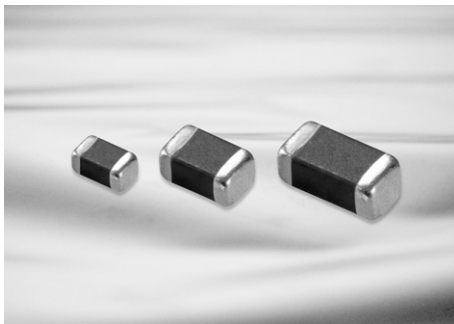


Chip Bead; CIB/CIM Series

For EMI Suppression



Feature

- Smallest beads suitable for surface mounting
- Perfect shape for automatic mounting, with no directionality.
- Excellent solderability and high heat resistance for either flow or reflow soldering.
- Monolithic inorganic material construction for high reliability.
- Closed magnetic circuit configuration avoids crosstalk and is suitable for high density PCBs.

Application

- High frequency EMI prevention application to computers, printers, VCRs, TVs and mobile phones.

The CIB/CIM Series are used for EMI suppression filter. These beads suppress electro-magnetic wave noise by increased impedance, especially by increased resistance at noise frequency.

CIB Series

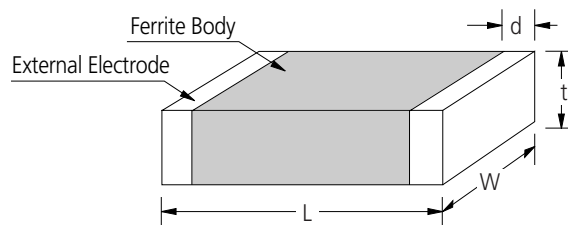
The CIB Series is composed of mono-layer internal conductor that allows low impedance and low DC resistance.

CIM Series

The CIM Series display high impedance because it is composed of a multilayered internal conductor and has excellent attenuation characteristics for wide band frequencies.

| | |
|----------------|------------|
| Operating Temp | -55~+125°C |
| Storage Temp | -10~+40°C |

Dimensions



Unit: mm

| SIZE CODE | L | W | t | d |
|-----------|----------|----------|-----------------|--------------|
| 03 | 0.6±0.03 | 0.3±0.03 | 0.3±0.03 | 0.15±0.05 |
| 05 | 1.0±0.05 | 0.5±0.05 | 0.5±0.05 | 0.25±0.1 |
| 10 | 1.6±0.15 | 0.8±0.15 | 0.8±0.15 | 0.3±0.2 |
| 21 | 2.0±0.2 | 1.25±0.2 | 0.9±0.2 | 0.5+0.2,-0.3 |
| 31 | 3.2±0.2 | 1.6±0.2 | 1.1±0.2 | 0.5+0.2,-0.3 |
| 32 | 3.2±0.2 | 2.5±0.2 | 1.3±0.2 | 0.5±0.3 |
| 41 | 4.5±0.2 | 1.6±0.2 | 1.6±0.2/1.2±0.2 | 0.5±0.3 |
| 43 | 4.5±0.2 | 3.2±0.2 | 1.5±0.2 | 0.5±0.3 |

Part Numbering

CI **M** **03** **J** **121** **N** **C**
 (1) (2) (3) (4) (5) (6) (7)

(1) Chip Beads

(2) B: Mono-layer type, M: Multi-layer type

(3) Dimension

(4) Material Code

P, U: Broad impedance, especially suppresses noise in the 10~200MHz range

J : Suppresses noise in the 100~300MHz range

K : Suppresses noise in the 200MHz above

N : Suppresses noise in the 200~500MHz range

(5) Nominal impedance (110: 11Ω ; 121: 120Ω)

(6) Thickness option (N: Standard, A: Thinner than standard, B: Thicker than standard)

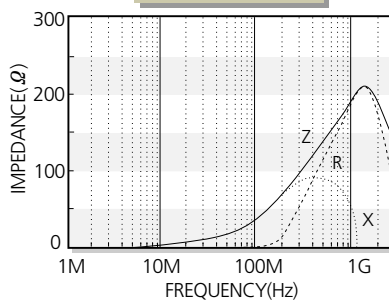
(7) Packaging (C: paper tape, E: embossed tape)

CIM 0603(0201) Type

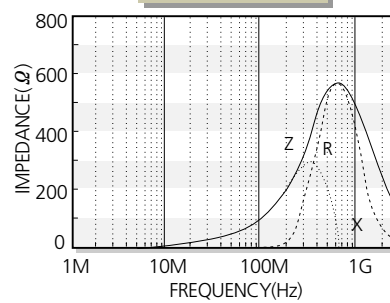
| Part No. | Thickness (mm) | Impedance (Ω) $\pm 25\%$ @ 100 MHz | DC Resistance (Ω) Max. | Rated Current (mA) Max. |
|-------------|----------------|---|---------------------------------|-------------------------|
| CIM 03N 300 | 0.3 ± 0.03 | 30 | 0.8 | 150 |
| CIM 03N 800 | 0.3 ± 0.03 | 80 | 1.2 | 100 |
| CIM 03U 800 | 0.3 ± 0.03 | 80 | 0.5 | 200 |
| CIM 03U 121 | 0.3 ± 0.03 | 120 | 0.8 | 200 |
| CIM 03U 241 | 0.3 ± 0.03 | 240 | 1.0 | 100 |
| CIM 03J 121 | 0.3 ± 0.03 | 120 | 0.8 | 200 |
| CIM 03J 241 | 0.3 ± 0.03 | 240 | 1.0 | 100 |

Electrical Characteristics

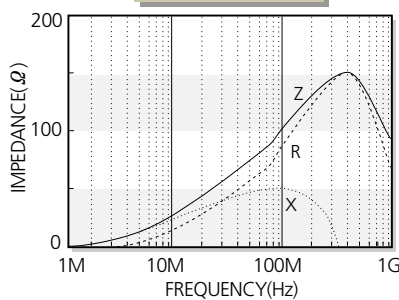
CIM03N300



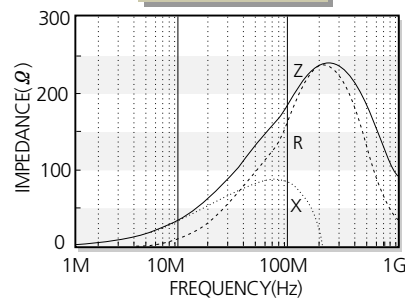
CIM03N800



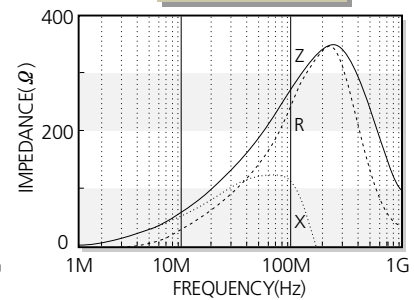
CIM03U800



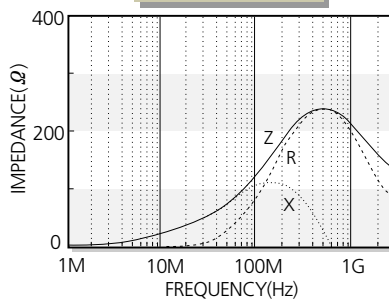
CIM03U121



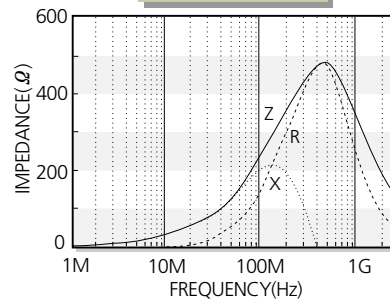
CIM03U241



CIM03J121



CIM03J241



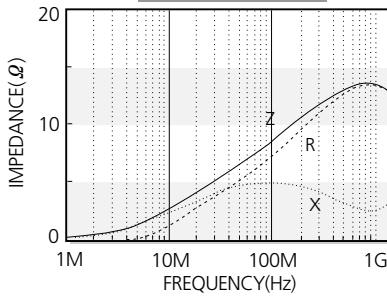


CIM 1005(0402) Type

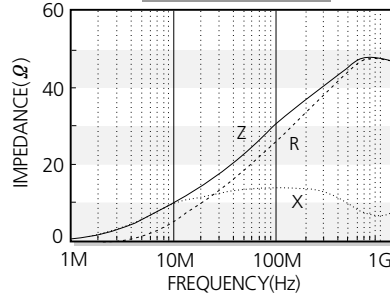
| Part No. | Thickness (mm) | Impedance (Ω) $\pm 25\%$ @ 100 MHz | DC Resistance (Ω) Max. | Rated Current (mA) Max. |
|--------------|-------------------|---|------------------------------------|----------------------------|
| CIM 05U 100 | 0.5 ± 0.05 | 10 | 0.05 | 1200 |
| CIM 05U 300 | 0.5 ± 0.05 | 30 | 0.10 | 700 |
| CIM 05U 600 | 0.5 ± 0.05 | 60 | 0.15 | 600 |
| CIM 05U 800 | 0.5 ± 0.05 | 80 | 0.20 | 600 |
| CIM 05U 121 | 0.5 ± 0.05 | 120 | 0.25 | 500 |
| CIM 05U 221 | 0.5 ± 0.05 | 220 | 0.35 | 400 |
| CIM 05U 241 | 0.5 ± 0.05 | 240 | 0.35 | 400 |
| CIM 05U 301 | 0.5 ± 0.05 | 300 | 0.45 | 400 |
| CIM 05U 471 | 0.5 ± 0.05 | 470 | 0.55 | 300 |
| CIM 05U 601 | 0.5 ± 0.05 | 600 | 0.60 | 300 |
| CIM 05U 102 | 0.5 ± 0.05 | 1000 | 1.00 | 200 |
| CIM 05 J 300 | 0.5 ± 0.05 | 30 | 0.20 | 700 |
| CIM 05 J 600 | 0.5 ± 0.05 | 60 | 0.20 | 600 |
| CIM 05 J 800 | 0.5 ± 0.05 | 80 | 0.25 | 600 |
| CIM 05 J 121 | 0.5 ± 0.05 | 120 | 0.30 | 500 |
| CIM 05 J 221 | 0.5 ± 0.05 | 220 | 0.35 | 400 |
| CIM 05 J 241 | 0.5 ± 0.05 | 240 | 0.35 | 400 |
| CIM 05 J 301 | 0.5 ± 0.05 | 300 | 0.45 | 400 |
| CIM 05 J 471 | 0.5 ± 0.05 | 470 | 0.55 | 300 |
| CIM 05 J 601 | 0.5 ± 0.05 | 600 | 0.60 | 300 |
| CIM 05 J 102 | 0.5 ± 0.05 | 1000 | 0.80 | 250 |
| CIM 05 J 152 | 0.5 ± 0.05 | 1500 | 1.00 | 250 |
| CIM 05 J 182 | 0.5 ± 0.05 | 1800 | 1.40 | 100 |
| CIM 05 N 750 | 0.5 ± 0.05 | 75 | 0.35 | 300 |
| CIM 05 N 121 | 0.5 ± 0.05 | 120 | 0.55 | 300 |
| CIM 05 N 221 | 0.5 ± 0.05 | 220 | 0.80 | 200 |
| CIM 05 F 050 | 0.5 ± 0.05 | 5 | 0.08 | 500 |
| CIM 05 F 100 | 0.5 ± 0.05 | 10 | 0.10 | 300 |
| CIM 05 F 220 | 0.5 ± 0.05 | 22 | 0.20 | 300 |
| CIM 05 F 470 | 0.5 ± 0.05 | 47 | 0.35 | 300 |
| CIM 05 F 750 | 0.5 ± 0.05 | 75 | 0.40 | 300 |
| CIM 05 F 121 | 0.5 ± 0.05 | 120 | 0.55 | 300 |
| CIM 05 F 221 | 0.5 ± 0.05 | 220 | 0.80 | 200 |

Electrical Characteristics

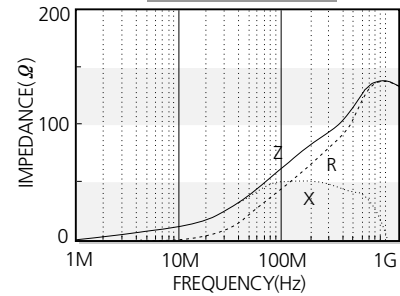
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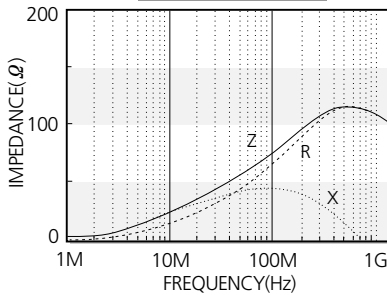
CIM05U300



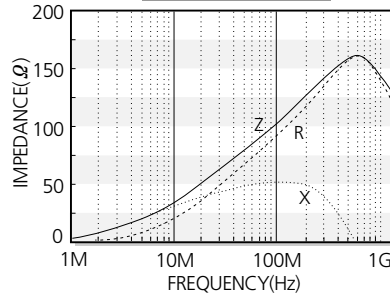
CIM05U600



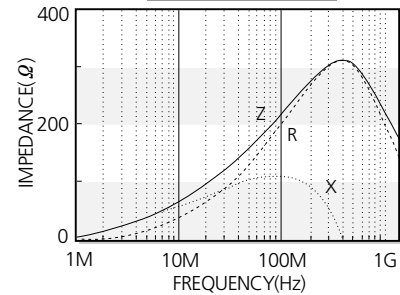
CIM05U800



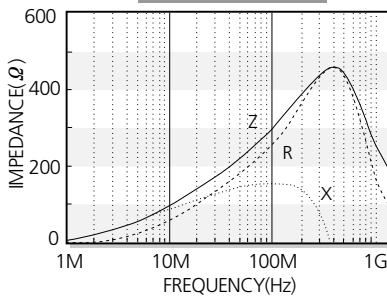
CIM05U121



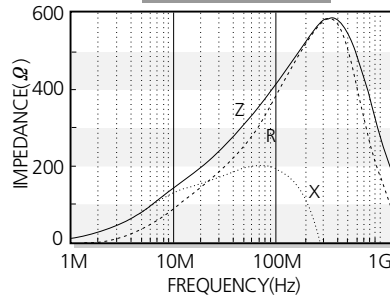
CIM05U241



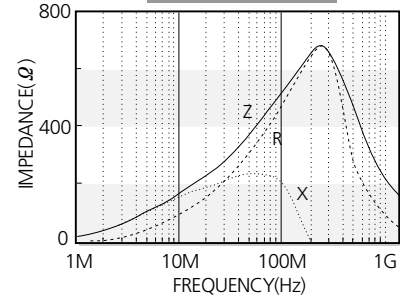
CIM05U301



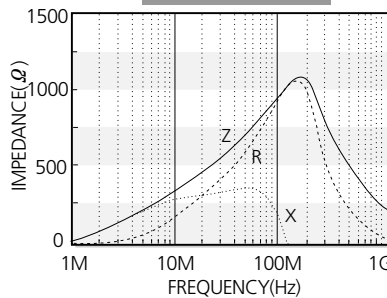
CIM05U471



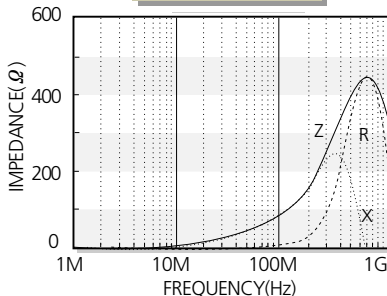
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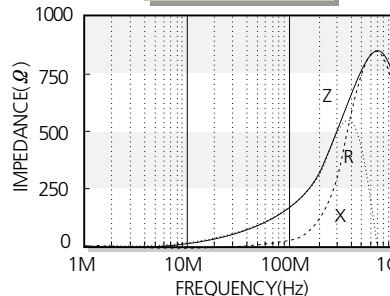
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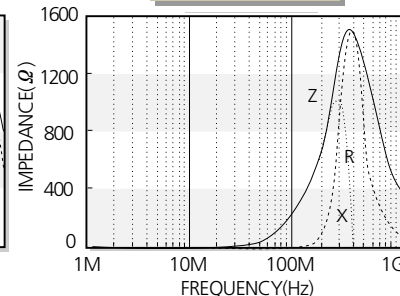
CIM05N750



CIM05N121

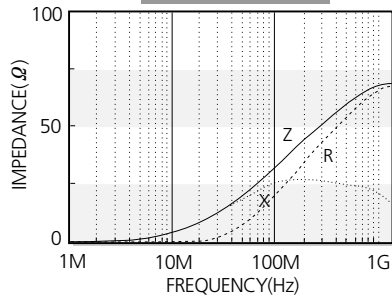


CIM05N221

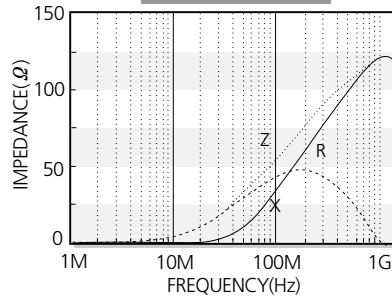


Electrical Characteristics

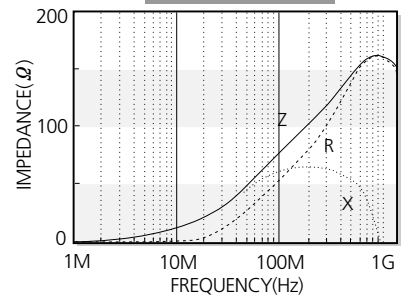
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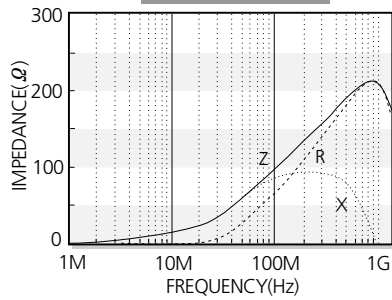
CIM05J600



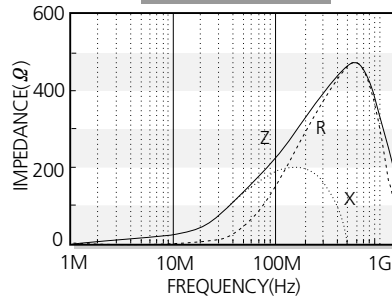
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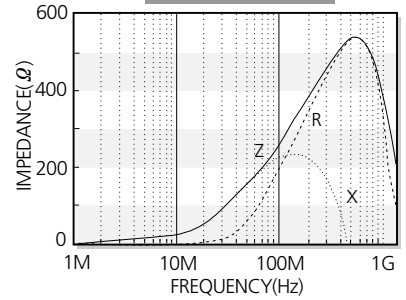
CIM05J121



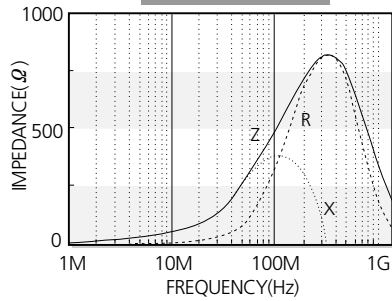
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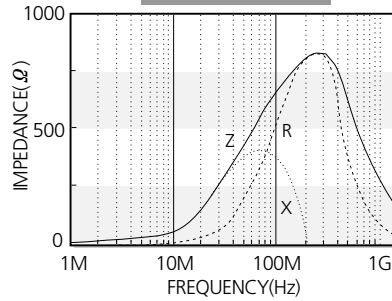
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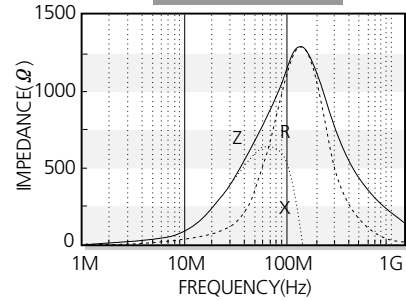
CIM05J471



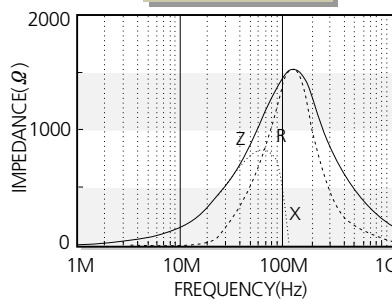
CIM05J601



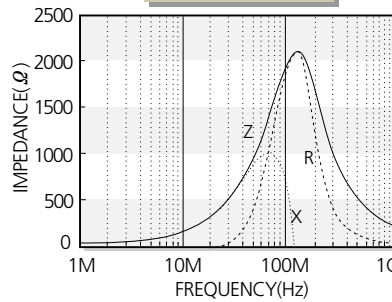
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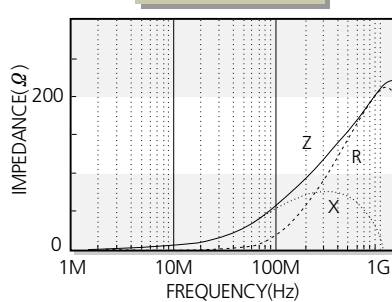
CIM05J152



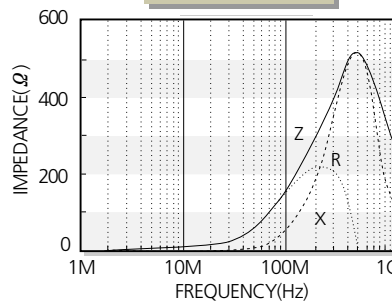
CIM05J182



CIM05F470



CIM05F121

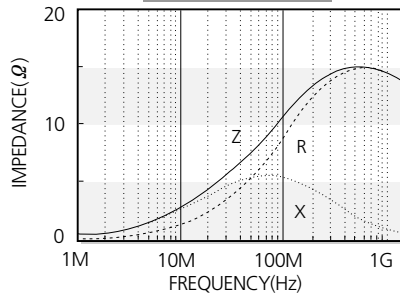


CIB/CIM 1608(0603) Type

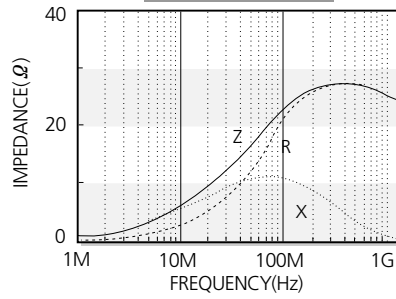
| Part No. | Thickness (mm) | Impedance (Ω) $\pm 25\%$ @ 100 MHz | DC Resistance (Ω) Max. | Rated Current (mA) Max. |
|--------------|-------------------|---|------------------------------------|----------------------------|
| CIB 10P 100 | 0.8 \pm 0.15 | 10 | 0.05 | 1000 |
| CIB 10P 220 | 0.8 \pm 0.15 | 22 | 0.05 | 1500 |
| CIB 10P 260 | 0.8 \pm 0.15 | 26 | 0.08 | 1000 |
| CIB 10P 300 | 0.8 \pm 0.15 | 30 | 0.08 | 1000 |
| CIB 10J 300 | 0.8 \pm 0.15 | 30 | 0.08 | 1000 |
| CIB 10P 330 | 0.8 \pm 0.15 | 33 | 0.08 | 1000 |
| CIM 10U 800 | 0.8 \pm 0.15 | 80 | 0.15 | 600 |
| CIM 10U 121 | 0.8 \pm 0.15 | 120 | 0.15 | 500 |
| CIM 10U 221 | 0.8 \pm 0.15 | 220 | 0.30 | 400 |
| CIM 10U 241 | 0.8 \pm 0.15 | 240 | 0.30 | 400 |
| CIM 10U 471 | 0.8 \pm 0.15 | 470 | 0.35 | 300 |
| CIM 10U 601 | 0.8 \pm 0.15 | 600 | 0.45 | 300 |
| CIM 10U 102 | 0.8 \pm 0.15 | 1000 | 0.60 | 250 |
| CIM 10U 202 | 0.8 \pm 0.15 | 2000(at 70MHz) | 1.20 | 200 |
| CIM 10J 400 | 0.8 \pm 0.15 | 40 | 0.12 | 600 |
| CIM 10J 470 | 0.8 \pm 0.15 | 47 | 0.12 | 600 |
| CIM 10J 600 | 0.8 \pm 0.15 | 60 | 0.12 | 600 |
| CIM 10J 750 | 0.8 \pm 0.15 | 75 | 0.12 | 550 |
| CIM 10J 800 | 0.8 \pm 0.15 | 80 | 0.20 | 550 |
| CIM 10J 121 | 0.8 \pm 0.15 | 120 | 0.20 | 500 |
| CIM 10J 151 | 0.8 \pm 0.15 | 150 | 0.20 | 400 |
| CIM 10J 221 | 0.8 \pm 0.15 | 220 | 0.30 | 400 |
| CIM 10J 241 | 0.8 \pm 0.15 | 240 | 0.30 | 400 |
| CIM 10J 301 | 0.8 \pm 0.15 | 300 | 0.35 | 400 |
| CIM 10J 331 | 0.8 \pm 0.15 | 330 | 0.35 | 400 |
| CIM 10J 471 | 0.8 \pm 0.15 | 470 | 0.35 | 300 |
| CIM 10J 601 | 0.8 \pm 0.15 | 600 | 0.45 | 300 |
| CIM 10J 751 | 0.8 \pm 0.15 | 750 | 0.55 | 300 |
| CIM 10J 102 | 0.8 \pm 0.15 | 1000 | 0.70 | 250 |
| CIM 10J 152 | 0.8 \pm 0.15 | 1500 | 1.00 | 250 |
| CIM 10J 252 | 0.8 \pm 0.15 | 2500 | 1.50 | 200 |
| CIM 10K 152 | 0.8 \pm 0.15 | 1500 | 0.80 | 250 |
| CIM 10K 202 | 0.8 \pm 0.15 | 2000 | 1.00 | 200 |
| CIM 10K 252 | 0.8 \pm 0.15 | 2500 | 1.20 | 200 |
| CIM 10N 700 | 0.8 \pm 0.15 | 70 | 0.30 | 500 |
| CIM 10N 121 | 0.8 \pm 0.15 | 120 | 0.45 | 400 |
| CIM 10N 241 | 0.8 \pm 0.15 | 240 | 0.60 | 300 |
| CIM 10 F 470 | 0.8 \pm 0.15 | 47 | 0.25 | 550 |
| CIM 10 F 600 | 0.8 \pm 0.15 | 60 | 0.25 | 550 |
| CIM 10 F 121 | 0.8 \pm 0.15 | 120 | 0.30 | 500 |
| CIM 10 F 331 | 0.8 \pm 0.15 | 330 | 0.58 | 400 |
| CIM 10 F471 | 0.8 \pm 0.15 | 470 | 0.85 | 300 |

Electrical Characteristics

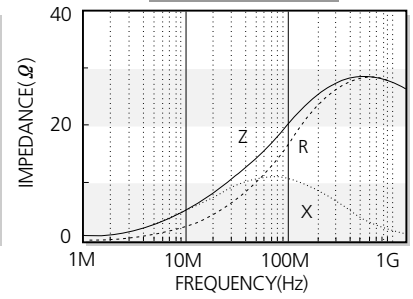
CIB10P100



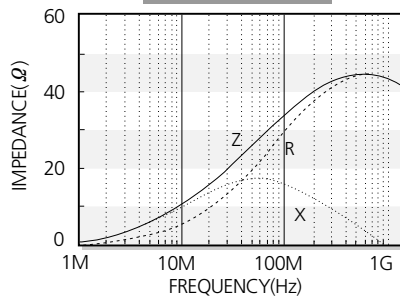
CIB10P220



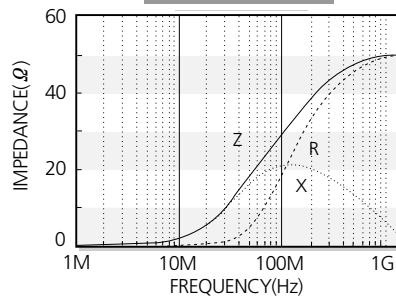
CIB10P260



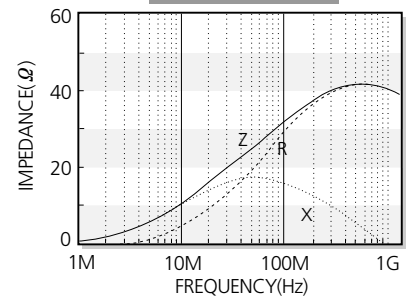
CIB10P300



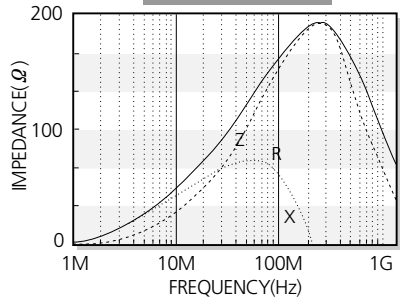
CIB10J300



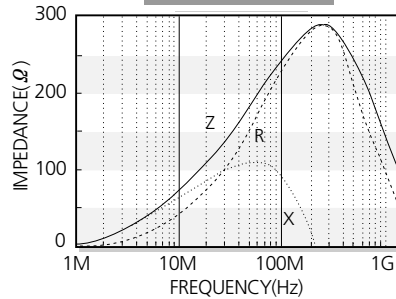
CIB10P330



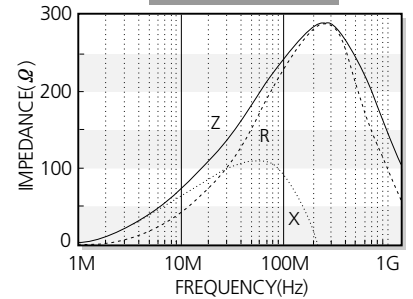
CIM10U121



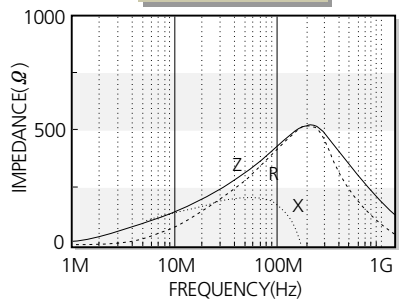
CIM10U221



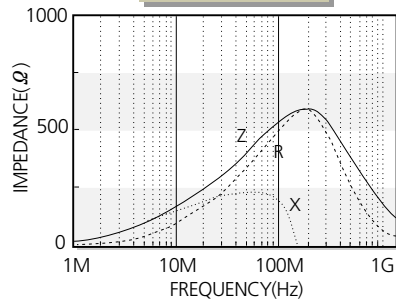
CIM10U241



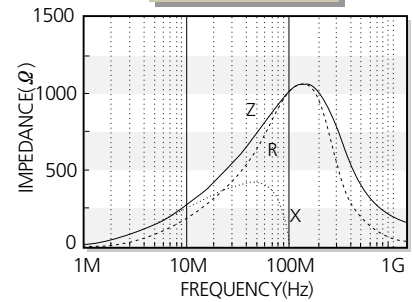
CIM10U471



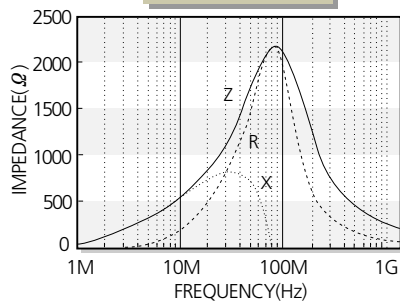
CIM10U601



CIM10U102

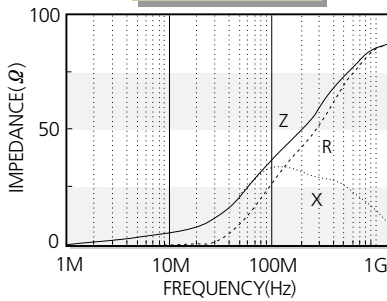


CIM10U202

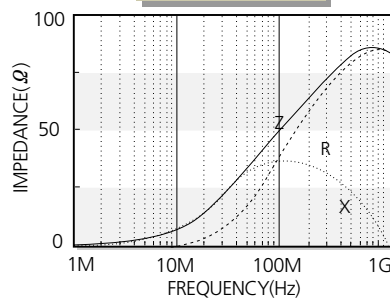


Electrical Characteristics

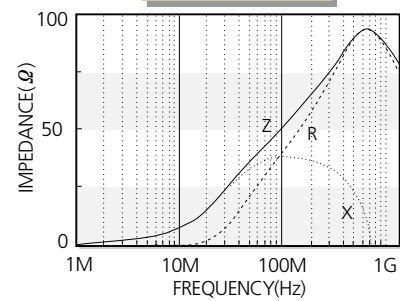
CIM10J400



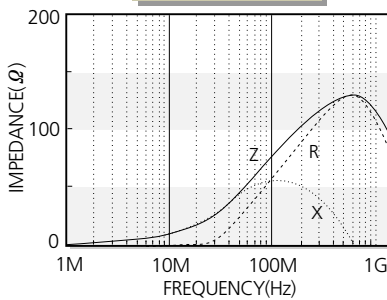
CIM10J470



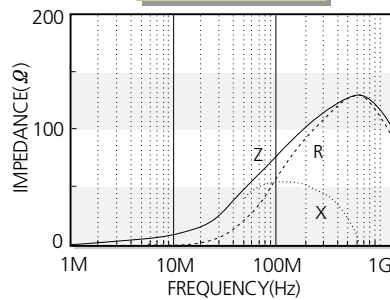
CIM10J600



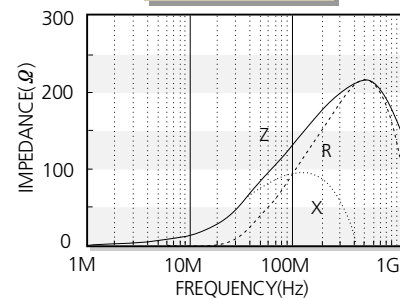
CIM10J750



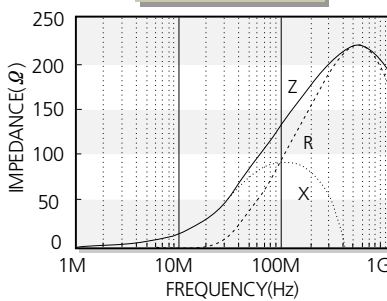
CIM10J800



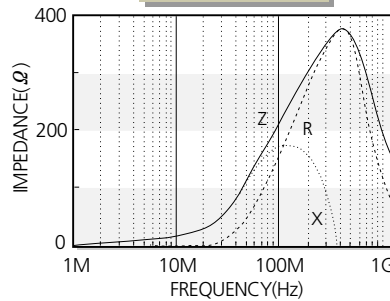
CIM10J121



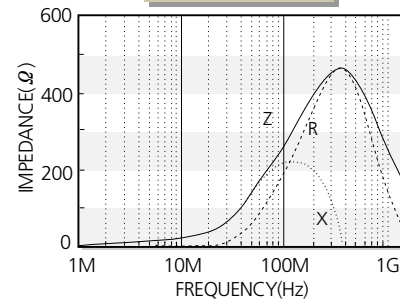
CIM10J151



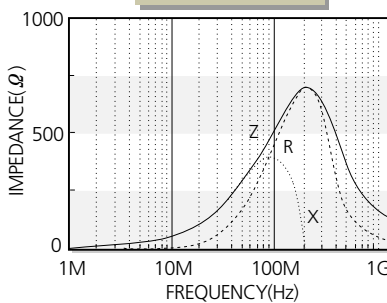
CIM10J241



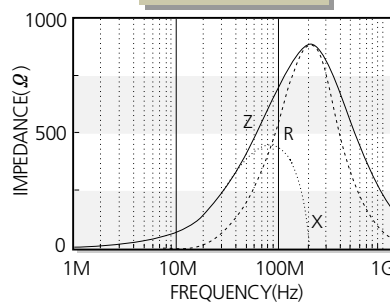
CIM10J301



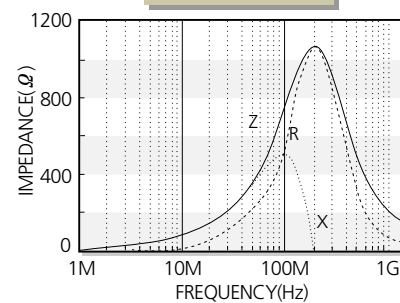
CIM10J471



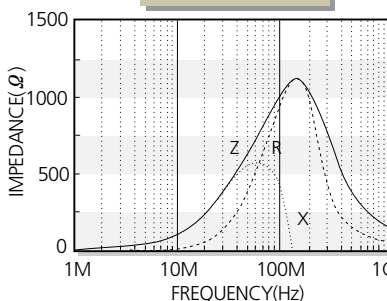
CIM10J601



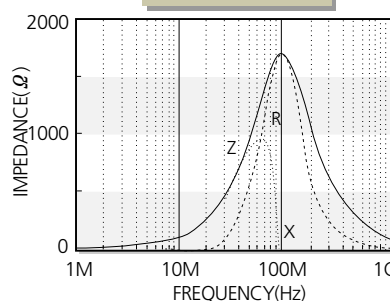
CIM10J751



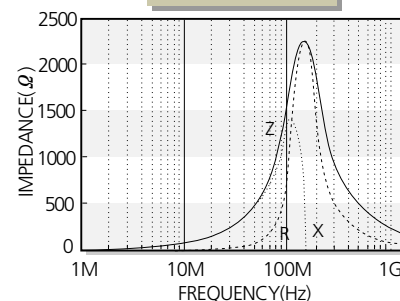
CIM10J102



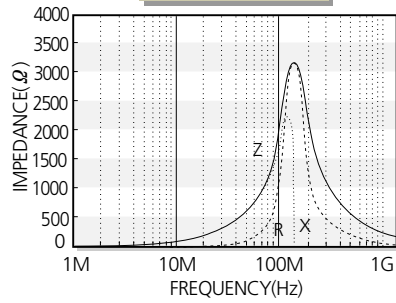
CIM10J152



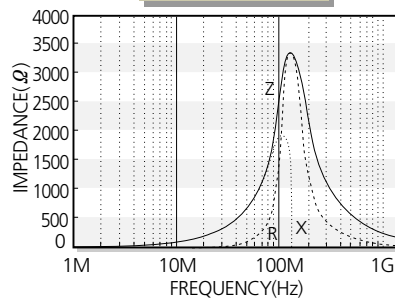
CIM10K152



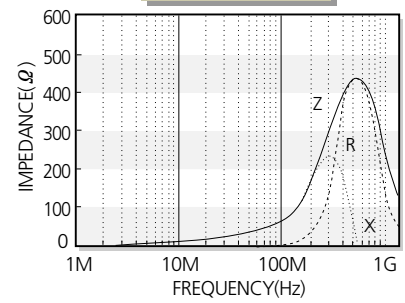
CIM10K202



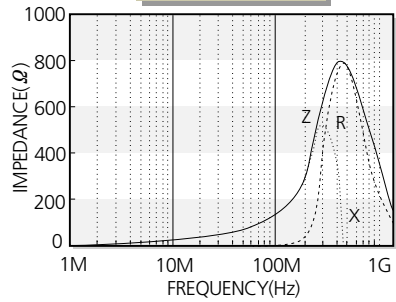
CIM10K252



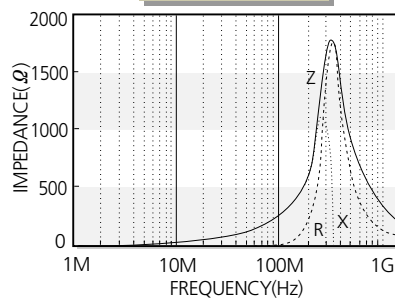
CIM10N700



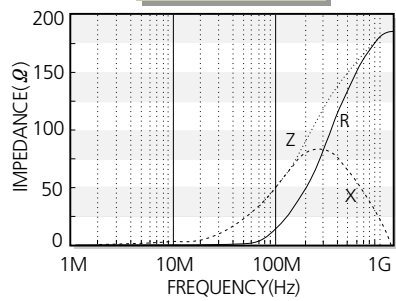
CIM10N121



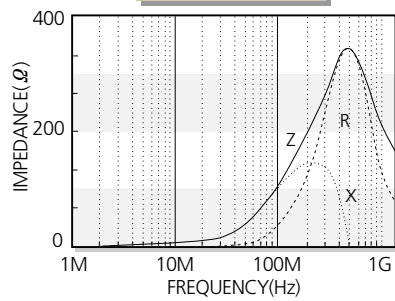
CIM10N241



CIM10F600



CIM10F121

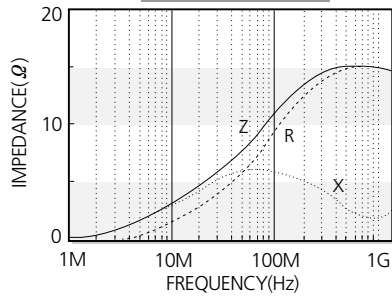


CIB/CIM 2012(0805) Type

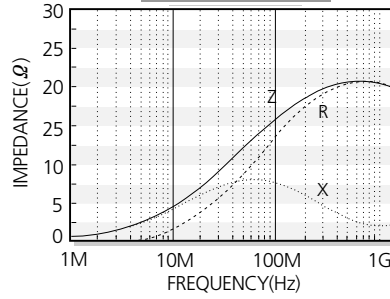
| Part No. | Thickness (mm) | Impedance (Ω) $\pm 25\%$ @ 100 MHz | DC Resistance (Ω) Max. | Rated Current (mA) Max. |
|-------------|-------------------|---|------------------------------------|----------------------------|
| CIB 21P 110 | 0.9 \pm 0.2 | 11 | 0.05 | 2000 |
| CIB 21P 150 | 0.9 \pm 0.2 | 15 | 0.05 | 2000 |
| CIB 21P 260 | 0.9 \pm 0.2 | 26 | 0.05 | 2000 |
| CIB 21P 330 | 0.9 \pm 0.2 | 33 | 0.05 | 1500 |
| CIB 21P 470 | 0.9 \pm 0.2 | 47 | 0.05 | 1500 |
| CIM 21U 800 | 0.9 \pm 0.2 | 80 | 0.10 | 900 |
| CIM 21U 101 | 0.9 \pm 0.2 | 100 | 0.10 | 500 |
| CIM 21U 121 | 0.9 \pm 0.2 | 120 | 0.10 | 500 |
| CIM 21U 151 | 0.9 \pm 0.2 | 150 | 0.15 | 400 |
| CIM 21U 241 | 0.9 \pm 0.2 | 240 | 0.15 | 400 |
| CIM 21U 301 | 0.9 \pm 0.2 | 300 | 0.15 | 400 |
| CIM 21U 471 | 0.9 \pm 0.2 | 470 | 0.25 | 400 |
| CIM 21U 601 | 0.9 \pm 0.2 | 600 | 0.30 | 400 |
| CIM 21U 102 | 0.9 \pm 0.2 | 1000(at 70MHz) | 0.45 | 400 |
| CIM 21U 202 | 0.9 \pm 0.2 | 2000(at 70MHz) | 0.70 | 300 |
| CIB 21J 260 | 0.9 \pm 0.2 | 26 | 0.05 | 2000 |
| CIB 21J 400 | 0.9 \pm 0.2 | 40 | 0.05 | 2000 |
| CIM 21J 600 | 0.9 \pm 0.2 | 60 | 0.08 | 900 |
| CIM 21J 800 | 0.9 \pm 0.2 | 80 | 0.08 | 900 |
| CIM 21J 121 | 0.9 \pm 0.2 | 120 | 0.15 | 600 |
| CIM 21J 151 | 0.9 \pm 0.2 | 150 | 0.15 | 500 |
| CIM 21J 221 | 0.9 \pm 0.2 | 220 | 0.02 | 400 |
| CIM 21J 241 | 0.9 \pm 0.2 | 240 | 0.20 | 400 |
| CIM 21J 301 | 0.9 \pm 0.2 | 300 | 0.25 | 400 |
| CIM 21J 471 | 0.9 \pm 0.2 | 470 | 0.25 | 400 |
| CIM 21J 601 | 0.9 \pm 0.2 | 600 | 0.25 | 400 |
| CIM 21J 102 | 0.9 \pm 0.2 | 1000 | 0.40 | 400 |
| CIM 21J 152 | 0.9 \pm 0.2 | 1500(at 70MHz) | 0.55 | 300 |
| CIM 21J 182 | 0.9 \pm 0.2 | 1800(at 70MHz) | 0.45 | 300 |
| CIM 21J 202 | 0.9 \pm 0.2 | 2000(at 70MHz) | 0.50 | 300 |
| CIM 21K 152 | 0.9 \pm 0.2 | 1500 | 0.45 | 300 |
| CIM 21K 252 | 0.9 \pm 0.2 | 2500 | 0.80 | 250 |
| CIM 21N 700 | 0.9 \pm 0.2 | 70 | 0.20 | 600 |
| CIM 21N 121 | 0.9 \pm 0.2 | 120 | 0.25 | 500 |
| CIM 21N 241 | 0.9 \pm 0.2 | 240 | 0.3 | 400 |

Electrical Characteristics

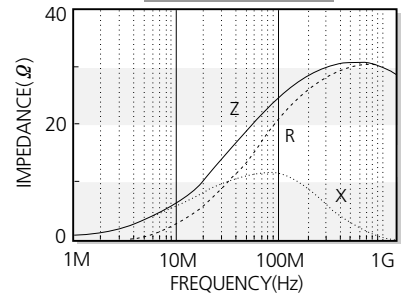
CIB21P110



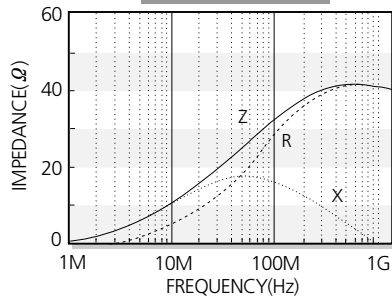
CIB21P150



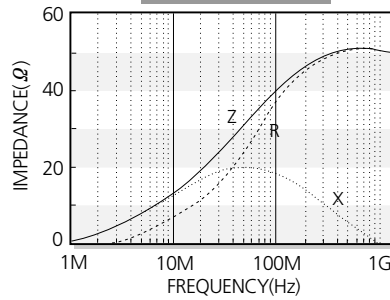
CIB21P260



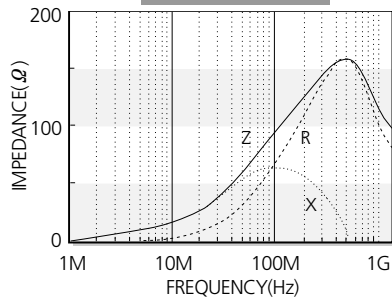
CIB21P330



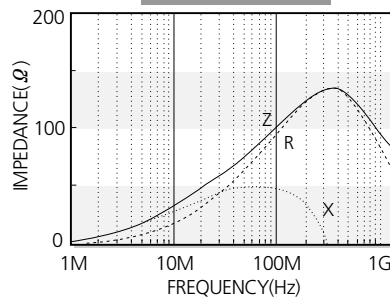
CIB21P470



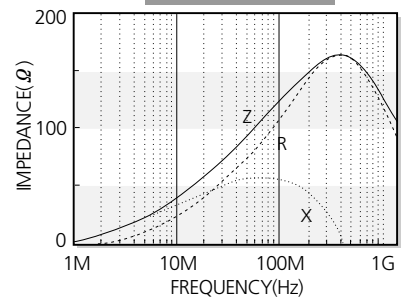
CIM21U800



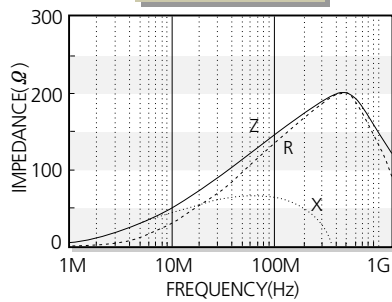
CIM21U101



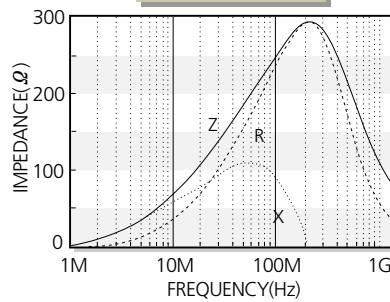
CIM21U121



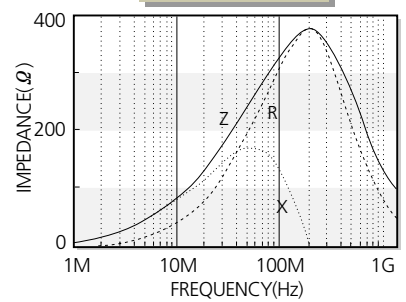
CIM21U151



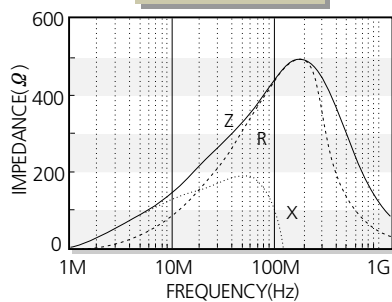
CIM21U241



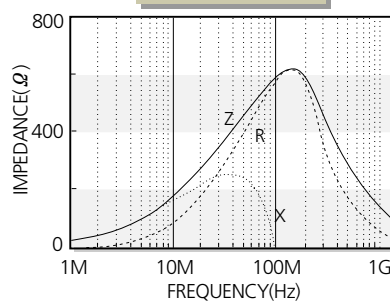
CIM21U301



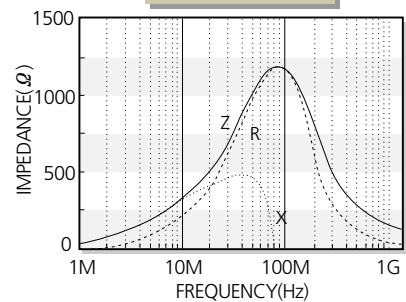
CIM21U471



CIM21U601

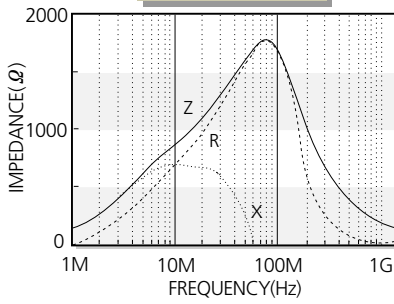


CIM21U102

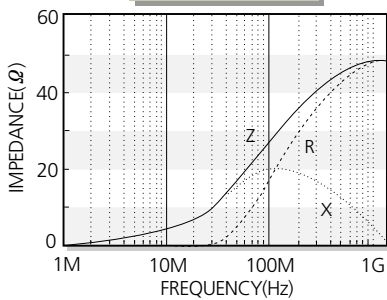


Electrical Characteristics

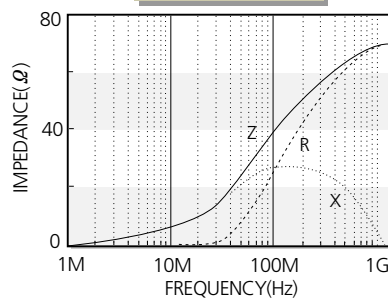
CIM21U202



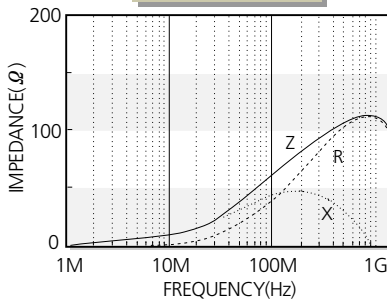
CIB21J260



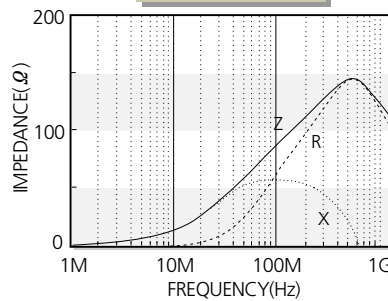
CIB21J400



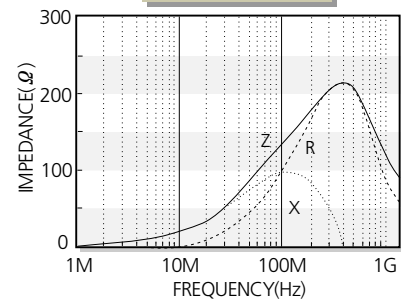
CIM21J600



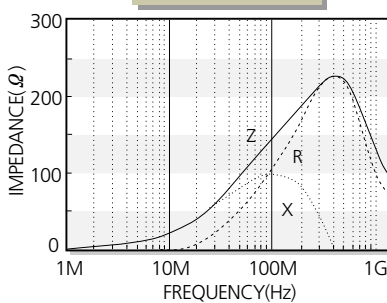
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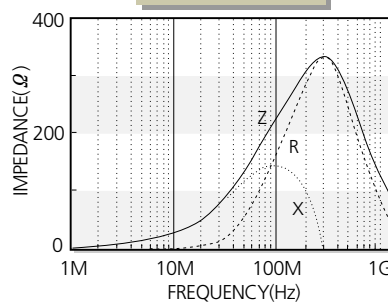
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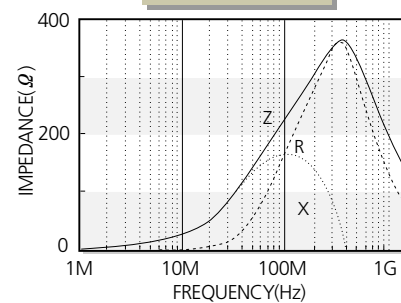
CIM21J151



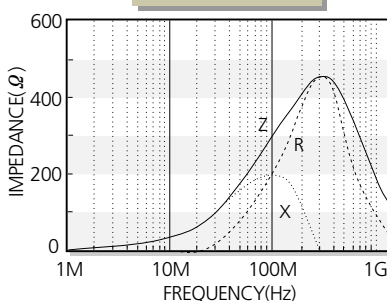
CIM21J221



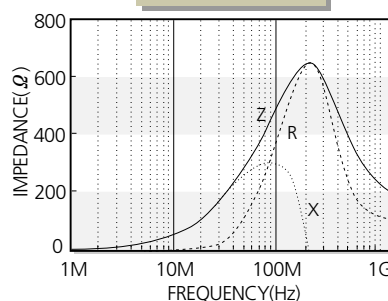
CIM21J241



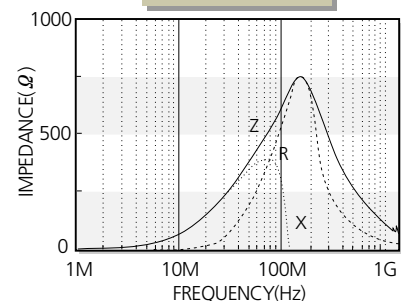
CIM21J301



CIM21J471

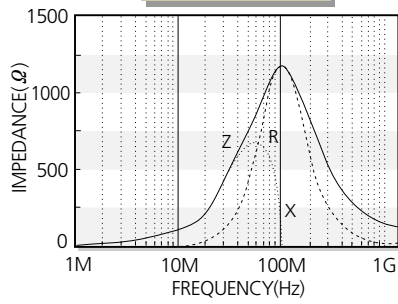


CIM21J601

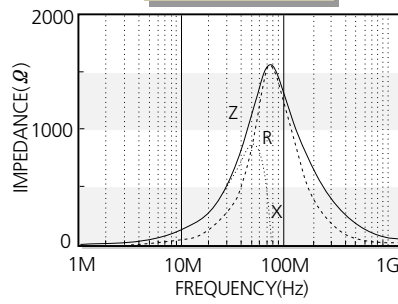


Electrical Characteristics

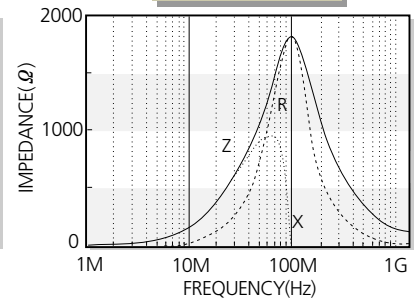
CIM21J102



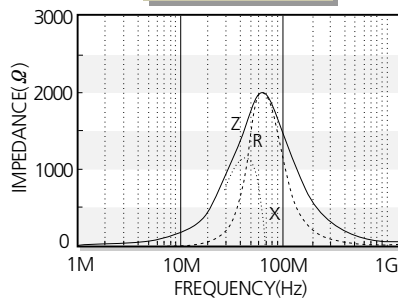
CIM21J152



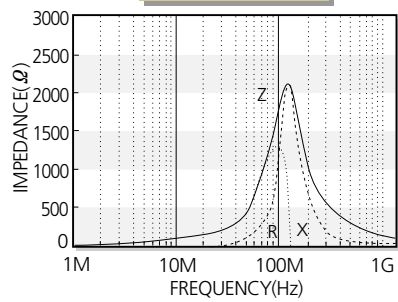
CIM21J182



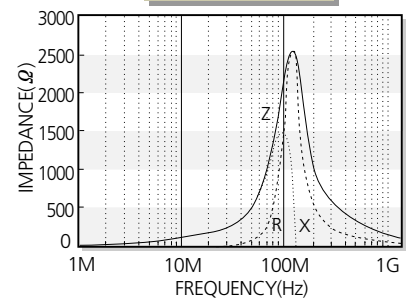
CIM21J202



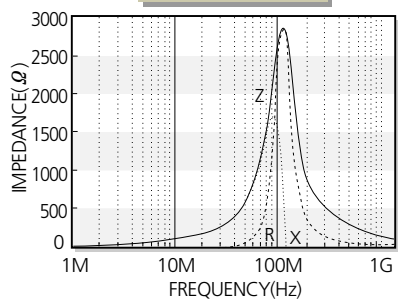
CIM21K152



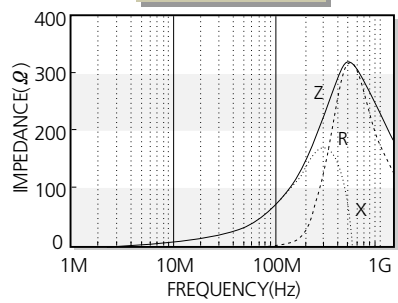
CIM21K222



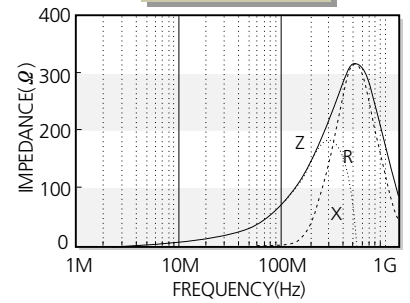
CIM21K252



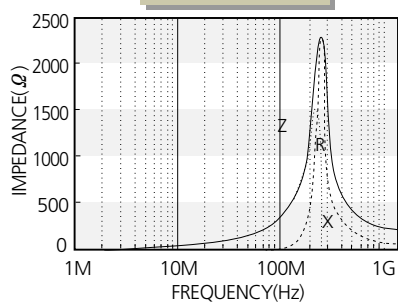
CIM21N700



CIM21N121



CIM21N241



CIB/CIM 3216(1206) Type

| Part No. | Thickness (mm) | Impedance (Ω) $\pm 25\%$ @ 100 MHz | DC Resistance (Ω) Max. | Rated Current (mA) Max. |
|-------------|----------------|---|---------------------------------|-------------------------|
| CIB 31P 260 | 1.1 ± 0.2 | 26 | 0.05 | 2000 |
| CIB 31P 310 | 1.1 ± 0.2 | 31 | 0.05 | 2000 |
| CIB 31P 500 | 1.1 ± 0.2 | 50 | 0.05 | 2000 |
| CIB 31P 700 | 1.1 ± 0.2 | 70 | 0.1 | 1500 |
| CIM 31U 101 | 1.1 ± 0.2 | 100 | 0.15 | 500 |
| CIM 31U 601 | 1.1 ± 0.2 | 600 | 0.3 | 400 |
| CIM 31J 151 | 1.1 ± 0.2 | 150 | 0.2 | 500 |
| CIM 31J 221 | 1.1 ± 0.2 | 220 | 0.2 | 400 |
| CIM 31J 301 | 1.1 ± 0.2 | 300 | 0.25 | 400 |
| CIM 31J 601 | 1.1 ± 0.2 | 600 | 0.3 | 400 |
| CIM 31J 801 | 1.1 ± 0.2 | 800 | 0.4 | 400 |
| CIM 31J 102 | 1.1 ± 0.2 | 1000 | 0.45 | 400 |
| CIM 31J 152 | 1.1 ± 0.2 | 1500(at 70MHz) | 0.55 | 300 |

Other Types

| Part No. | Thickness (mm) | Impedance (Ω) $\pm 25\%$ @ 100 MHz | DC Resistance (Ω) Max. | Rated Current (mA) Max. |
|-------------|----------------|---|---------------------------------|-------------------------|
| CIB 32P 310 | 1.3 ± 0.2 | 31 | 0.02 | 3000 |
| CIB 32P 600 | 1.3 ± 0.2 | 60 | 0.02 | 1500 |
| CIB 41P 800 | 1.6 ± 0.2 | 80 | 0.03 | 1000 |
| CIB 41P 151 | 1.6 ± 0.2 | 150 | 0.05 | 1000 |
| CIB 43P 131 | 1.5 ± 0.2 | 130 | 0.04 | 600 |
| CIB 43P 151 | 1.5 ± 0.2 | 150 | 0.04 | 600 |

Customized products are available.

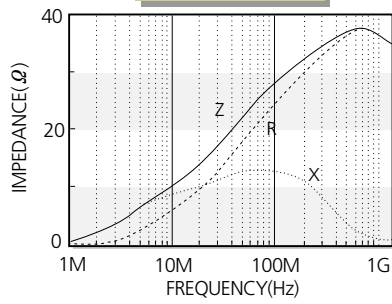
Test equipment : Agilent E4991A+16197A (0603)

Agilent 4291B+16192A (1005)

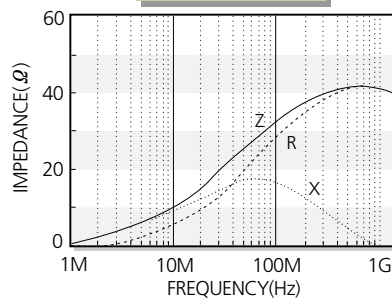
Agilent 4291B+16193A (1608 and others)

Electrical Characteristics

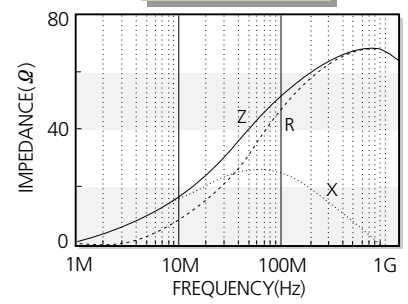
CIB31P260



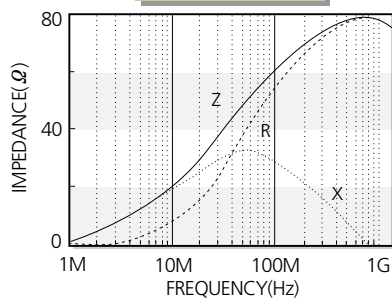
CIB31P310



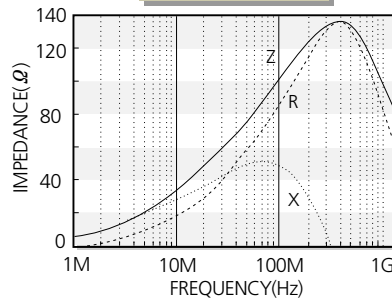
CIB31P500



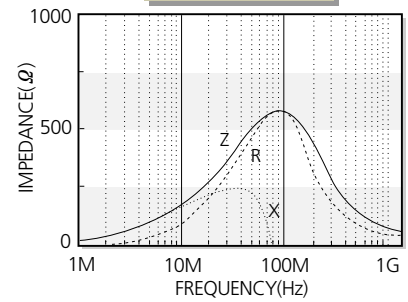
CIB31P700



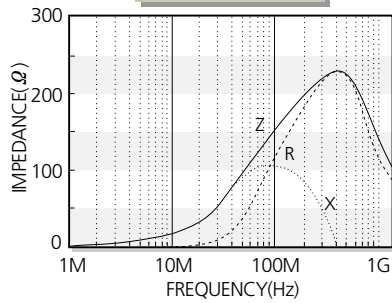
CIM31U101



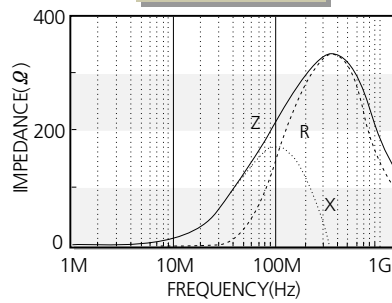
CIM31U601



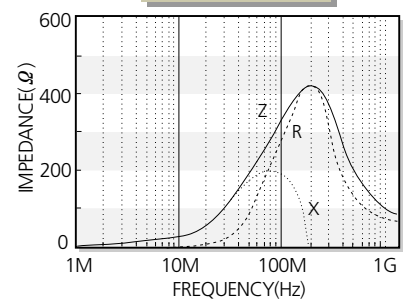
CIM31J151



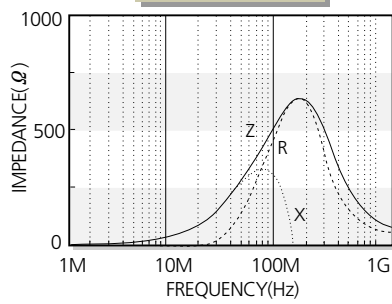
CIM31J221



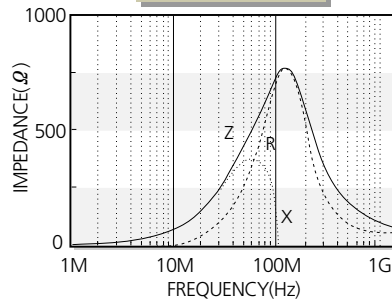
CIM31J301



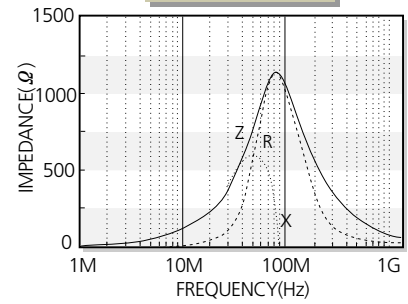
CIM31J601



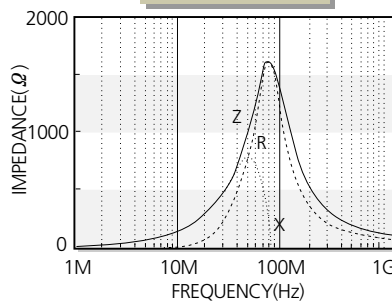
CIM31J801



CIM31J102

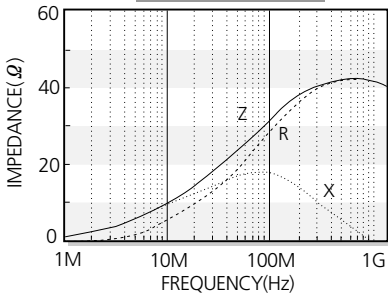


CIM31J152

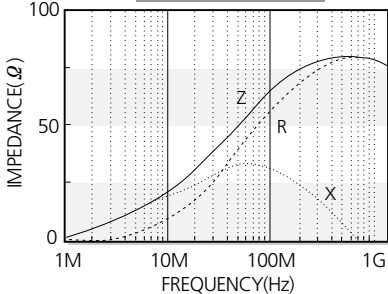


Electrical Characteristics

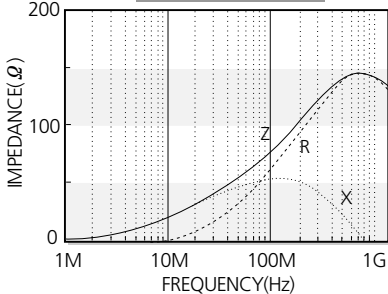
CIB32P310



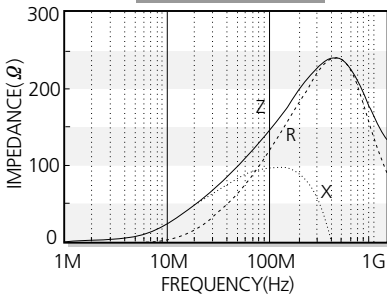
CIB32P600



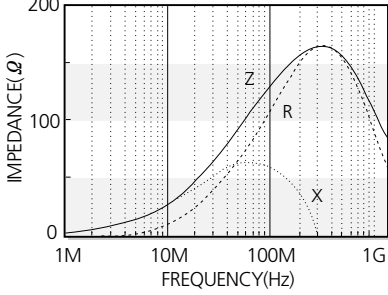
CIB41P800



CIB41P151



CIB43P131



CIB43P151

