


**FERROTITE®**

 FERROTITE® is the trademark of  
Murata Manufacturing Co., Ltd.

**muRata**

## Ferrite Core for EMI Suppression

### FEATURES

- Useful and excellent noise suppression.
- Data lines can be passed through core or wound around core several times.
- Effective for suppressing noise at high frequencies.

### APPLICATIONS

- For computers, and peripheral equipment. (printer, FDD, HDD, display etc.)
- For digital equipment.
- For switching power supply.

### PART NUMBERING

|       |    |    |    |   |    |    |
|-------|----|----|----|---|----|----|
| (Ex.) | FS | OB | 19 | 0 | RT | 01 |
|       | ①  | ②  | ③  | ④ | ⑤  | ⑥  |

① Soft ferrite

 ② Shape OH : Beads core  
 OB : Ring core  
 OC : Core for flat cable  
 MA : Multi hole core  
 SA : Plate core

③ Typical dimension

④ Assistant No.1

⑤ Material

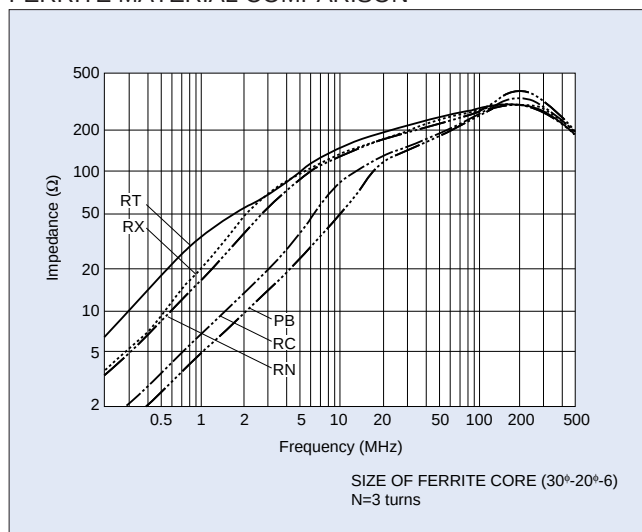
⑥ Assistant No.2

### STANDARD CHARACTERISTICS OF FERRITE MATERIALS

| Material | $\mu_i$ | Bs (mT) | Tc (°C)    | $\rho$ ( $\Omega$ -m) |
|----------|---------|---------|------------|-----------------------|
| RT       | 1600    | 290     | $\geq 110$ | $>10^5$               |
| RX       | 750     | 330     | $\geq 110$ | $>10^5$               |
| RN       | 550     | 310     | $\geq 130$ | $>10^5$               |
| RC       | 250     | 320     | $\geq 140$ | $>10^5$               |
| PB       | 150     | 220     | $\geq 300$ | $>10^4$               |

 Size of ferrite core (30 $\phi$  - 20 $\phi$  - 6)


### FERRITE MATERIAL COMPARISON



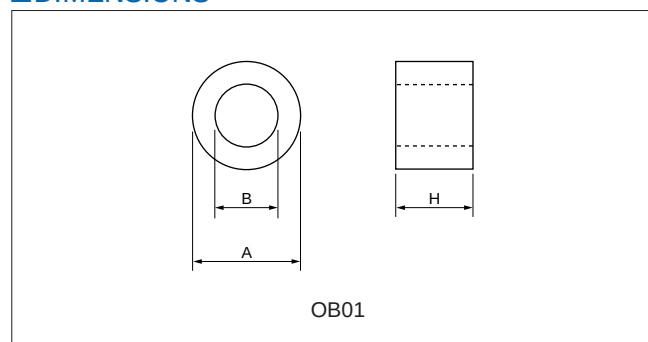

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## Ring Core

### DIMENSIONS



### SPECIFICATIONS

| Part Number  | Dimension (mm) |          |      | Impedance ( $\Omega$ ) |        | Figure | Shape | Note  |           |
|--------------|----------------|----------|------|------------------------|--------|--------|-------|-------|-----------|
|              | $\phi$ A       | $\phi$ B | H    | 10MHz                  | 100MHz |        |       | *Case | Note<ref> |
| FSOB060RN01B | 5.5            | 2.7      | 4.0  | 153                    | 290    | Fig.1  | OB01  |       |           |
| FSOB071RN01B | 7.0            | 4.0      | 4.0  | 114                    | 222    | Fig.1  | OB01  |       |           |
| FSOB090RN02B | 9.0            | 5.0      | 8.0  | 262                    | 466    | Fig.2  | OB01  |       | for USB   |
| FSOB090RN05B | 9.0            | 5.0      | 6.0  | 196                    | 356    | Fig.2  | OB01  |       | for USB   |
| FSOB120RT01B | 12.0           | 7.0      | 10.0 | 320                    | 450    | Fig.3  | OB01  |       | for USB   |
| FSOB120RT02B | 12.0           | 7.0      | 8.0  | 240                    | 400    | Fig.3  | OB01  |       | for USB   |
| FSOB120RT05B | 12.0           | 7.0      | 6.0  | 180                    | 310    | Fig.3  | OB01  |       | for USB   |
| FSOB121RT01B | 12.0           | 5.6      | 10.0 | 441                    | 535    | Fig.4  | OB01  |       | for USB   |
| FSOB121RT02B | 12.0           | 5.6      | 8.0  | 349                    | 490    | Fig.4  | OB01  |       | for USB   |
| FSOB121RT03B | 12.0           | 5.6      | 6.0  | 261                    | 406    | Fig.4  | OB01  |       | for USB   |
| FSOB140RN    | 14.0           | 10.0     | 8.0  | 160                    | 340    | Fig.5  | OB01  |       |           |
| FSOB140RN02B | 14.0           | 10.0     | 14.0 | 260                    | 450    | Fig.5  | OB01  |       |           |
| FSOB142RX01B | 14.0           | 8.0      | 10.0 | 307                    | 492    | Fig.6  | OB01  |       |           |
| FSOB142RX02B | 14.0           | 8.0      | 8.0  | 246                    | 415    | Fig.6  | OB01  |       |           |
| FSOB142RX03B | 14.0           | 8.0      | 6.0  | 182                    | 325    | Fig.6  | OB01  |       |           |
| FSOB162RN    | 16.3           | 8.3      | 16.0 | 550                    | 640    | Fig.7  | OB01  |       |           |
| FSOB162RN02  | 16.3           | 8.3      | 5.0  | 180                    | 310    | Fig.7  | OB01  |       |           |
| FSOB162RN03B | 16.3           | 8.3      | 3.0  | 116                    | 230    | Fig.8  | OB01  |       |           |
| FSOB162RN04B | 16.3           | 8.3      | 10.0 | 379                    | 557    | Fig.8  | OB01  |       |           |
| FSOB190RT    | 19.0           | 10.0     | 10.0 | 370                    | 480    | Fig.9  | OB01  | ●     |           |
| FSOB190RT02B | 19.0           | 10.0     | 6.0  | 220                    | 360    | Fig.9  | OB01  |       |           |
| FSOB220RN    | 22.0           | 14.0     | 8.0  | 200                    | 360    | Fig.10 | OB01  |       |           |
| FSOB250RT    | 25.0           | 15.0     | 12.0 | 350                    | 470    | Fig.10 | OB01  | ●     |           |
| FSOB300RT03  | 30.0           | 20.0     | 8.0  | 180                    | 300    | Fig.10 | OB01  |       |           |

- The impedance value is measured with 3 turns.
- Various types, other than listed above, are available.
- We can supply core coated with epoxy or nylon, please consult MURATA.
- Please confirm the type and rated value upon ordering as specifications are subject to change for improvement without notice. Please contact MURATA for further information.
- \*●: We can supply core with case. Please consult MURATA.

## ■IMPEDANCE FREQUENCY CHARACTERISTICS

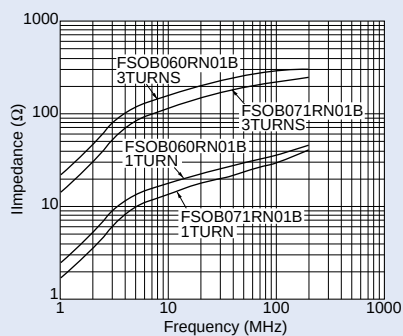


Fig.1

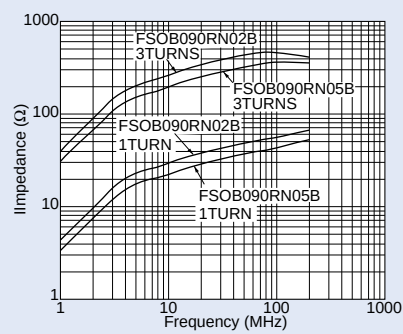


Fig.2

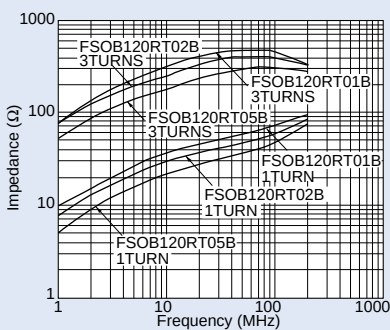


Fig.3

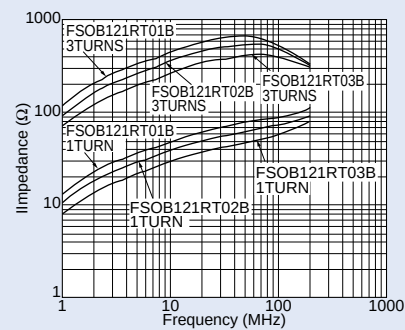


Fig.4

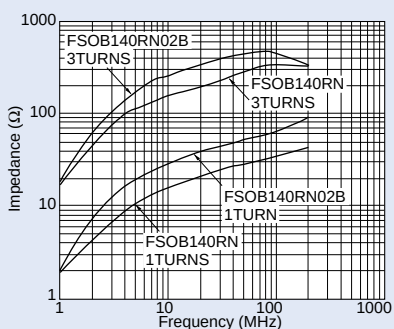


Fig.5

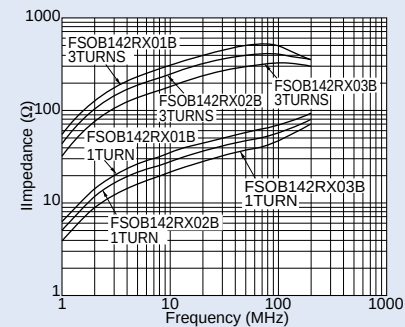


Fig.6

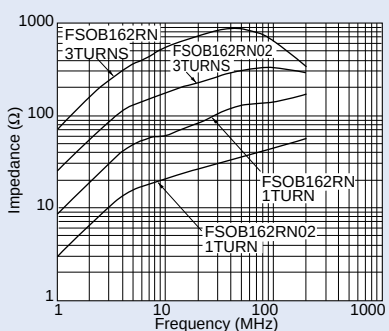


Fig.7

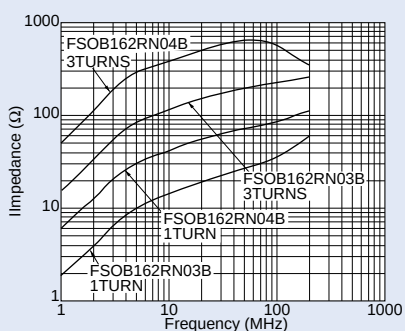


Fig.8

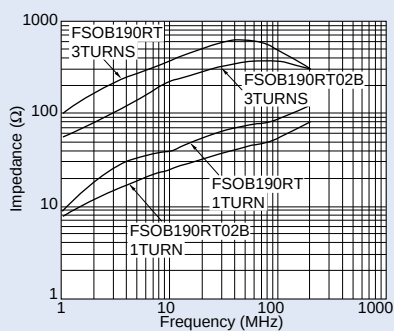


Fig.9

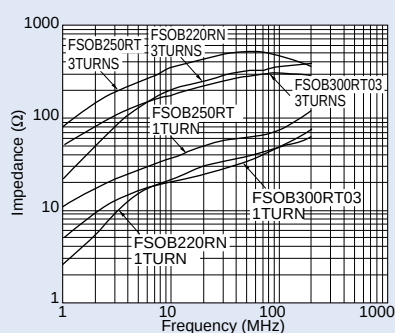


Fig.10

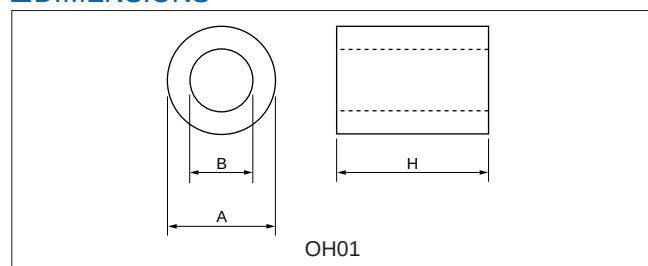

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## Beads Core

### DIMENSIONS



### SPECIFICATIONS

| Part Number  | Dimension (mm) |      |      | Impedance (Ω) |        | Figure | Shape | Note<br><ref> |
|--------------|----------------|------|------|---------------|--------|--------|-------|---------------|
|              | φ A            | φ B  | H    | 10MHz         | 100MHz |        |       |               |
| FSOH021RN19A | 1.95           | 1.02 | 4.9  | 19            | 34     | Fig.1  | OH01  |               |
| FSOH030RN    | 3.36           | 1.1  | 6.0  | 41            | 74     | Fig.1  | OH01  |               |
| FSOH041RN    | 3.6            | 1.0  | 4.85 | 37            | 66     | Fig.1  | OH01  |               |
| FSOH050RN    | 4.7            | 1.4  | 5.0  | 37            | 64     | Fig.2  | OH01  |               |
| FSOH050RN01  | 4.7            | 1.4  | 10.0 | 74            | 120    | Fig.2  | OH01  |               |
| FSOH060RN02  | 5.5            | 2.7  | 8.0  | 34            | 64     | Fig.2  | OH01  |               |
| FSOH070RN    | 7.0            | 4.0  | 14.0 | 47            | 82     | Fig.3  | OH01  |               |
| FSOH070RN02  | 7.0            | 4.0  | 8.0  | 28            | 59     | Fig.3  | OH01  |               |
| FSOH090RN    | 9.0            | 5.0  | 16.0 | 55            | 100    | Fig.4  | OH01  | for USB       |
| FSOH090RN02  | 9.0            | 5.0  | 10.0 | 35            | 72     | Fig.4  | OH01  | for USB       |
| FSOH090RN03  | 9.0            | 5.0  | 20.0 | 72            | 135    | Fig.4  | OH01  | for USB       |
| FSOH120RT    | 12.0           | 7.0  | 15.0 | 50            | 90     | Fig.5  | OH01  | for USB       |
| FSOH120RT02  | 12.0           | 7.0  | 20.0 | 69            | 120    | Fig.5  | OH01  | for USB       |
| FSOH120RT03  | 12.0           | 7.0  | 28.0 | 97            | 175    | Fig.5  | OH01  | for USB       |
| FSOH121RT01  | 12.0           | 5.6  | 20.0 | 100           | 170    | Fig.6  | OH01  | for USB       |
| FSOH121RT02  | 12.0           | 5.6  | 15.0 | 72            | 130    | Fig.6  | OH01  | for USB       |
| FSOH121RT04  | 12.0           | 5.6  | 25.0 | 118           | 223    | Fig.6  | OH01  | for USB       |
| FSOH142RX01  | 14.0           | 8.0  | 28.0 | 90            | 170    | Fig.7  | OH01  |               |
| FSOH142RX02  | 14.0           | 8.0  | 15.0 | 51            | 97     | Fig.7  | OH01  |               |
| FSOH142RX03  | 14.0           | 8.0  | 20.0 | 68            | 127    | Fig.7  | OH01  |               |
| FSOH162RN01  | 16.3           | 8.3  | 20.0 | 83            | 162    | Fig.8  | OH01  |               |
| FSOH162RN02  | 16.3           | 8.3  | 28.0 | 117           | 225    | Fig.8  | OH01  |               |
| FSOH190RT    | 19.0           | 10.0 | 28.5 | 120           | 200    | Fig.7  | OH01  |               |

- The impedance value is measured with 1 turns.
- Various types, other than listed above, are available.
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## ■IMPEDANCE FREQUENCY CHARACTERISTICS

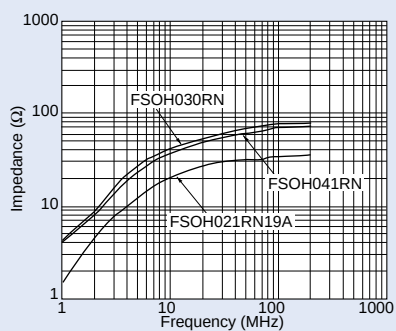


Fig.1

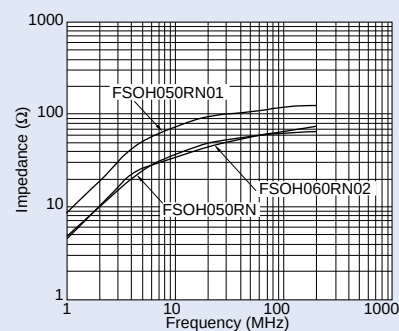


Fig.2

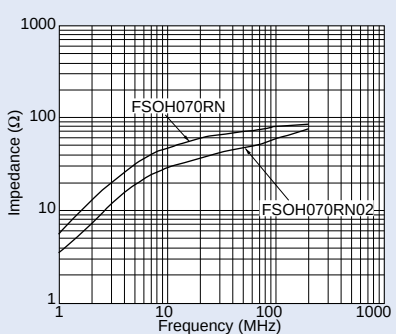


Fig.3

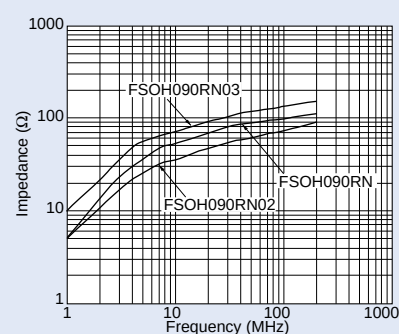


Fig.4

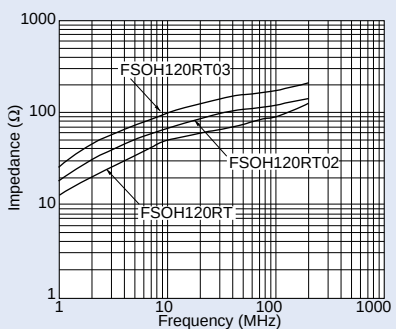


Fig.5

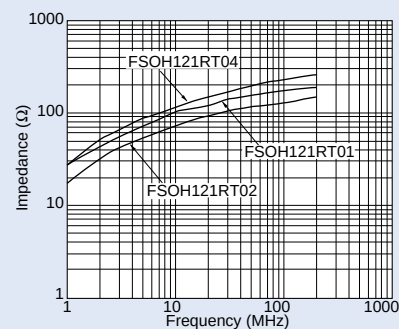


Fig.6

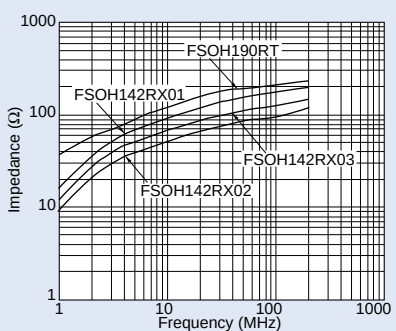


Fig.7

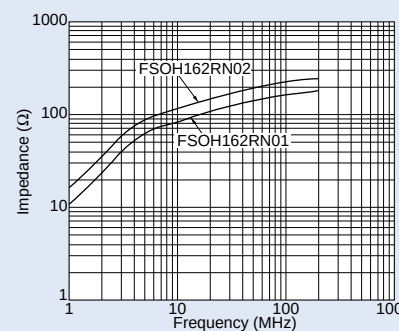


Fig.8

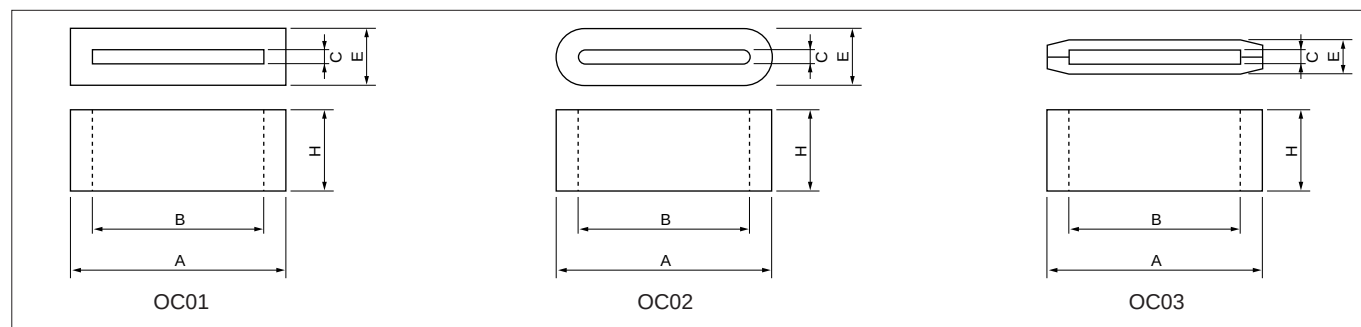

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## Core for Flat Ribbon Cable

### DIMENSIONS



### SPECIFICATIONS

| Part Number  | Dimension (mm) |      |      |      |      | Impedance (Ω) |        | Figure | Shape | <ref.>         |                      |
|--------------|----------------|------|------|------|------|---------------|--------|--------|-------|----------------|----------------------|
|              | A              | B    | C    | E    | H    | 10MHz         | 100MHz |        |       | Number of Lead | Note                 |
| FSOC120RX01B | 11.5           | 8.0  | 0.7  | 3.0  | 12.0 | 29            | 59     | Fig.1  | OC01  | 3              | thin type            |
| FSOC120RX02B | 11.5           | 8.0  | 0.7  | 3.0  | 6.0  | 15            | 36     | Fig.1  | OC01  | 3              | thin type            |
| FSOC120RX04B | 11.5           | 8.0  | 0.7  | 3.0  | 9.0  | 22            | 48     | Fig.1  | OC01  | 3              | thin type            |
| FSOC120RX06B | 11.5           | 8.0  | 0.7  | 3.0  | 2.0  | 6.2           | 24     | Fig.1  | OC01  | 3              | thin type            |
| FSOC140RX01  | 13.8           | 9.6  | 0.8  | 5.0  | 12.0 | 38            | 78     | Fig.2  | OC02  | 6              |                      |
| FSOC140RX02B | 13.8           | 9.6  | 0.8  | 5.0  | 6.0  | 19            | 44     | Fig.2  | OC02  | 6              |                      |
| FSOC140RX03B | 13.8           | 9.6  | 0.8  | 5.0  | 3.0  | 11            | 30     | Fig.2  | OC02  | 6              |                      |
| FSOC140RX04B | 13.8           | 9.6  | 0.8  | 5.0  | 9.0  | 30            | 66     | Fig.2  | OC02  | 6              |                      |
| FSOC170RT01  | 17.0           | 13.0 | 0.8  | 5.0  | 12.0 | 32            | 75     | Fig.3  | OC02  | 9              |                      |
| FSOC170RT02  | 17.0           | 13.0 | 0.8  | 5.0  | 7.0  | 20            | 45     | Fig.3  | OC02  | 9              |                      |
| FSOC170RT03B | 17.0           | 13.0 | 0.8  | 5.0  | 6.0  | 16            | 37     | Fig.3  | OC02  | 9              |                      |
| FSOC170RT04B | 17.0           | 13.0 | 0.8  | 5.0  | 9.0  | 23            | 53     | Fig.3  | OC02  | 9              |                      |
| FSOC170RT05B | 17.0           | 13.0 | 0.8  | 5.0  | 3.0  | 9             | 26     | Fig.3  | OC02  | 9              |                      |
| FSOC171RT01B | 17.0           | 13.6 | 0.7  | 2.8  | 12.0 | 19            | 53     | Fig.4  | OC01  | 9              | thin type            |
| FSOC171RT02B | 17.0           | 13.6 | 0.7  | 2.8  | 6.0  | 10            | 37     | Fig.4  | OC01  | 9              | thin type            |
| FSOC171RT04B | 17.0           | 13.6 | 0.7  | 2.8  | 9.0  | 14            | 44     | Fig.4  | OC01  | 9              | thin type            |
| FSOC221RT01  | 22.8           | 18.8 | 0.55 | 2.8  | 15.0 | 20            | 73     | Fig.5  | OC03  | 12             | thin & division type |
| FSOC222RX01  | 22.8           | 18.7 | 0.7  | 2.8  | 12.0 | 14            | 53     | Fig.5  | OC01  | 12             | thin type            |
| FSOC222RX02  | 22.8           | 18.7 | 0.7  | 2.8  | 6.0  | 8             | 37     | Fig.5  | OC01  | 12             | thin type            |
| FSOC240RX01  | 23.8           | 18.8 | 1.1  | 6.3  | 15.0 | 38            | 76     | Fig.5  | OC02  | 12             |                      |
| FSOC250RT01  | 25.0           | 21.0 | 0.8  | 5.0  | 12.0 | 24            | 70     | Fig.6  | OC02  | 15             |                      |
| FSOC250RT02  | 25.0           | 21.0 | 0.8  | 5.0  | 7.0  | 14            | 45     | Fig.6  | OC02  | 15             |                      |
| FSOC280RX01  | 28.0           | 24.0 | 0.8  | 3.5  | 12.0 | 15            | 56     | Fig.7  | OC01  | 15             | thin type            |
| FSOC280RX02  | 28.0           | 24.0 | 0.8  | 3.5  | 6.0  | 9             | 39     | Fig.7  | OC01  | 15             | thin type            |
| FSOC280RX04  | 28.0           | 24.0 | 0.8  | 3.5  | 9.0  | 12            | 46     | Fig.7  | OC01  | 15             | thin type            |
| FSOC310RN01  | 31.0           | 27.0 | 0.8  | 5.0  | 12.0 | 18            | 70     | Fig.8  | OC02  | 20             |                      |
| FSOC310RN02  | 31.0           | 27.0 | 0.8  | 5.0  | 6.0  | 10            | 47     | Fig.8  | OC02  | 20             |                      |
| FSOC310RN07  | 31.0           | 27.0 | 0.8  | 5.0  | 20.0 | 31            | 100    | Fig.8  | OC02  | 20             |                      |
| FSOC320RT01  | 32.0           | 27.8 | 1.3  | 6.5  | 12.0 | 21            | 60     | Fig.8  | OC02  | 20             |                      |
| FSOC321RN01  | 32.0           | 28.0 | 3.5  | 7.5  | 15.0 | 17            | 47     | Fig.9  | OC01  | 20             | wide hole type       |
| FSOC321RN02  | 32.0           | 28.0 | 3.5  | 7.5  | 10.0 | 13            | 35     | Fig.9  | OC01  | 20             | wide hole type       |
| FSOC360RX01  | 36.0           | 32.0 | 0.8  | 3.5  | 12.0 | 13            | 56     | Fig.10 | OC01  | 24             | thin type            |
| FSOC360RX02  | 36.0           | 32.0 | 0.8  | 3.5  | 6.0  | 8             | 40     | Fig.10 | OC01  | 24             | thin type            |
| FSOC360RX04  | 36.0           | 32.0 | 0.8  | 3.5  | 9.0  | 10            | 47     | Fig.10 | OC01  | 24             | thin type            |
| FSOC400RT01  | 40.0           | 35.0 | 0.5  | 4.0  | 12.0 | 16            | 80     | Fig.11 | OC03  | 26             | division type        |
| FSOC410RN    | 41.2           | 35.0 | 1.5  | 7.7  | 15.0 | 23            | 70     | Fig.11 | OC02  | 26             |                      |
| FSOC440RN01  | 44.0           | 40.0 | 3.8  | 7.5  | 10.0 | 10            | 34     | Fig.9  | OC01  | 32             | wide hole type       |
| FSOC560RT01  | 56.2           | 52.2 | 0.9  | 4.8  | 12.0 | 15            | 70     | Fig.11 | OC02  | 38             |                      |
| FSOC600RN    | 60.0           | 48.0 | 1.9  | 12.0 | 12.7 | 25            | 72     | Fig.12 | OC01  | 34             |                      |
| FSOC600RN02  | 60.0           | 48.0 | 1.9  | 12.0 | 10.0 | 20            | 69     | Fig.12 | OC01  | 34             |                      |
| FSOC800RT01  | 80.0           | 68.6 | 2.6  | 10.0 | 12.7 | 17            | 71     | Fig.12 | OC03  | 50             | division type        |

• The impedance value is measured with 1 turns.

• Please confirm the type and rated value upon ordering as specifications are subject to change for improvement without notice. Please contact MURATA for further information.

## ■IMPEDANCE FREQUENCY CHARACTERISTICS

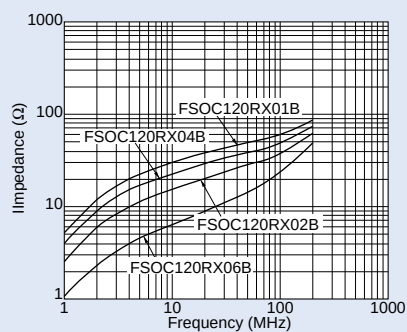


Fig.1

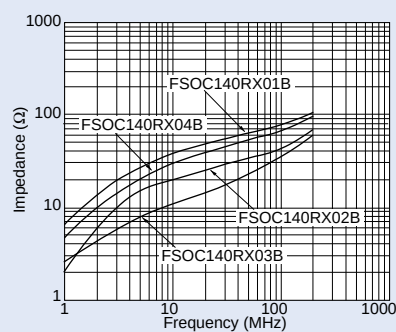


Fig.2

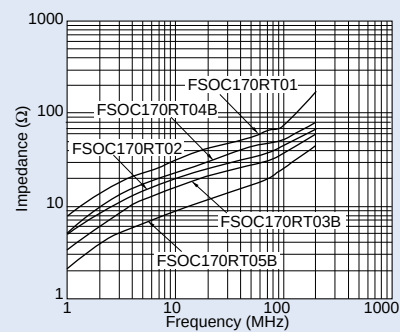


Fig.3

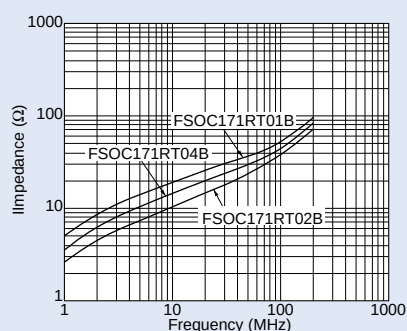


Fig.4

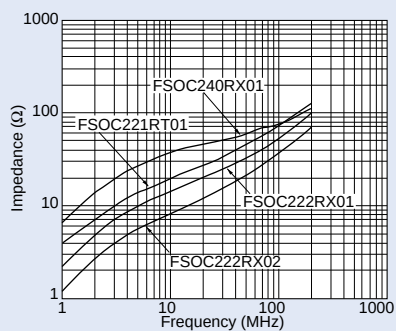


Fig.5

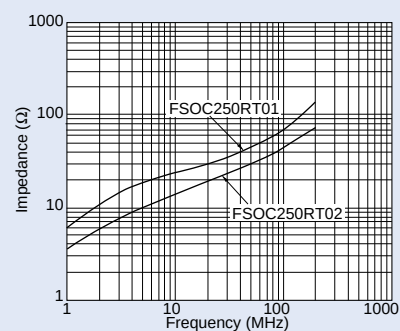


Fig.6

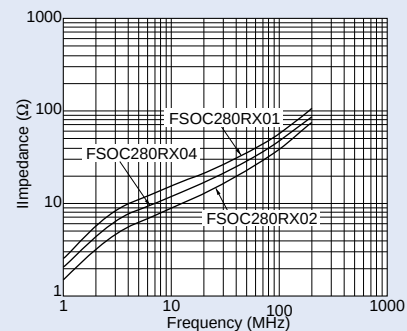


Fig.7

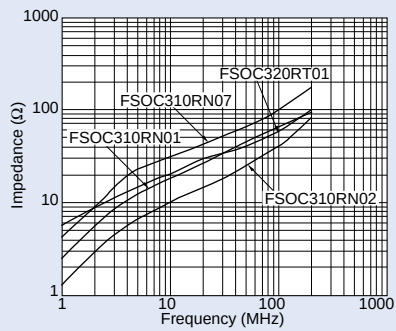


Fig.8

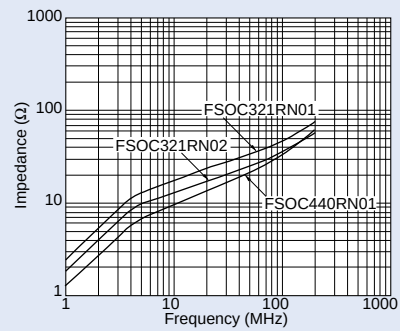


Fig.9

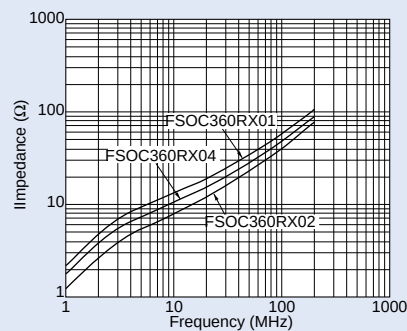


Fig.10

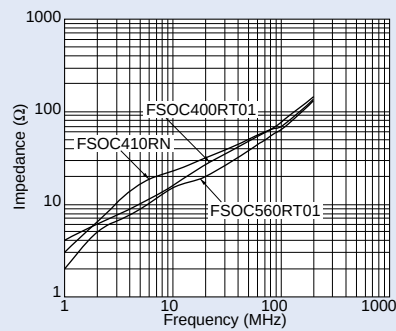


Fig.11

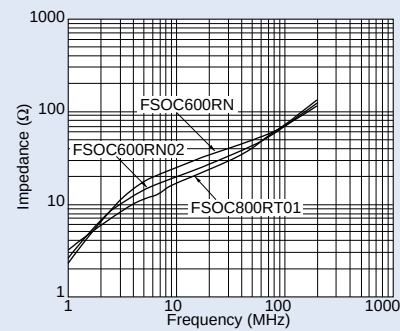


Fig.12

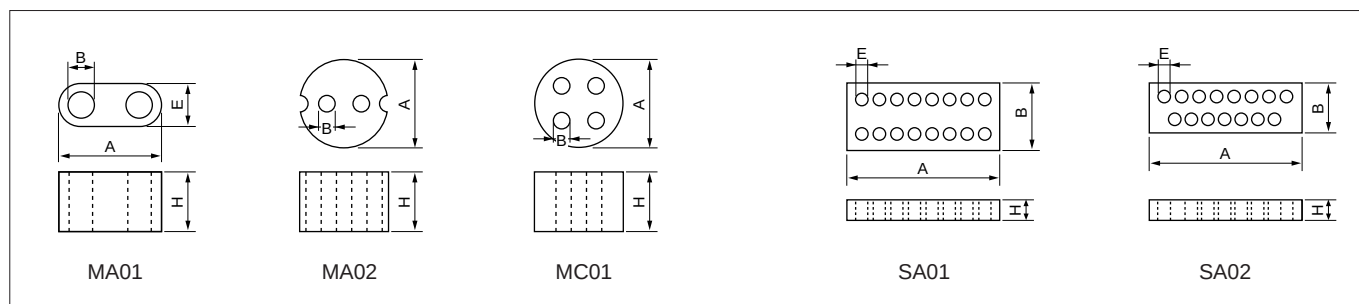

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## Multi Hole Core

### DIMENSIONS

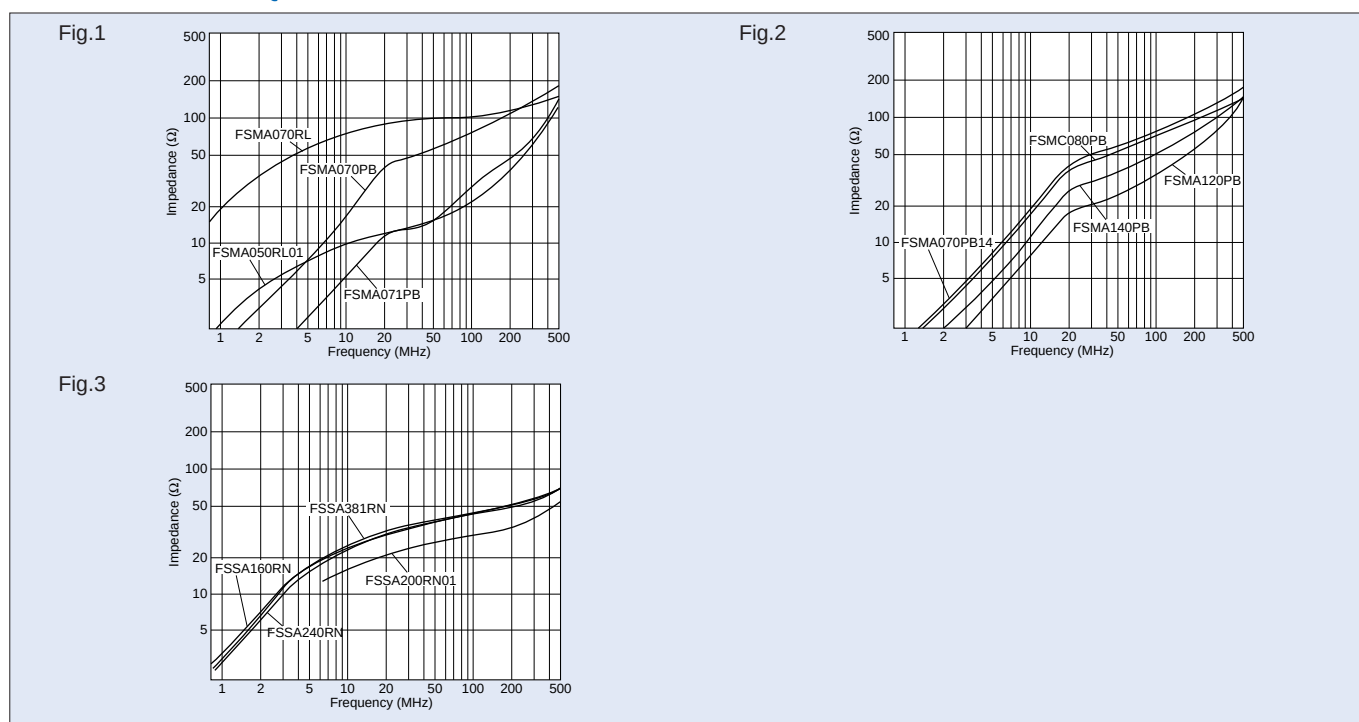


### SPECIFICATIONS

| Part Number | Dimension (mm) |      |      |      | Impedance ( $\Omega$ ) |        | Pitch (mm) | Number of hole | Figure | Shape |
|-------------|----------------|------|------|------|------------------------|--------|------------|----------------|--------|-------|
|             | A              | B    | E    | H    | 10MHz                  | 100MHz |            |                |        |       |
| FSMA050RL01 | 5.20           | 1.30 | 2.50 | 2.00 | 9.6                    | 21     | 2.7        | 2              | Fig.1  | MA01  |
| FSMA070PB   | 7.00           | 1.50 | -    | 5.50 | 17                     | 75     | 3.0        | 2              | Fig.1  | MA02  |
| FSMA070PB14 | 7.14           | 1.84 | 4.19 | 6.20 | 18                     | 78     | 2.9        | 2              | Fig.2  | MA01  |
| FSMA070RL   | 6.50           | 1.00 | 3.00 | 10.0 | 74                     | 100    | 3.0        | 2              | Fig.1  | MA01  |
| FSMA071PB   | 7.00           | 2.20 | 3.70 | 3.00 | 5.6                    | 28     | 3.05       | 2              | Fig.1  | MA01  |
| FSMA120PB   | 12.00          | 4.00 | 6.50 | 4.00 | 7.9                    | 36     | 5.5        | 2              | Fig.2  | MA01  |
| FSMA140PB   | 14.00          | 4.50 | 7.00 | 6.50 | 10                     | 49     | 6.0        | 2              | Fig.2  | MA01  |
| FSMC080PB   | 8.00           | 1.40 | -    | 5.00 | 18                     | 72     | 3.0        | 4              | Fig.2  | MC01  |
| FSSA160RN   | 16.0           | 6.40 | 1.15 | 2.5  | 22                     | 43     | 2.743      | 9              | Fig.3  | SA02  |
| FSSA200RN01 | 20.32          | 10.2 | 1.10 | 1.5  | 15                     | 29     | 2.54       | 16             | Fig.3  | SA01  |
| FSSA240RN   | 24.0           | 6.4  | 1.15 | 2.5  | 22                     | 45     | 2.743      | 15             | Fig.3  | SA02  |
| FSSA381RN   | 38.0           | 6.4  | 1.15 | 2.5  | 24                     | 45     | 2.76       | 25             | Fig.3  | SA02  |

- The impedance value is measured with 1 turn.
- Various types, other than listed above, are available.
- Please confirm the type and rated value upon ordering as specifications are subject to change for improvement without notice. Please contact MURATA for further information.

### IMPEDANCE FREQUENCY CHARACTERISTICS





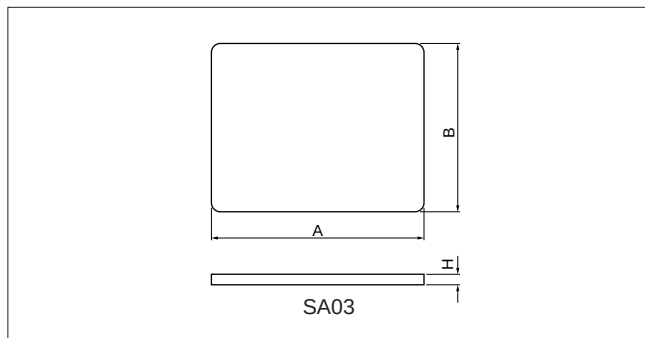

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## Plate core

### DIMENSIONS



### SPECIFICATIONS

| Part Number | Dimension (mm) |      |      | Material | Shape |
|-------------|----------------|------|------|----------|-------|
|             | A              | B    | H    |          |       |
| FSSA100RN01 | 10.0           | 10.0 | 1.0  | RN       | SA03  |
| FSSA100RN02 | 10.0           | 10.0 | 0.55 | RN       | SA03  |
| FSSA100RN03 | 10.0           | 10.0 | 0.8  | RN       | SA03  |
| FSSA202RN01 | 20.0           | 16.5 | 1.5  | RN       | SA03  |
| FSSA202RN02 | 20.0           | 16.5 | 1.0  | RN       | SA03  |
| FSSA203RN01 | 20.0           | 20.0 | 1.0  | RN       | SA03  |
| FSSA270RN01 | 27.0           | 20.0 | 1.0  | RN       | SA03  |
| FSSA300RN01 | 30.0           | 30.0 | 1.0  | RN       | SA03  |
| FSSA530RT01 | 52.8           | 28.5 | 1.4  | RT       | SA03  |
| FSSA600RN02 | 60.5           | 30.6 | 2.0  | RN       | SA03  |

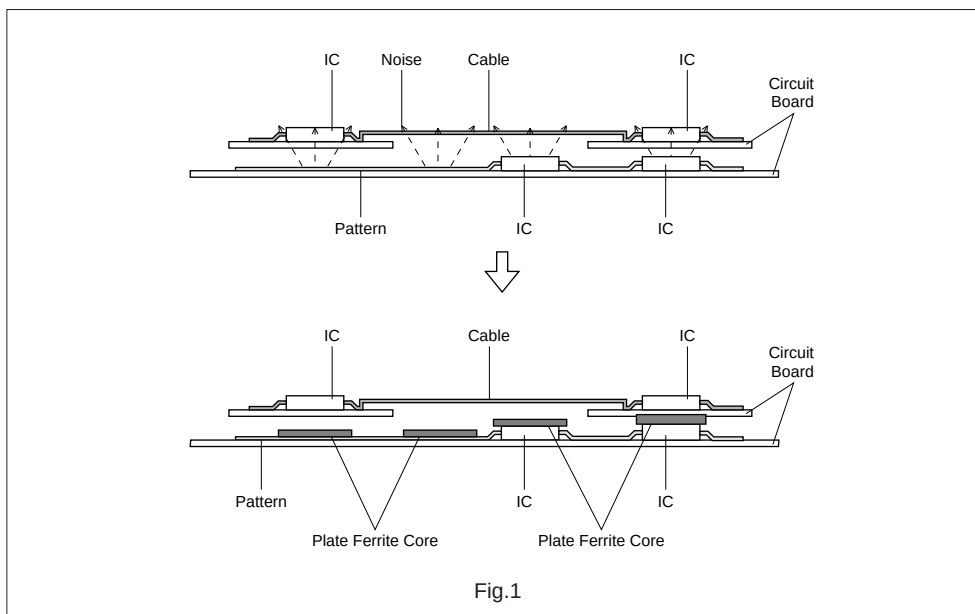
- Please confirm the type and rated value upon ordering as specifications are subject to change for improvement without notice. Please contact MURATA for further information.
- We can supply custom-made core. Please consult MURATA.

### STANDARD CHARACTERISTICS OF FERRITE

#### MATERIALS

|                                  |                                   |                                   |
|----------------------------------|-----------------------------------|-----------------------------------|
| Ni-Zn                            | RN                                | RT                                |
| Initial Permeability ( $\mu_i$ ) | 550                               | 1600                              |
| Curie Temperature                | $\geq 130^\circ\text{C}$          | $\geq 110^\circ\text{C}$          |
| Electrical Resistivity           | $\geq 10^5 \Omega \cdot \text{m}$ | $\geq 10^5 \Omega \cdot \text{m}$ |

### CASE TO USE (Plate core)

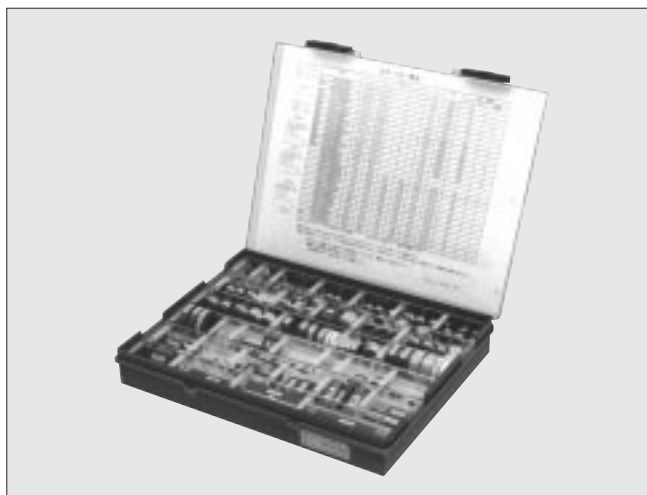


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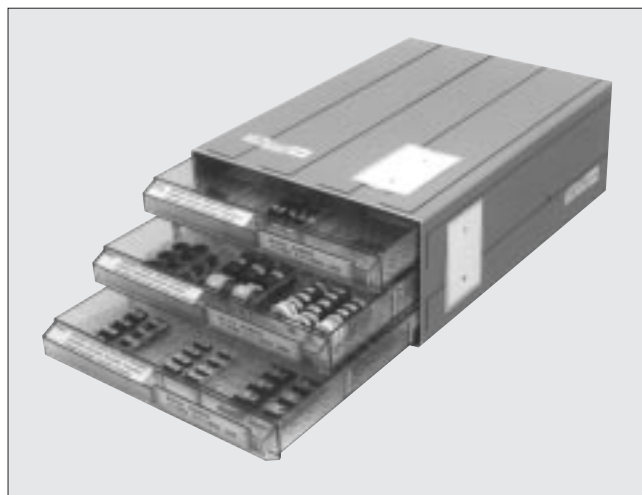
## Sample Kit

### ■SAMPLE KIT

The Ferrite Core sample kit has each of the filters in a plastic case to facilitate selection when testing the noise suppression capabilities of the Ferrite Core range. The kit can be used equally either on-site or in the laboratory.



TYPE A



TYPE B

SERIES : Ferrite Beads Core  
Ring Core  
Plate Core  
Core for Flat Ribbon Cable.  
Please consult MURATA about specifications

- Please use the products in this Sample Kit experiment or test production, but do not use for mass production. When using for mass production, please order them after confirming detailed specifications by approving the appropriate individual specification sheet.


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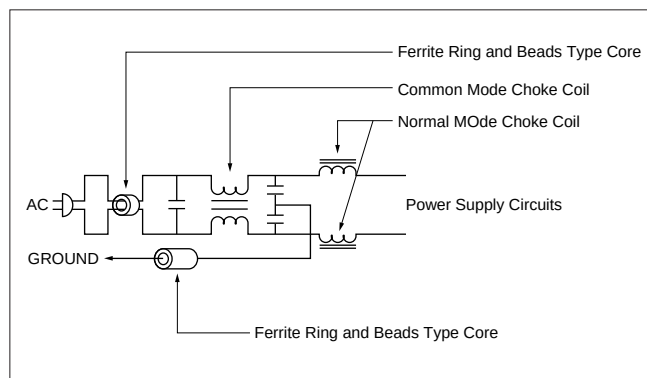
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## Ferrite Core for EMI Suppression

### ■EMI SUPPRESSION IN POWER SUPPLY CIRCUITS

In power supply circuits, AC line filter and the capacitor for normal/common mode noise are used for EMI countermeasures. But some noise passes over these filters and propagates onto the AC cable. For this noise, winding the AC cable (2-3 turns) over a ferrite ring core or ground inductor (coil with several turns over ferrite ring core) is very effective.

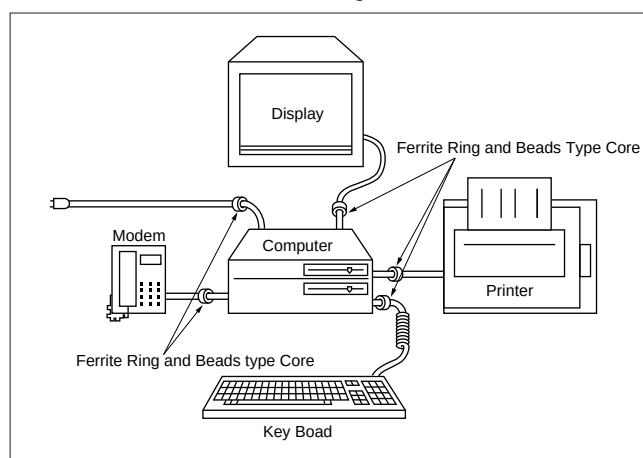


### ■EMI SUPPRESSION FOR INTERFACE CABLES

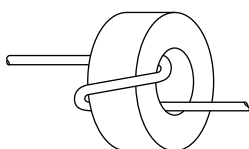
Current development of digital circuit engineering expands the application of micro-computers in various products. Digital circuits in micro-computers may radiate noise (eq. clock signal and associated harmonic waves).

This noise couples onto the interface cables which acts as an antenna because of the high frequency components. This radiated noise can then interfere with other equipment and conversely the micro-computer is susceptible to similar radiated noise from other sources.

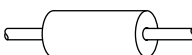
An easy and cost effective method of noise suppression can be accomplished when the cable is passed through a ferrite core or wound around a ferrite ring.



### ■CASES TO USE (Except plate core)



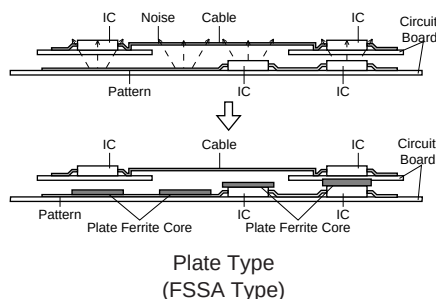
Ring Type  
(FSOB Type)



Beads Type  
(FSOH Type)



Core for Flat Cable Type  
(FSOC Type)



### ■NOTICE

Please do a prototype build using ferrite core for EMI suppression in the actual application in order to effectively evaluate the part before mass production.


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## Ferrite Core for EMI Suppression

### ⚠ Note:

#### 1. Export Control

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Murata products should not be used or sold for use in the development, production, stockpiling or utilization of any conventional weapons or mass-destructive weapons (nuclear weapons, chemical or biological weapons, or missiles), or any other weapons.

〈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 our products listed in this catalog for the applications listed below which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property, or when intending to use one of our products for other applications than specified in this catalog.

- ① Aircraft equipment
- ② Aerospace equipment
- ③ Undersea equipment
- ④ Medical equipment
- ⑤ Transportation equipment (vehicles, trains, ships, etc.)
- ⑥ Traffic signal equipment
- ⑦ Disaster prevention / crime prevention equipment
- ⑧ Data-processing equipment
- ⑨ Application of similar complexity and/or reliability requirements to the applications listed in the above

#### 3. Product specifications in this catalog are as of March 1999. 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 your ordering. If there are any questions, please contact our sales representatives or product engineers.

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