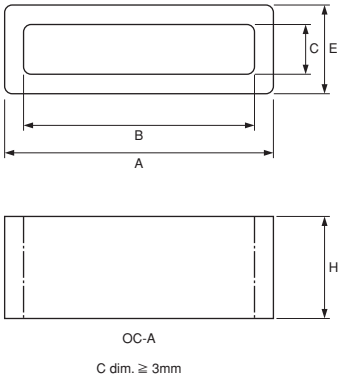
■ Features

Murata offers a series of wide hold type cores as well. Flat cables are passed through and applied as a Ring core in a tiny space where the lead line and connector passes through.

■ Applications

1. For data-processing equipment (PC, PDA, game machine, etc.), and peripheral equipment (printer, HDD, display, etc.)
2. For digital equipment (DSC, DVC, DVD recorder, mobile phone, digital audio, optical drive, PDP/LCD/FED, facsimile, etc.)

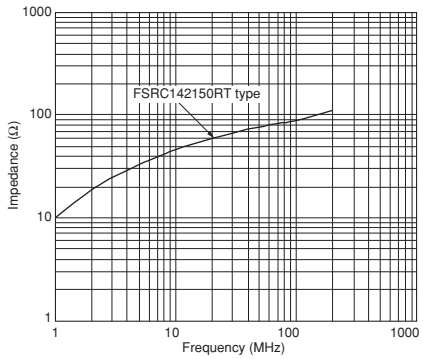
Wide Hole Type



Part Number	A: Outer Dimension	B: Inner Dimension	H: Length Dimension	E: Width Dimension	C: Gap Dimension	Impedance at 100MHz	Number of Turns	Note
FSRC142150RTB00T	14.0mm ±0.4mm	9.0mm ±0.4mm	15.0mm ±0.5mm	9.0mm ±0.4mm	4.0mm ±0.4mm	90ohm (typ.)	1	Wide Type

■ Impedance vs Frequency Characteristics

FSRC142 Type



Ferrite Core for EMI Suppression

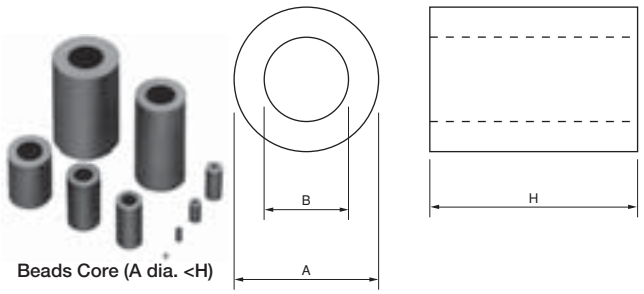
Beads Core

■ Features

1. Ease of use and excellent noise suppression-data lines can be passed through the core or wound around several times.
2. Effective for suppressing noise at high frequencies.

■ Applications

1. For data-processing equipment (PC, PDA, game machine, etc.), and peripheral equipment (printer, HDD, display, etc.)
2. For digital equipment (DSC, DVC, DVD recorder, mobile phone, digital audio, optical drive, PDP/LCD/FED, facsimile, etc.)

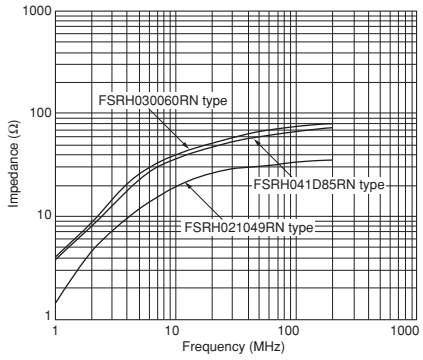


Beads Core (A dia. <H)

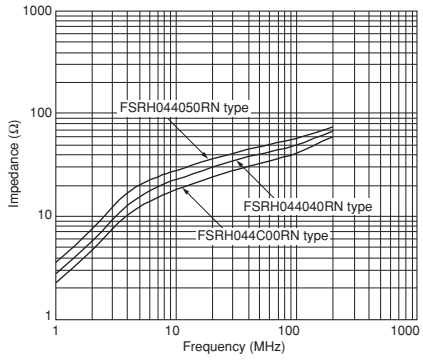
Part Number	Phi A: Outer Dimension	Phi B: Inner Dimension	H: Length Dimension	Impedance at 100MHz (1 turn)	Note
FSRH021049RNB01B	1.95mm ±0.15mm	1.02mm ±0.15mm	4.9mm ±0.25mm	34ohm (typ.)	-
FSRH030060RNB00B	3.36mm ±0.15mm	1.1mm ±0.15mm	6.0mm ±0.2mm	74ohm (typ.)	-
FSRH041D85RNB00B	3.6mm ±0.2mm	1.0mm ±0.2mm	4.85mm ±0.2mm	66ohm (typ.)	-
FSRH044C00RNB00B	3.6mm ±0.1mm	1.5mm ±0.1mm	3.0mm ±0.15mm	40ohm (typ.)	-
FSRH044040RNB00B	3.6mm ±0.1mm	1.5mm ±0.1mm	4.0mm ±0.15mm	50ohm (typ.)	-
FSRH044050RNB00B	3.6mm ±0.1mm	1.5mm ±0.1mm	5.0mm ±0.15mm	53ohm (typ.)	-
FSRH050050RN000B	4.7mm ±0.3mm	1.4mm ±0.2mm	5.0mm ±0.3mm	64ohm (typ.)	-
FSRH070080RN000B	7.0mm ±0.3mm	4.0mm ±0.2mm	8.0mm ±0.5mm	59ohm (typ.)	-
FSRH070140RN000B	7.0mm ±0.3mm	4.0mm ±0.2mm	14.0mm ±0.5mm	82ohm (typ.)	-
FSRH090100RN000B	9.0mm ±0.3mm	5.0mm ±0.3mm	10.0mm ±0.5mm	72ohm (typ.)	For USB/IEEE1394
FSRH090160RN000B	9.0mm ±0.3mm	5.0mm ±0.3mm	16.0mm ±0.5mm	100ohm (typ.)	For USB/IEEE1394
FSRH090200RN000T	9.0mm ±0.3mm	5.0mm ±0.3mm	20.0mm ±0.8mm	135ohm (typ.)	For USB/IEEE1394
FSRH091100RN000B	9.0mm ±0.3mm	4.3mm ±0.2mm	10.0mm ±0.5mm	94ohm (typ.)	For USB/IEEE1394
FSRH091160RN000T	9.0mm ±0.3mm	4.3mm ±0.2mm	16.0mm ±0.5mm	145ohm (typ.)	For USB/IEEE1394

■ Impedance vs Frequency Characteristics

FSRH021/030/041 Type



FSRH044 Type



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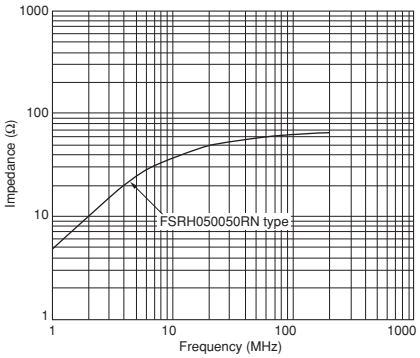
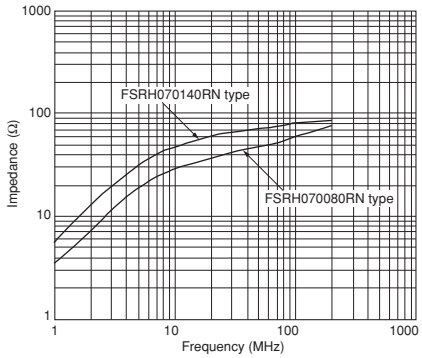
■ Impedance vs Frequency Characteristics

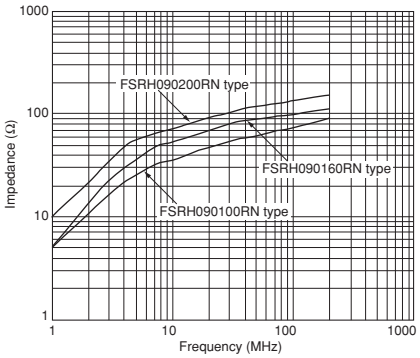
FSRH050 Type



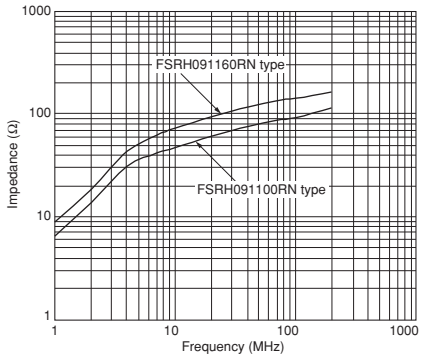
FSRH070 Type



FSRH090 Type



FSRH091 Type



Ferrite Core for EMI Suppression

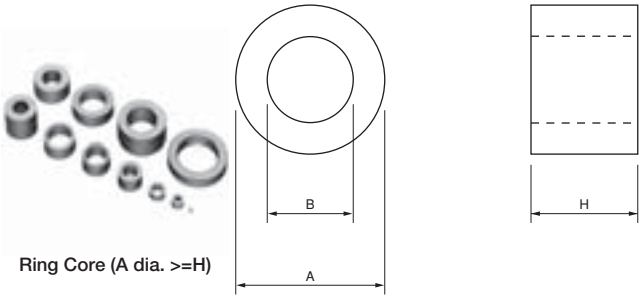
Ring Core

■ Features

1. Ease of use and excellent noise suppression-data lines can be passed through the core or wound around several times.
2. Effective for suppressing noise at high frequencies.

■ Applications

1. For data-processing equipment (PC, PDA, game machine, etc.), and peripheral equipment (printer, HDD, display, etc.)
2. For digital equipment (DSC, DVC, DVD recorder, mobile phone, digital audio, optical drive, PDP/LCD/FED, facsimile, etc.)



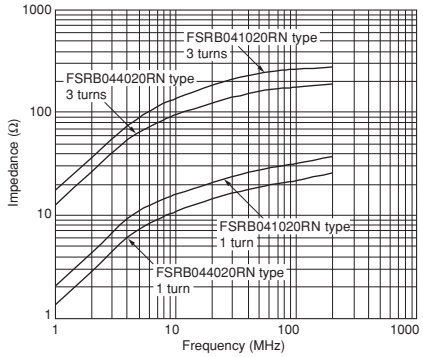
Ring Core (A dia. >=H)

1-4

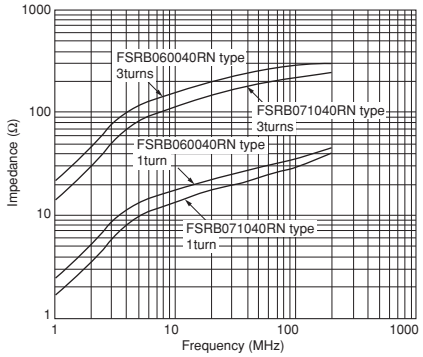
Part Number	Phi A: Outer Dimension	Phi B: Inner Dimension	H: Length Dimension	Impedance at 100MHz (3 turns)	Note
FSRB041020RNB00B	3.6mm ±0.15mm	1.0mm ±0.15mm	2.0mm ±0.2mm	267ohm (typ.)	-
FSRB044020RNB00B	3.6mm ±0.15mm	1.5mm ±0.15mm	2.0mm ±0.15mm	178ohm (typ.)	-
FSRB060040RNB00B	5.5mm ±0.2mm	2.7mm ±0.2mm	4.0mm ±0.3mm	290ohm (typ.)	-
FSRB071040RNB00B	7.0mm ±0.3mm	4.0mm ±0.2mm	4.0mm ±0.2mm	222ohm (typ.)	-
FSRB090060RNB00B	9.0mm ±0.3mm	5.0mm ±0.3mm	6.0mm ±0.5mm	356ohm (typ.)	For USB/IEEE1394
FSRB090080RNB00B	9.0mm ±0.3mm	5.0mm ±0.3mm	8.0mm ±0.5mm	466ohm (typ.)	For USB/IEEE1394
FSRB091060RNB00B	9.0mm ±0.3mm	4.3mm ±0.2mm	6.0mm ±0.5mm	451ohm (typ.)	For USB/IEEE1394
FSRB091080RNB00B	9.0mm ±0.3mm	4.3mm ±0.2mm	8.0mm ±0.5mm	582ohm (typ.)	For USB/IEEE1394
FSRB100030RTB00B	10.0mm ±0.3mm	6.0mm ±0.2mm	3.0mm ±0.3mm	170ohm (typ.)	For USB/IEEE1394
FSRB100060RTB00B	10.0mm ±0.3mm	6.0mm ±0.2mm	6.0mm ±0.5mm	316ohm (typ.)	For USB/IEEE1394
FSRB100080RTB00B	10.0mm ±0.3mm	6.0mm ±0.2mm	8.0mm ±0.5mm	388ohm (typ.)	For USB/IEEE1394
FSRB100100RTB00B	10.0mm ±0.3mm	6.0mm ±0.2mm	10.0mm ±0.5mm	475ohm (typ.)	For USB/IEEE1394

■ Impedance vs Frequency Characteristics

FSRB041/044 Type



FSRB060/071 Type



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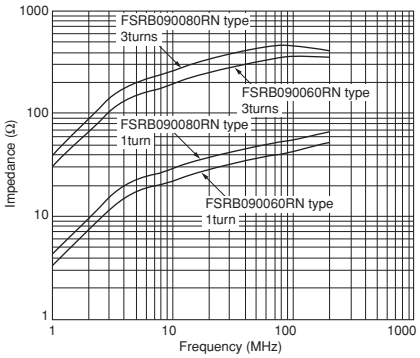
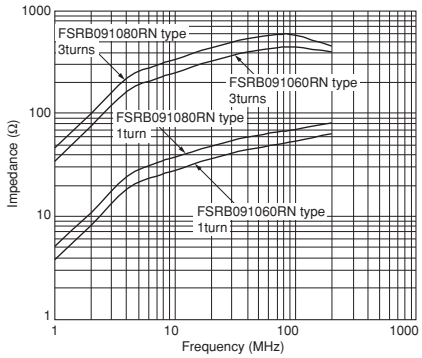
■ Impedance vs Frequency Characteristics

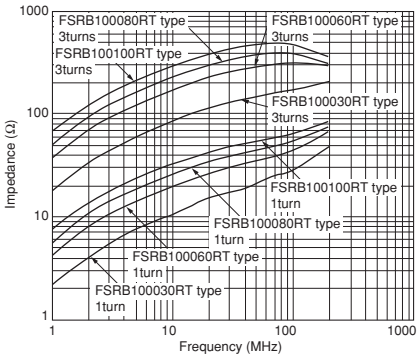
FSRB090 Type



FSRB091 Type



FSRB100 Type



1-4

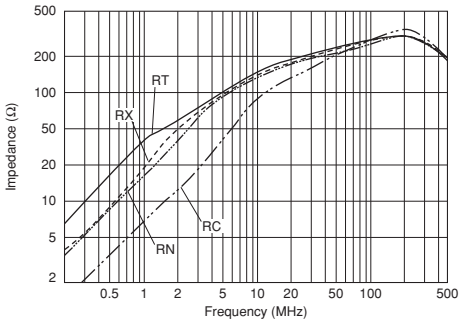
Data/Notice

■ Standard Characteristics of Ferrite Materials

Material	μi	Bs (mT)	Tc (°C)	ρ (Ω-m)
RT	1600	290	≧110	$>10^5$
RX	750	330	≧110	$>10^5$
RN	550	310	≧130	$>10^5$
RC	250	320	≧140	$>10^5$

Size of Ferrite Core (30ø - 20ø - 6)

■ Ferrite Material Comparison



Size of Ferrite Core (30ø –20ø –6)
N=3 turns

■ Notice (Storage and Operating Condition)

This product is designed for use in the following environment:

FSRH/FSRB/FSRC

Operating Temperature: -25 to 85°C

Storage Temperature: -25 to 125°C

FSSA_S

Operating Temperature: -25 to 85°C

Storage Temperature: -25 to 85°C

Do not use in the following environments or under the following conditions:

1. Ambient air containing corrosive gas (Chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, nitric oxide gas, etc.)
2. In liquid
3. Other environments similar to 1 through 2

FSSA_S Storage:

Store in manufacturer's package or tightly re-closed box with following conditions.

Temperature: -10 to +35°C

Humidity: 15 to 85% RH

Use this product within 6 months after receipt.

Storage in high temperature, high humidity or quick temperature change will damage the function of the tape.

■ Notice (Handling)

1. Protect product from damage that may occur in transit such as cracking of the core.
2. Handle product with care. Do not drop or throw.
3. Do not apply excessive force to the product.

2 EA

Microwave Absorber

● Part Numbering

Microwave Absorber

(Part Number) **EA** **1026** **A** **160** **M** **200** **200**
❶ ❷ ❸ ❹ ❺ ❻ ❼

❶Product ID

Product ID	
EA	Microwave Absorber

❷Sheet Type

Code	Sheet Type
10□□	Iron carbonyl type (UL certified type/Halogen Free type)
2070	Metal Flake Powder (Halogen Free type)
2100	Metal Flake Powder (UL certified type)
3008	Magnetic material (UL certified type/Halogen Free type)

❸Adhesive Tape Type

Code	Adhesive Tape Type
A	Standard tape type (Halogen Free type)
B	Thin Adhesive tape type (Halogen Free type)
L	No tape type
U	UL certified type (Halogen Free type)

❹Outer Dimension Supplement Code

Expressed by 3 digits including the second decimal place in mm.

Ex.)

Code	Sheet Thickness
020	0.20mm

❺Unit of Dimension

One capital letter expresses Unit of Dimension (❻) and Dimensions Length (❼).

Code	Unit of Dimension
M	in mm (Standard)
C	in cm (Standard)

Standard shape is a rectangle.
Please contact us for other shapes.

❻Dimension (Length)

Expressed by 3 digits including the first decimal place.

❼Dimension (Width)

Expressed by 3 digits including the first decimal place.

Ex.)

Code	Dimension (Length × Width)
M300150	30.0×15.0 mm
C150100	15.0×10.0 cm

"Halogen Free" is defined to satisfy following condition for Microwave Absorber listed in this catalog.

1. Chlorine will not exceed 900ppm.
2. Bromine will not exceed 900ppm.
3. The total amount of chlorine and bromine will not exceed 1500ppm.

Microwave Absorber

EA10/20/21/30 Series

EA10 Series

■ Features

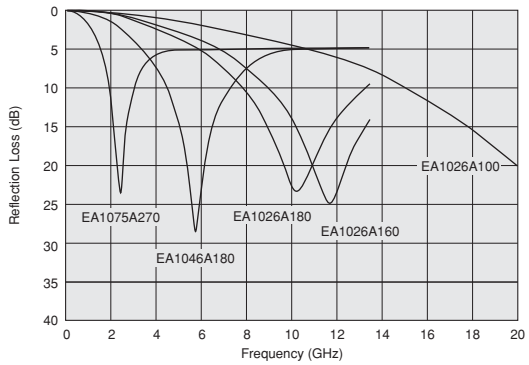
1. Excellent elasticity and durability with silicon rubber
2. Suitable for prevention of abnormal oscillation in high frequency modules, suppression of spurious spectra and prevention of interference between circuits
3. Holds easily in equipment with adhesive tape

When inquiring, please contact us with size code, referring to "Part Numbering."

EA10 Series

Part Number	Applicable Frequency (Typ.)	Thickness (Typ.)	Flame Resistance	Halogen	Operating Temperature Range
EA1026A100	20.0GHz	1.0mm	UL94V-0	Halogen Free	-40 to +80°C
EA1026A160	11.5GHz	1.6mm	UL94V-0	Halogen Free	-40 to +80°C
EA1026A180	10.0GHz	1.8mm	UL94V-0	Halogen Free	-40 to +80°C
EA1046A180	5.8GHz	1.8mm	UL94V-0	Halogen Free	-40 to +80°C
EA1075A270	2.5GHz	2.7mm	UL94V-0	Halogen Free	-40 to +80°C

■ Reflection Loss



EA20/21 Series

■ Features

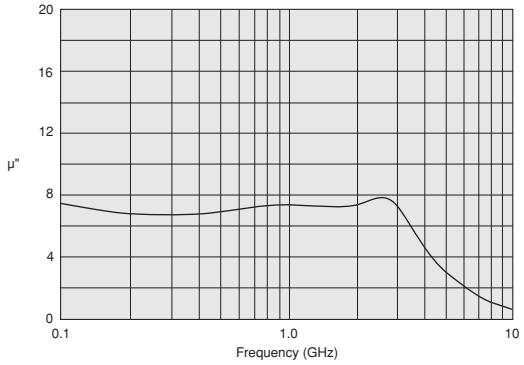
1. Magnetically shielded high-micro and high-loss characteristics can suppress noise in a wide frequency band for digital equipment.
2. Thin (0.2mm-1.0mm) and flexible sheet provides easy handling in assembly process.
3. Holds easily in equipment with adhesive tape
4. EA20xx series: Halogen Free type
   EA21xx series: UL94V-0 certified material is used

EA20/21Series

When inquiring, please contact us with size code, referring to "Part Numbering."

Part Number	Applicable Frequency (Typ.)	Thickness (Typ.)	Flame Resistance	Halogen	Operating Temperature Range
EA2070A020	0.1 to 3.0GHz	0.20mm	-	Halogen Free	-40 to +120°C
EA2070A050	0.1 to 3.0GHz	0.50mm	-	Halogen Free	-40 to +120°C
EA2070A100	0.1 to 3.0GHz	1.00mm	-	Halogen Free	-40 to +120°C
EA2070B005	0.1 to 3.0GHz	0.05mm	-	Halogen Free	-40 to +120°C
EA2070B010	0.1 to 3.0GHz	0.10mm	-	Halogen Free	-40 to +120°C
EA2070B013	0.1 to 3.0GHz	0.13mm	-	Halogen Free	-40 to +120°C
EA2070B020	0.1 to 3.0GHz	0.20mm	-	Halogen Free	-40 to +120°C
EA2070B050	0.1 to 3.0GHz	0.50mm	-	Halogen Free	-40 to +120°C
EA2100A020	0.1 to 3.0GHz	0.20mm	UL94V-0	-	-40 to +120°C
EA2100A050	0.1 to 3.0GHz	0.50mm	UL94V-0	-	-40 to +120°C
EA2100A100	0.1 to 3.0GHz	1.00mm	UL94V-0	-	-40 to +120°C
EA2100B020	0.1 to 3.0GHz	0.20mm	UL94V-0	-	-40 to +120°C
EA2100B050	0.1 to 3.0GHz	0.50mm	UL94V-0	-	-40 to +120°C
EA2100B100	0.1 to 3.0GHz	1.00mm	UL94V-0	-	-40 to +120°C

■ Magnetic Permeability - Reluctance (Typical)



EA30 Series

■ Features

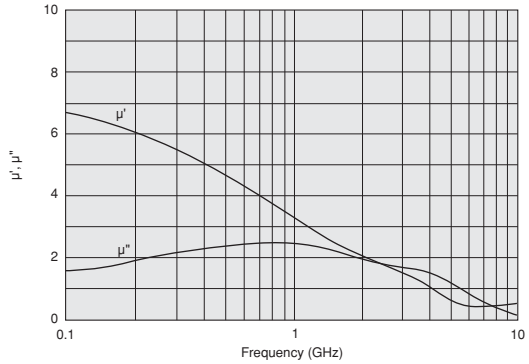
1. EMC Absorber magnetically shields and suppresses noise of digital equipment.
2. Flexible sheet allows easy handling in assembly process.
3. Holds easily in equipment with adhesive tape.
4. Halogen free and UL94V-0 certified materials are used.

EA30 Series

When inquiring, please contact us with size code, referring to "Part Numbering."

Part Number	Applicable Frequency (Typ.)	Thickness (Typ.)	Flame Resistance	Halogen	Operating Temperature Range
EA3008U025	0.1 to 3.0GHz	0.25mm	UL94V-0	Halogen Free	-40 to +120°C
EA3008U035	0.1 to 3.0GHz	0.35mm	UL94V-0	Halogen Free	-40 to +120°C
EA3008U050	0.1 to 3.0GHz	0.50mm	UL94V-0	Halogen Free	-40 to +120°C
EA3008U100	0.1 to 3.0GHz	1.00mm	UL94V-0	Halogen Free	-40 to +120°C
EA3008U250	0.1 to 3.0GHz	2.50mm	UL94V-0	Halogen Free	-40 to +120°C

■ Magnetic Permeability - Reluctance (Typical)



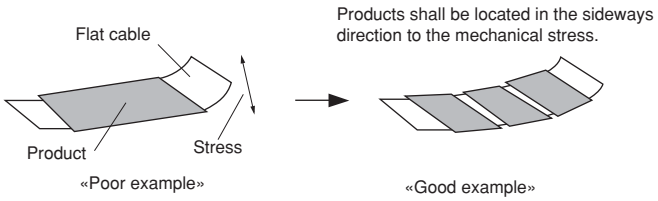
2

Notice

■ Notice (Storage and Operating Conditions)

1. Adhesive Tape Stress

This product is designed to use adhesive tape to hold itself to the object.
And please avoid causing mechanical stress by bending or variation of the object.



2. Cleaning

Avoid cleaning this product.

3. Handling of the product

Adhesive tape must be clean to maintain the quality of adhesion. Please wipe off any dirt, dust and any kind of oil from the surface of the object before use.

4. Storage Conditions

(1) Storage period

Products that were inspected by Murata over 6 months ago should be examined and used. This can be confirmed by the inspection No. marked on the container. Adhesiveness should be checked if this period is exceeded.

(2) Storage conditions

- Products should be stored in the warehouse in the following conditions:
  Temperature: -10 to 40˚C
  Humidity: 30 to 70% relative humidity
  No rapid change of temperature or humidity
- Products should be stored in the warehouse without heat shock condition, vibration, direct sunlight and so on.

2

⚠Note:

1. Export Control
   <For customers outside Japan>
   No Murata products should be used or sold, through any channels, for use in the design, development, production, utilization, maintenance or operation of, or otherwise contribution to (1) any weapons (Weapons of Mass Destruction [nuclear, chemical or biological weapons or missiles] or conventional weapons) or (2) goods or systems specially designed or intended for military end-use or utilization by military end-users.
   <For customers in Japan>
   For products which are controlled items subject to the “Foreign Exchange and Foreign Trade Law” of Japan, the export license specified by the law is required for export.
2. Please contact our sales representatives or product engineers before using the products in this catalog for the applications listed below, which require especially high reliability for the prevention of defects which might directly damage a third party's life, body or property, or when one of our products is intended for use in applications other than those specified in this catalog.
   ① Aircraft equipment ② Aerospace equipment
   ③ Undersea equipment ④ Power plant equipment
   ⑤ Medical equipment ⑥ Transportation equipment (vehicles, trains, ships, etc.)
   ⑦ Traffic signal equipment ⑧ Disaster prevention / crime prevention equipment
   ⑨ Data-processing equipment ⑩ Application of similar complexity and/or reliability requirements to the applications listed above
3. Product specifications in this catalog are as of January 2012. They are subject to change or our products in it may be discontinued without advance notice.
   Please check with our sales representatives or product engineers before ordering. If there are any questions, please contact our sales representatives or product engineers.
4. Please read rating and ⚠CAUTION (for storage, operating, rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning, etc.
5. This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please review our product specifications or consult the approval sheet for product specifications before ordering.
6. Please note that unless otherwise specified, we shall assume no responsibility whatsoever for any conflict or dispute that may occur in connection with the effect of our and/or a third party's intellectual property rights and other related rights in consideration of your use of our products and/or information described or contained in our catalogs. In this connection, no representation shall be made to the effect that any third parties are authorized to use the rights mentioned above under licenses without our consent.
7. No ozone depleting substances (ODS) under the Montreal Protocol are used in our manufacturing process.

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