

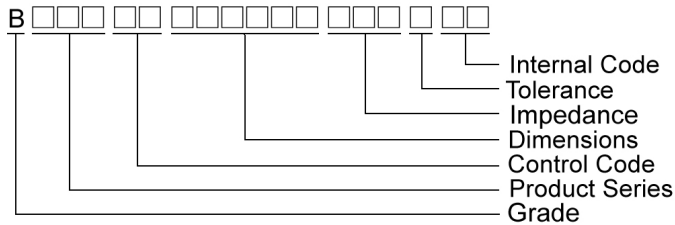
# SMD Multi-layer Ferrite Chip Beads

BBFY Series

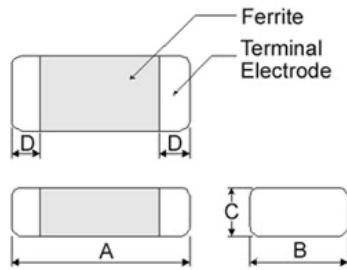


Chilisin offers a wide range of multi-layered ferrite chip beads with various sizes, frequency characteristics, and impedance values for EMI solutions. These ferrite formulas are used to compose seven types of EMI suppression chip beads: BBSY, BBBK, BBSJ, BBGK, BBPY, BBUP, BBNQ, BBFY, BBFJ and BBHV series.

## Product Identification



## Shape and Dimensions

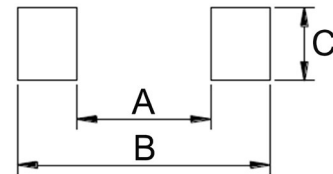


Dimensions in mm

| 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

## 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 ~ 2.4 | 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.

## 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 |

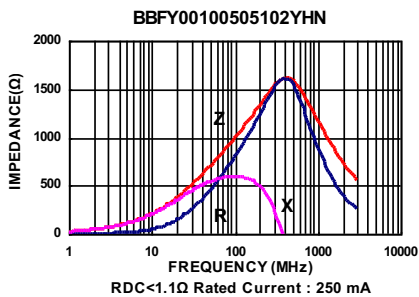
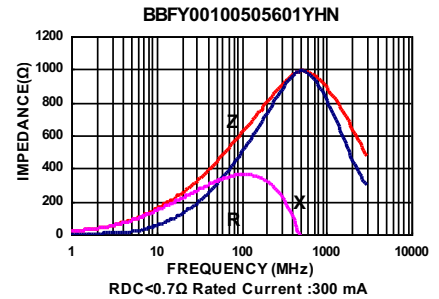
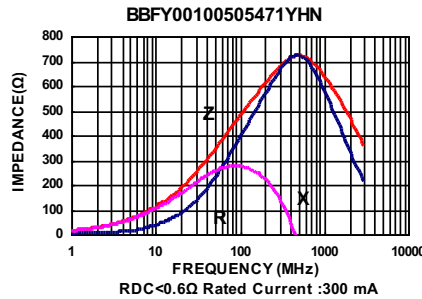
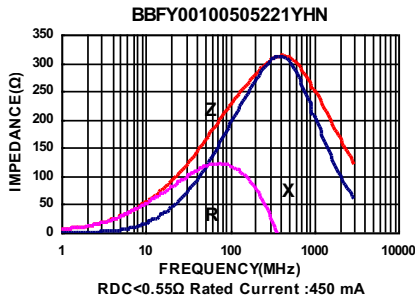
## Electrical Characteristics

| Part Number        | Impedance<br>( $\Omega \pm 25\%$ ) | Test Frequency<br>(MHz) | Impedance<br>( $\Omega \pm 40\%$ ) | Test Frequency<br>(MHz) | RDC<br>( $\Omega$ ) Max | Rated current<br>(mA) Max |
|--------------------|------------------------------------|-------------------------|------------------------------------|-------------------------|-------------------------|---------------------------|
| BBFY00100505221YHN | 220                                | 100                     | 270                                | 1000                    | 0.55                    | 450                       |
| BBFY00100505301YHN | 300                                | 100                     | 450                                | 1000                    | 0.55                    | 350                       |
| BBFY00100505471YHN | 470                                | 100                     | 650                                | 1000                    | 0.60                    | 300                       |
| BBFY00100505601YHN | 600                                | 100                     | 1000                               | 1000                    | 0.7                     | 300                       |
| BBFY00100505102YHN | 1000                               | 100                     | 1400                               | 1000                    | 1.1                     | 250                       |

**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**



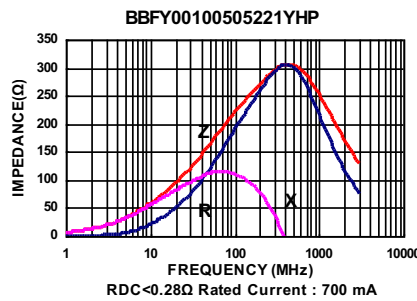
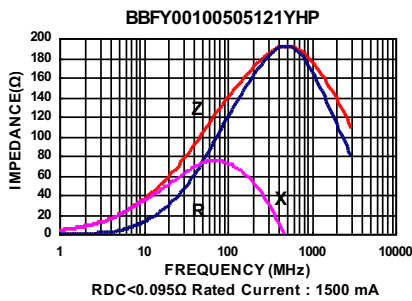
## Electrical Characteristics

| Part Number        | Impedance             | Test Frequency | Impedance             | Test Frequency | RDC              | Rated current |
|--------------------|-----------------------|----------------|-----------------------|----------------|------------------|---------------|
|                    | ( $\Omega \pm 25\%$ ) | (MHz)          | ( $\Omega \pm 40\%$ ) | (MHz)          | ( $\Omega$ ) Max | (mA) Max      |
| BBFY00100505121YHP | 120                   | 100            | 150                   | 1000           | 0.095            | 1500          |
| BBFY00100505221YHP | 220                   | 100            | 270                   | 1000           | 0.280            | 700           |

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

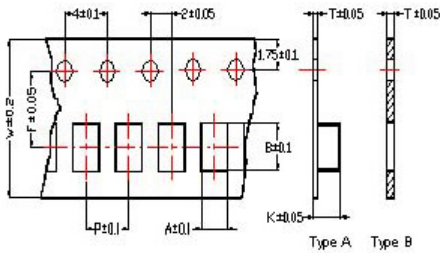
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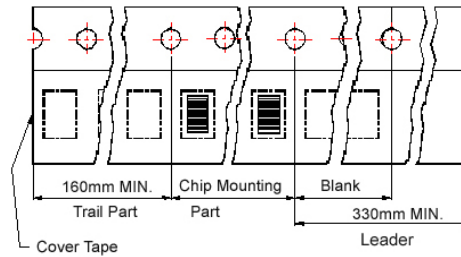
## Packaging Specifications

### Tape Dimensions

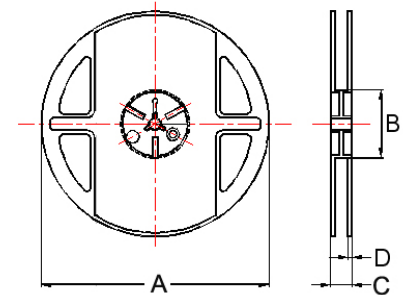


### Tape Material

Carrier Tape: Polycarbonate (Tape A)  
Carrier Tape: Paper (Tape B)  
Cover Tape: Polystyrene



### Reel Dimensions



- 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

### Dimensions in mm

| TYPE    | Tape Dimensions |      |      |     |     |     |      |      | Reel Dimensions |    |    |   | Quantity<br>PCS / REEL |
|---------|-----------------|------|------|-----|-----|-----|------|------|-----------------|----|----|---|------------------------|
|         | A               | B    | T    | W   | P   | F   | K    | Tape | A               | B  | C  | D |                        |
| 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                   |

### For More Information:

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