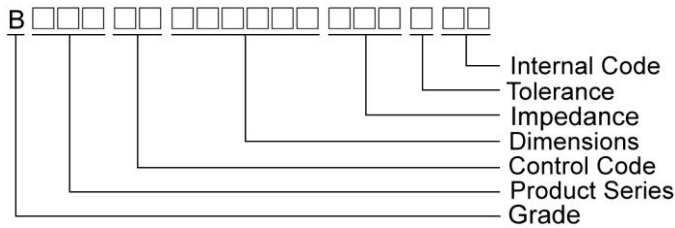


## Multilayer Ferrite Chip Beads

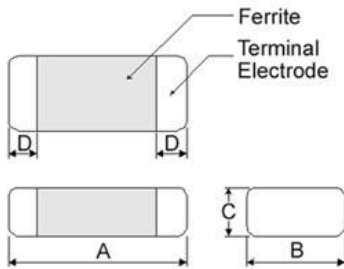


Chilisin offers a wide range of multi-layered ferrite chip beads with various sizes, frequency characteristics, and impedance values for EMI solutions. These ferrite formulas are used to compose seven types of EMI suppression chip beads: BBSY, BBBK, BBSJ, BBGK, BBPY, BBUP, BBNQ, BBFY, BBFJ and BBHV series.

### Product Identification



### Shape and Dimensions



Dimensions in mm

| TYPE    | A        | B         | C        | D         |
|---------|----------|-----------|----------|-----------|
| ①060303 | 0.6±0.03 | 0.30±0.03 | 0.3±0.03 | 0.15±0.05 |
| ②100505 | 1.0±0.10 | 0.50±0.10 | 0.5±0.10 | 0.25±0.10 |
| ③160805 | 1.6±0.15 | 0.80±0.15 | 0.5±0.15 | 0.3±0.2   |
| ④160808 | 1.6±0.15 | 0.80±0.15 | 0.8±0.15 | 0.3±0.2   |
| ⑤201209 | 2.0±0.20 | 1.25±0.20 | 0.9±0.20 | 0.5±0.3   |
| ⑥321611 | 3.2±0.20 | 1.60±0.20 | 1.1±0.20 | 0.5±0.3   |
| ⑦453215 | 4.5±0.25 | 3.20±0.20 | 1.5±0.20 | 0.5±0.3   |

① : BBSY / BBSJ / BBNQ / BBPY

② : BBSY / BBSJ / BBNQ / BBPY / BBUP / BBFY / BBFJ

③ : BBUP ④ : BBBK / BBSJ / BBGK / BBPY / BBNQ / BBUP / BBHV

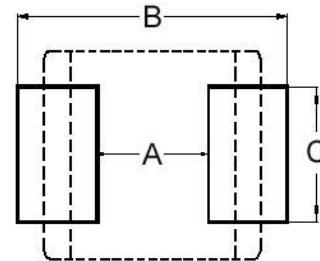
⑤ : BBBK / BBGK / BBPY / BBUP ⑥ : BBSY / BBBK / BBPY / BBUP

⑦ : BBPY / BBUP

### Dimension Conversion

| Code   | Dimension in mm<br>(AxBxC) | EIA  |
|--------|----------------------------|------|
| 060303 | 0.6X0.3X0.3                | 0201 |
| 100505 | 1.0X0.5X0.5                | 0402 |
| 160805 | 1.6x0.8x0.5                | 0603 |
| 160808 | 1.6x0.8x0.8                | 0603 |
| 201209 | 2.0x1.2x0.9                | 0805 |
| 321611 | 3.2x1.6x1.1                | 1206 |
| 453215 | 4.5x3.2x1.5                | 1812 |

### Recommended Pattern



Dimensions in mm

| TYPE    | A         | B           | C         |
|---------|-----------|-------------|-----------|
| ①060303 | 0.2 ~ 0.3 | 0.75 ~ 1.05 | 0.3       |
| ②100505 | 0.4       | 1.2 ~ 1.4   | 0.5       |
| ③160805 | 0.7 ~ 0.8 | 1.8 ~ 2.0   | 0.6 ~ 0.8 |
| ④160808 | 0.7 ~ 0.8 | 1.8 ~ 2.0   | 0.6 ~ 0.8 |
| ⑤201209 | 1.0 ~ 1.2 | 2.6 ~ 4.0   | 1.0 ~ 1.4 |
| ⑥321611 | 2.0       | 4.2 ~ 5.2   | 1.3 ~ 1.9 |
| ⑦453215 | 3.0       | 5.5 ~ 6.5   | 2.4       |

\* Don't apply narrower pattern than listed above to BBPY and BBUP  
Narrow pattern might cause excessive heat or open circuit.

# SMD Multilayer Ferrite Chip Beads – BBNQ Series

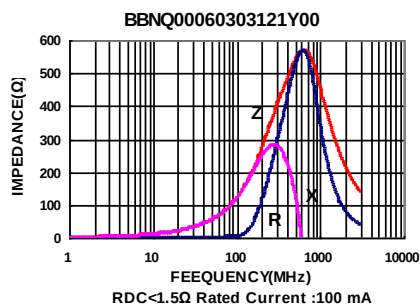
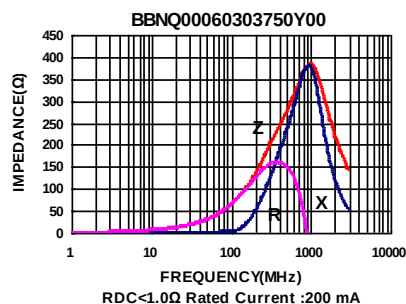
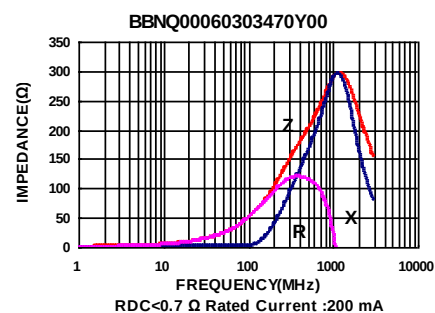
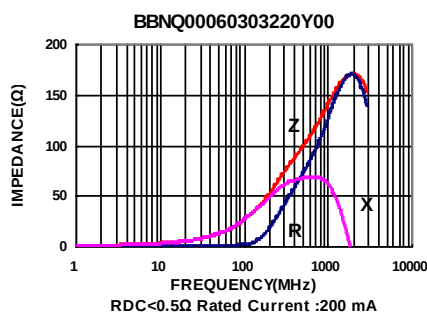
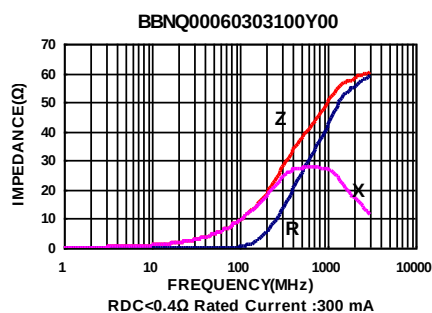
## Electrical Characteristics

| Part Number        | Impedance<br>( $\Omega \pm 25\%$ ) | Test Frequency<br>(MHz) | RDC<br>( $\Omega$ ) Max | Rated current<br>(mA) Max |
|--------------------|------------------------------------|-------------------------|-------------------------|---------------------------|
| BBNQ00060303100Y00 | 10                                 | 100                     | 0.4                     | 300                       |
| BBNQ00060303220Y00 | 22                                 | 100                     | 0.5                     | 200                       |
| BBNQ00060303470Y00 | 47                                 | 100                     | 0.7                     | 200                       |
| BBNQ00060303750Y00 | 75                                 | 100                     | 1.0                     | 200                       |
| BBNQ00060303121Y00 | 120                                | 100                     | 1.5                     | 100                       |

**Note:** When ordering, please specify tolerance code. Tolerance : Y=±25%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :  
Z : HP4291A  
RDC : HP4338B or CHEN HWA 502

## Test Instruments : Agilent E4991A Impedance / Material Analyzer



# SMD Multilayer Ferrite Chip Beads – BBNQ Series

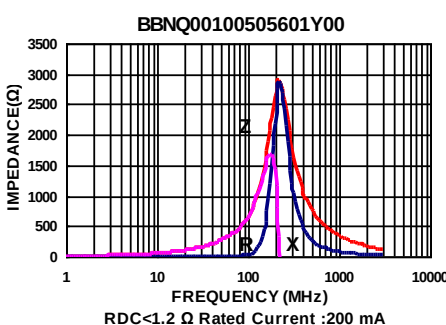
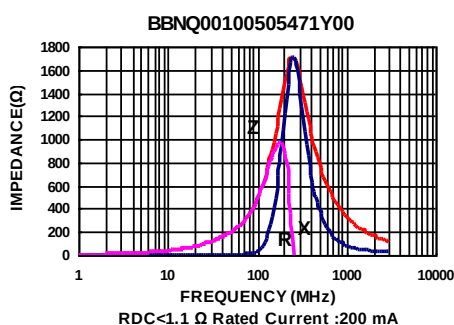
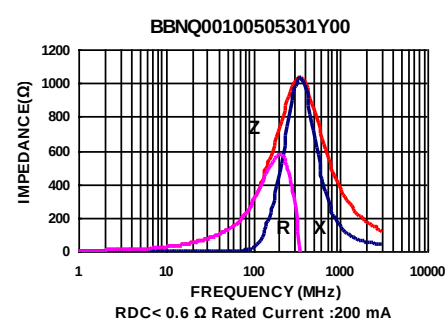
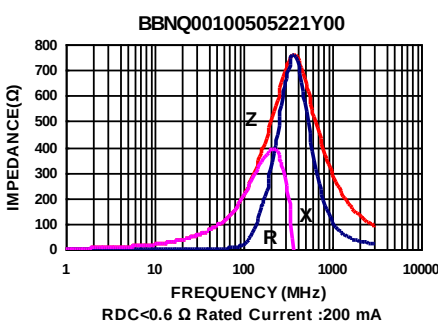
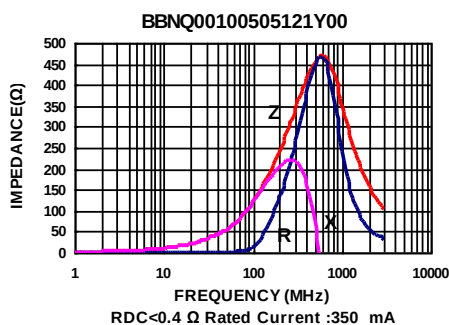
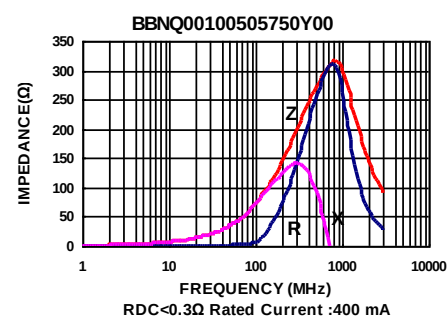
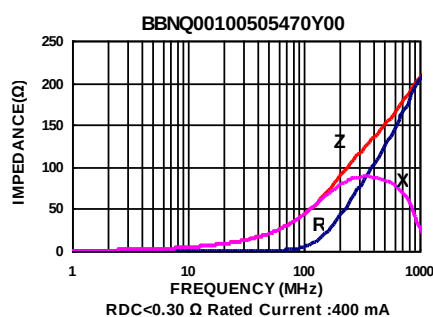
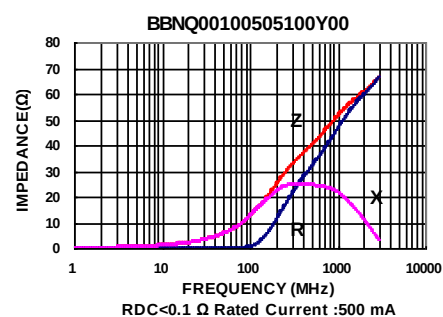
## Electrical Characteristics

| Part Number        | Impedance<br>( $\Omega \pm 25\%$ ) | Test Frequency<br>(MHz) | RDC<br>( $\Omega$ ) Max | Rated current<br>(mA) Max |
|--------------------|------------------------------------|-------------------------|-------------------------|---------------------------|
| BBNQ00100505100Y00 | 10                                 | 100                     | 0.10                    | 500                       |
| BBNQ00100505470Y00 | 47                                 | 100                     | 0.30                    | 400                       |
| BBNQ00100505750Y00 | 75                                 | 100                     | 0.30                    | 400                       |
| BBNQ00100505121Y00 | 120                                | 100                     | 0.40                    | 350                       |
| BBNQ00100505221Y00 | 220                                | 100                     | 0.60                    | 200                       |
| BBNQ00100505301Y00 | 300                                | 100                     | 0.80                    | 200                       |
| BBNQ00100505471Y00 | 470                                | 100                     | 1.10                    | 200                       |
| BBNQ00100505601Y00 | 600                                | 100                     | 1.20                    | 200                       |

**Note:** When ordering, please specify tolerance code. Tolerance : Y $\pm 25\%$

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :  
Z : HP4291A  
RDC : HP4338B or CHEN HWA 502

## Test Instruments : Agilent E4991A Impedance / Material Analyzer



Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without Chilisin approval. Please contact our sales department before ordering.

# SMD Multilayer Ferrite Chip Beads – BBNQ Series

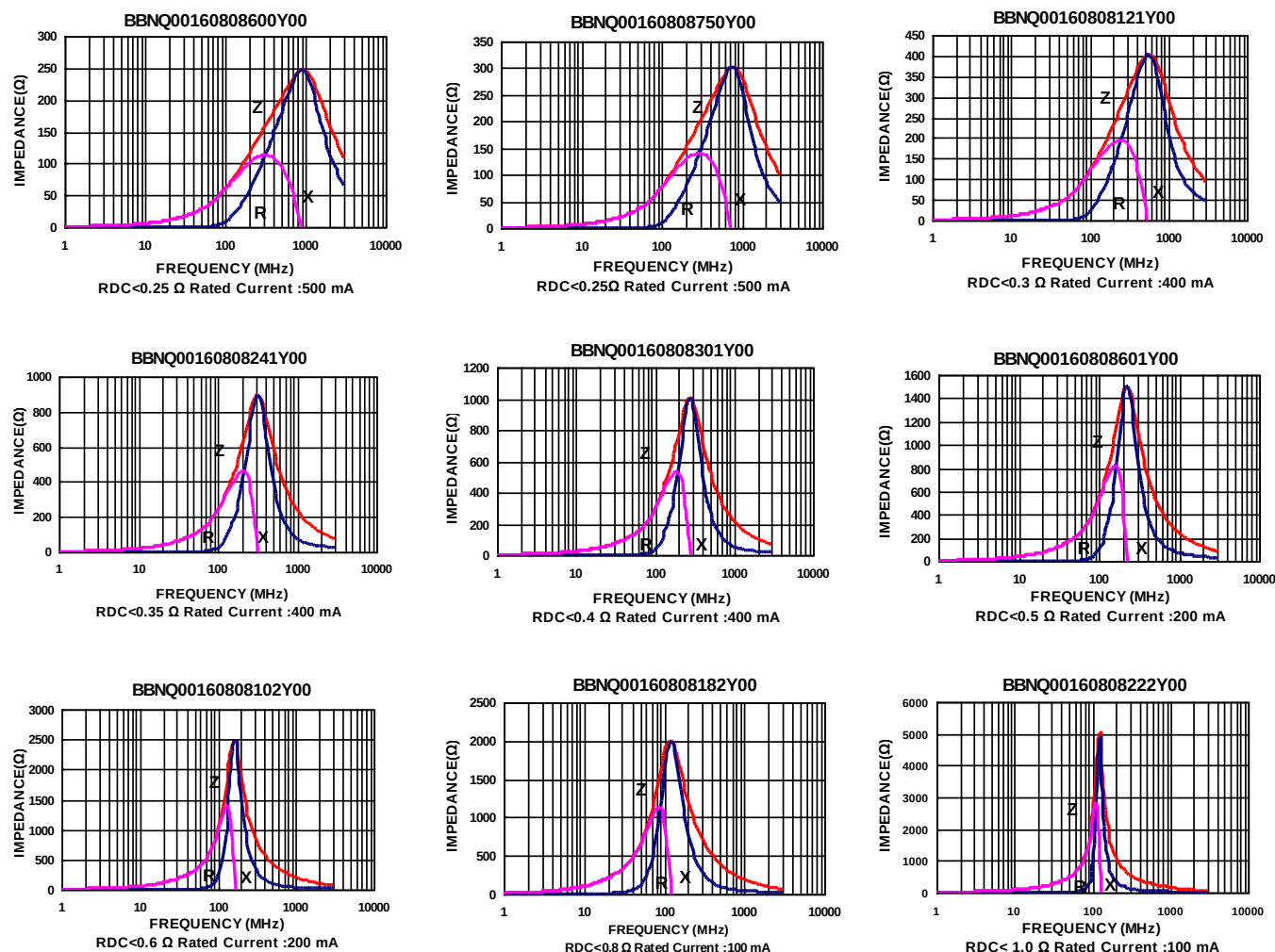
## Electrical Characteristics

| Part Number        | Impedance<br>( $\Omega \pm 25\%$ ) | Test Frequency<br>(MHz) | RDC<br>( $\Omega$ ) Max | Rated current<br>(mA) Max |
|--------------------|------------------------------------|-------------------------|-------------------------|---------------------------|
| BBNQ00160808600Y00 | 60                                 | 100                     | 0.25                    | 500                       |
| BBNQ00160808750Y00 | 75                                 | 100                     | 0.25                    | 500                       |
| BBNQ00160808121Y00 | 120                                | 100                     | 0.30                    | 400                       |
| BBNQ00160808241Y00 | 240                                | 100                     | 0.35                    | 400                       |
| BBNQ00160808301Y00 | 300                                | 100                     | 0.40                    | 400                       |
| BBNQ00160808601Y00 | 600                                | 100                     | 0.50                    | 200                       |
| BBNQ00160808102Y00 | 1000                               | 100                     | 0.60                    | 200                       |
| BBNQ00160808182Y00 | 1800                               | 100                     | 0.80                    | 100                       |
| BBNQ00160808222Y00 | 2200                               | 100                     | 1.0                     | 100                       |
| BBNQ00160808252Y00 | 2500                               | 100                     | 1.0                     | 100                       |

**Note:** When ordering, please specify tolerance code. Tolerance : Y=±25%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :  
Z : HP4291A  
RDC : HP4338B or CHEN HWA 502

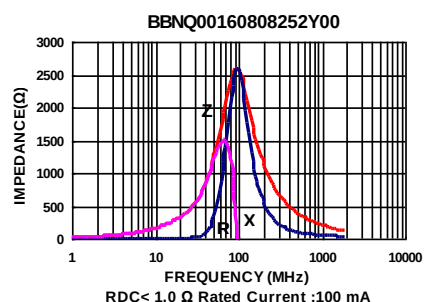
## Test Instruments : Agilent E4991A Impedance / Material Analyzer



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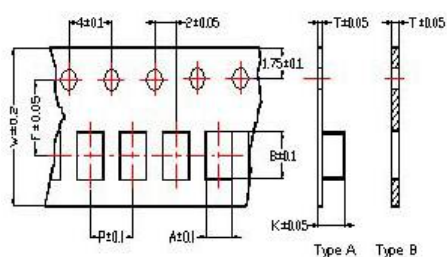
## SMD Multilayer Ferrite Chip Beads – BBNQ Series

**Test Instruments :** Agilent E4991A Impedance / Material Analyzer

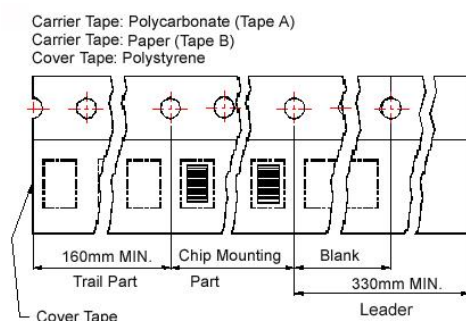


## Packaging Specifications

## Tape Dimensions

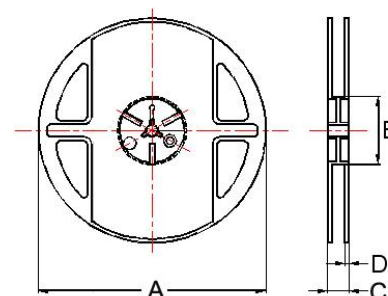


## Tape Material



- ① : BBSY/BBSJ/BBNQ/BBPY    ③ : BBUP  
② : BBSY/BBSJ/BBNQ/BBPY/BBUP/BBFY/BBFJ  
④ : BBBK/BBSJ/BBGK/BBPY/BBNQ/BBUP/BBHV  
⑤ : BBBK/BBGK/BBPY/BBUP  
⑥ : BBSY/BBBK/BBPY/BBUP  
⑦ : BBPY/BBUP

### Reel Dimensions



**Dimensions in mm**

| TYPE    | Tape Dimensions |      |      |     |     |     |      |      | Reel Dimensions |    |    |   | Quantity   |
|---------|-----------------|------|------|-----|-----|-----|------|------|-----------------|----|----|---|------------|
|         | A               | B    | T    | W   | P   | F   | K    | Tape | A               | B  | C  | D | PCS / REEL |
| ①060303 | 0.37            | 0.67 | 0.42 | 8.0 | 2.0 | 3.5 | -    | B    | 178             | 60 | 10 | 2 | 15000      |
| ②100505 | 0.62            | 1.12 | 0.60 | 8.0 | 2.0 | 3.5 | -    | B    | 178             | 60 | 12 | 2 | 10000      |
| ③160805 | 1.05            | 1.85 | 0.60 | 8.0 | 2.0 | 3.5 | -    | B    | 178             | 60 | 12 | 2 | 10000      |
| ④160808 | 1.05            | 1.85 | 0.95 | 8.0 | 4.0 | 3.5 | -    | B    | 178             | 60 | 12 | 2 | 4000       |
| ⑤201209 | 1.50            | 2.30 | 0.97 | 8.0 | 4.0 | 3.5 | -    | B    | 178             | 60 | 12 | 2 | 4000       |
| ⑥321611 | 1.88            | 3.50 | 0.22 | 8.0 | 4.0 | 3.5 | 1.27 | A    | 178             | 60 | 12 | 2 | 3000       |
| ⑦453215 | 3.66            | 4.95 | 0.24 | 12  | 8.0 | 5.5 | 1.85 | A    | 178             | 60 | 14 | 2 | 1000       |

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