

DATA SHEET

INDUCTOR

Chip Beads

BBSJ Series

RoHS compliant & Halogen Free



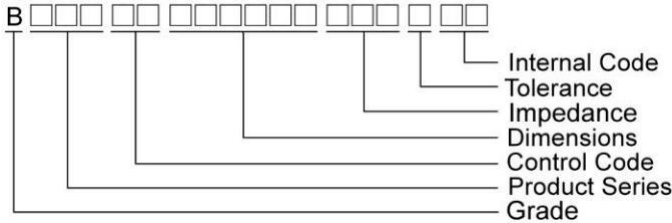
SMD Multilayer Ferrite Chip Beads

Multilayer Ferrite Chip Beads

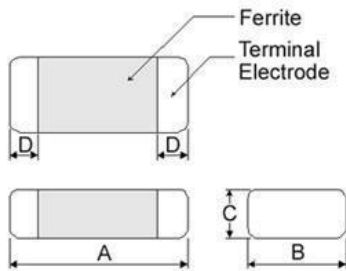


Chilisin offers a wide range of multi-layered ferrite chip beads with various sizes, frequency characteristics, and impedance values for EMI solutions. These ferrite formulas are used to compose seven types of EMI suppression chip beads: BBSY, BBBK, BBSJ, BBGK, BBPY, BBUP, BBNQ, BBFY, BBFJ and BBHV series.

Product Identification



Shape and Dimensions



Dimensions in mm

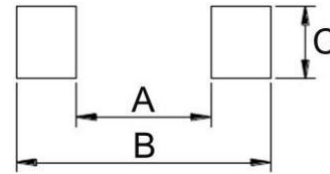
| TYPE | A | B | C | D |
|----------|----------|-----------|----------|-----------|
| ① 060303 | 0.6±0.03 | 0.30±0.03 | 0.3±0.03 | 0.15±0.05 |
| ② 100505 | 1.0±0.10 | 0.50±0.10 | 0.5±0.10 | 0.25±0.10 |
| ③ 160805 | 1.6±0.15 | 0.80±0.15 | 0.5±0.15 | 0.3±0.2 |
| ④ 160808 | 1.6±0.15 | 0.80±0.15 | 0.8±0.15 | 0.3±0.2 |
| ⑤ 201209 | 2.0±0.20 | 1.25±0.20 | 0.9±0.20 | 0.5±0.3 |
| ⑥ 321611 | 3.2±0.20 | 1.60±0.20 | 1.1±0.20 | 0.5±0.3 |
| ⑦ 453215 | 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 (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 |
|----------|-----------|-------------|-----------|
| ① 060303 | 0.2 ~ 0.3 | 0.75 ~ 1.05 | 0.3 |
| ② 100505 | 0.4 | 1.2 ~ 1.4 | 0.5 |
| ③ 160805 | 0.7 ~ 0.8 | 1.8 ~ 2.0 | 0.6 ~ 0.8 |
| ④ 160808 | 0.7 ~ 0.8 | 1.8 ~ 2.0 | 0.6 ~ 0.8 |
| ⑤ 201209 | 1.0 ~ 1.2 | 2.6 ~ 4.0 | 1.0 ~ 1.4 |
| ⑥ 321611 | 2.0 ~ 2.4 | 4.2 ~ 5.2 | 1.3 ~ 1.9 |
| ⑦ 453215 | 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 – BBSJ Series

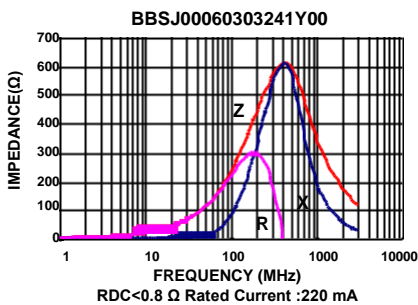
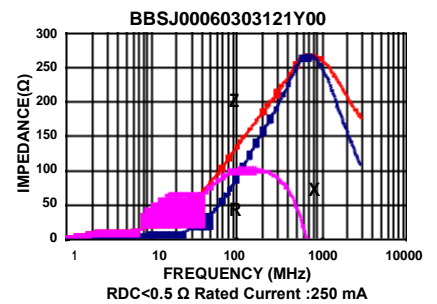
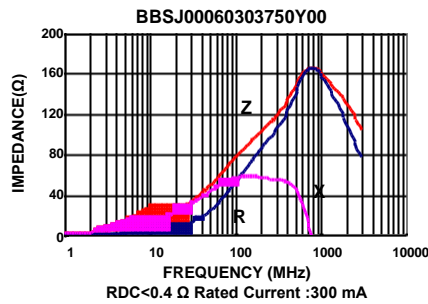
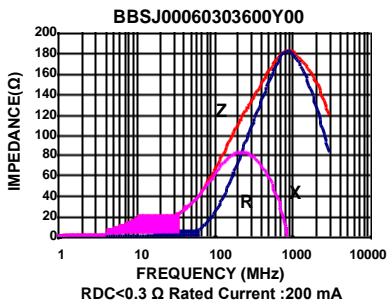
Electrical Characteristics

| Part Number | Impedance ($\Omega \pm 25\%$) | Test Frequency (MHz) | RDC (Ω) Max | Rated current (mA) Max |
|--------------------|------------------------------------|-------------------------|-------------------------|---------------------------|
| BBSJ00060303600Y00 | 60 | 100 | 0.3 | 200 |
| BBSJ00060303750Y00 | 75 | 100 | 0.4 | 300 |
| BBSJ00060303121Y00 | 120 | 100 | 0.5 | 250 |
| BBSJ00060303241Y00 | 240 | 100 | 0.8 | 220 |

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



SMD Multilayer Ferrite Chip Beads – BBSJ Series

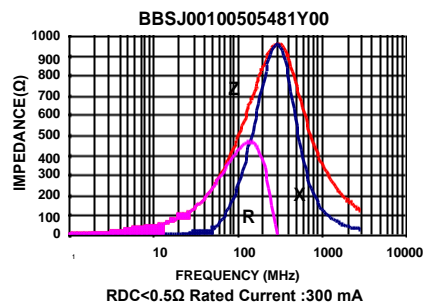
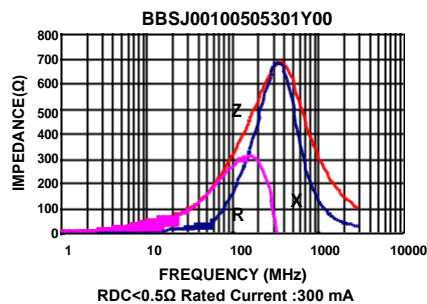
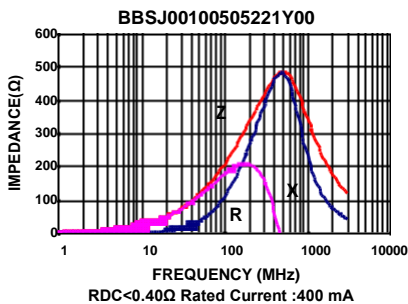
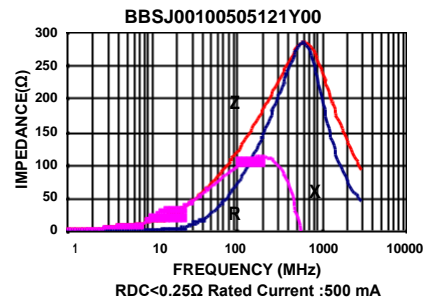
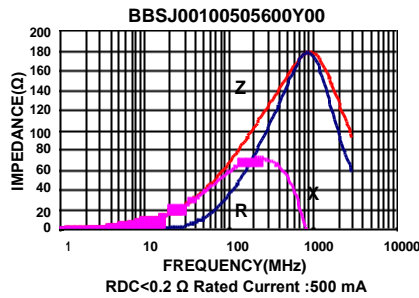
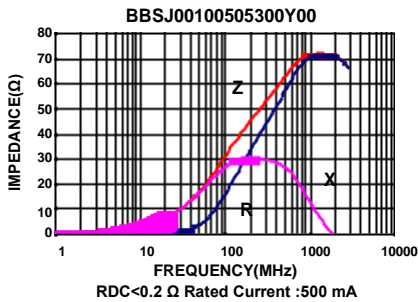
Electrical Characteristics

| Part Number | Impedance ($\Omega \pm 25\%$) | Test Frequency (MHz) | RDC (Ω) Max | Rated current (mA) Max |
|--------------------|------------------------------------|-------------------------|-------------------------|---------------------------|
| BBSJ00100505300Y00 | 30 | 100 | 0.20 | 500 |
| BBSJ00100505600Y00 | 60 | 100 | 0.20 | 500 |
| BBSJ00100505121Y00 | 120 | 100 | 0.25 | 500 |
| BBSJ00100505221Y00 | 220 | 100 | 0.40 | 400 |
| BBSJ00100505301Y00 | 300 | 100 | 0.50 | 300 |
| BBSJ00100505481Y00 | 480 | 100 | 0.50 | 300 |
| BBSJ00100505601Y00 | 600 | 100 | 0.60 | 300 |
| BBSJ00100505102Y00 | 1000 | 100 | 0.95 | 200 |
| BBSJ00100505152Y00 | 1500 | 100 | 1.15 | 100 |
| BBSJ00100505182Y00 | 1800 | 100 | 1.40 | 100 |
| BBSJ00100505252Y00 | 2500 | 100 | 1.80 | 100 |

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

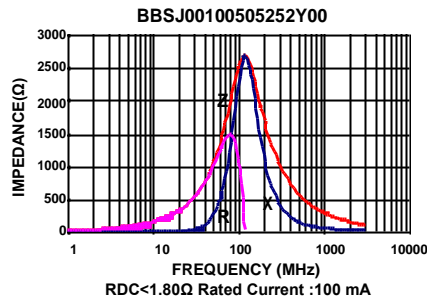
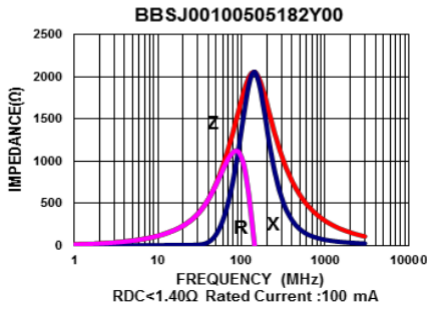
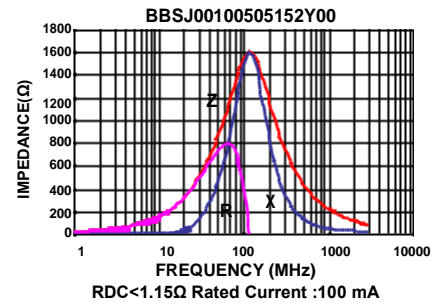
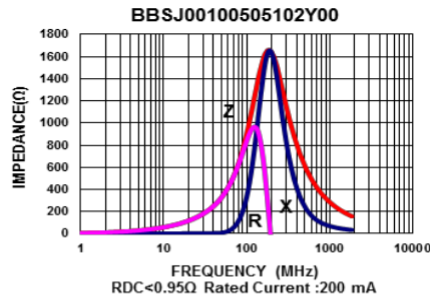
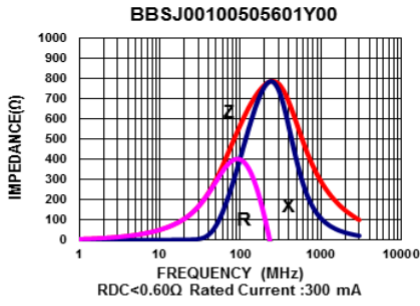
- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :
Z : HP4291A
RDC : HP4338B or CHEN HWA 502

Test Instruments : Agilent E4991A Impedance / Material Analyzer



SMD Multilayer Ferrite Chip Beads – BBSJ Series

Test Instruments : Agilent E4991A Impedance / Material Analyzer



SMD Multilayer Ferrite Chip Beads – BBSJ Series

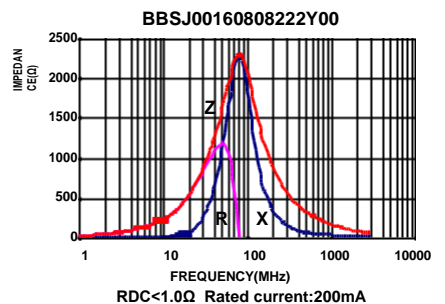
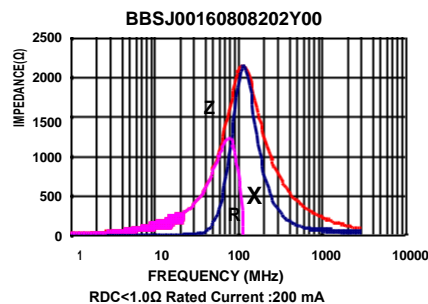
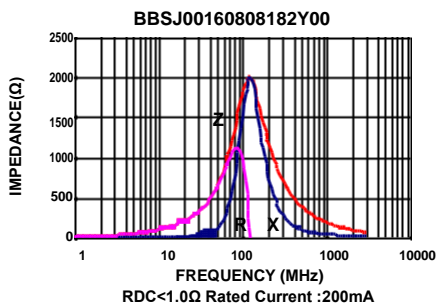
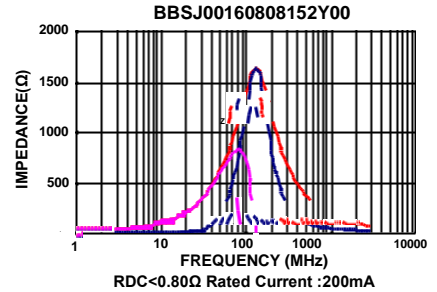
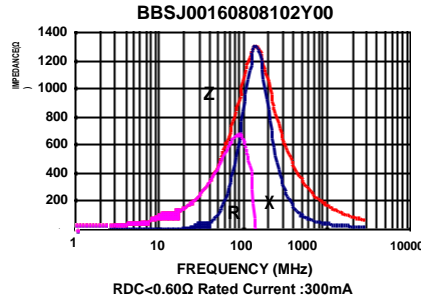
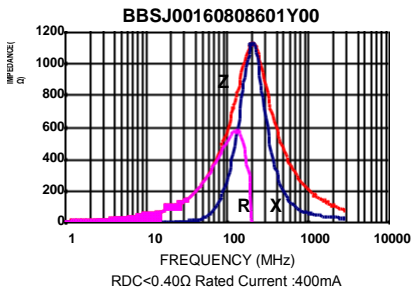
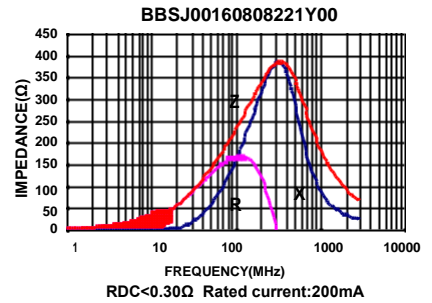
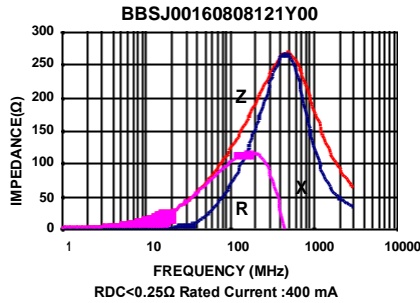
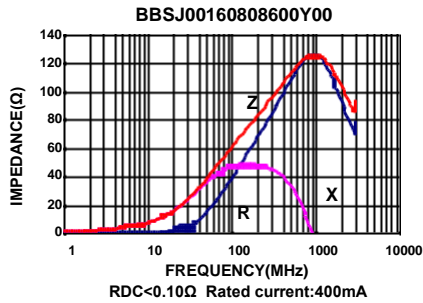
Electrical Characteristics

| Part Number | Impedance ($\Omega \pm 25\%$) | Test Frequency (MHz) | RDC (Ω) Max | Rated current (mA) Max |
|--------------------|------------------------------------|-------------------------|-------------------------|---------------------------|
| BBSJ00160808600Y00 | 60 | 100 | 0.10 | 400 |
| BBSJ00160808121Y00 | 120 | 100 | 0.25 | 400 |
| BBSJ00160808221Y00 | 220 | 100 | 0.30 | 400 |
| BBSJ00160808601Y00 | 600 | 100 | 0.40 | 400 |
| BBSJ00160808102Y00 | 1000 | 100 | 0.60 | 300 |
| BBSJ00160808152Y00 | 1500 | 100 | 0.80 | 200 |
| BBSJ00160808182Y00 | 1800 | 100 | 1.0 | 200 |
| BBSJ00160808202Y00 | 2000 | 100 | 1.0 | 200 |
| BBSJ00160808222Y00 | 2200 | 100 | 1.0 | 200 |
| BBSJ00160808252Y00 | 2500 | 100 | 1.0 | 200 |
| BBSJ00160808272Y00 | 2700 | 100 | 1.0 | 200 |

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

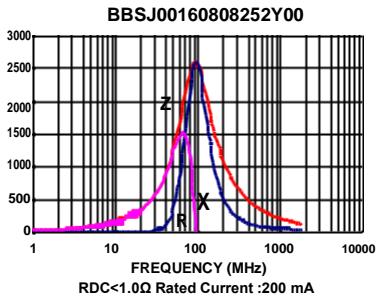
- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :
Z : HP4291A
RDC : HP4338B or CHEN HWA 502

Test Instruments : Agilent E4991A Impedance / Material Analyzer



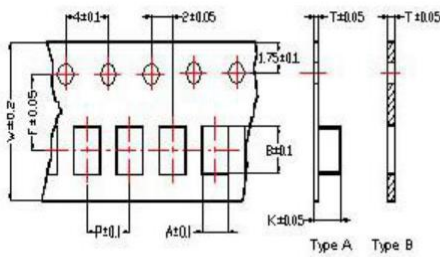
SMD Multilayer Ferrite Chip Beads – BBSJ Series

Test Instruments : Agilent E4991A Impedance / Material Analyzer

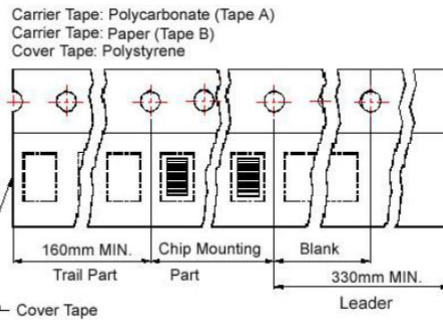


Packaging Specifications

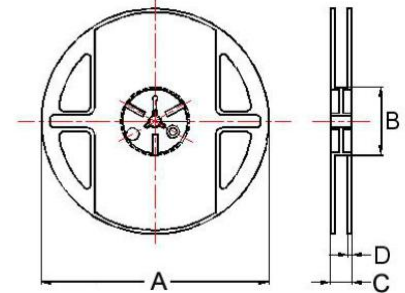
Tape Dimensions



Tape Material



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 |
|----------|-----------------|------|------|-----|-----|-----|------|------|-----------------|----|----|---|------------|
| | A | B | T | W | P | F | K | Tape | A | B | C | D | PCS / REEL |
| ① 060303 | 0.37 | 0.67 | 0.42 | 8.0 | 2.0 | 3.5 | - | B | 178 | 60 | 10 | 2 | 15000 |
| ② 100505 | 0.62 | 1.12 | 0.60 | 8.0 | 2.0 | 3.5 | - | B | 178 | 60 | 12 | 2 | 10000 |
| ③ 160805 | 1.05 | 1.85 | 0.60 | 8.0 | 2.0 | 3.5 | - | B | 178 | 60 | 12 | 2 | 10000 |
| ④ 160808 | 1.05 | 1.85 | 0.95 | 8.0 | 4.0 | 3.5 | - | B | 178 | 60 | 12 | 2 | 4000 |
| ⑤ 201209 | 1.50 | 2.30 | 0.97 | 8.0 | 4.0 | 3.5 | - | B | 178 | 60 | 12 | 2 | 4000 |
| ⑥ 321611 | 1.88 | 3.50 | 0.22 | 8.0 | 4.0 | 3.5 | 1.27 | A | 178 | 60 | 12 | 2 | 3000 |
| ⑦ 453215 | 3.66 | 4.95 | 0.24 | 12 | 8.0 | 5.5 | 1.85 | A | 178 | 60 | 14 | 2 | 1000 |

