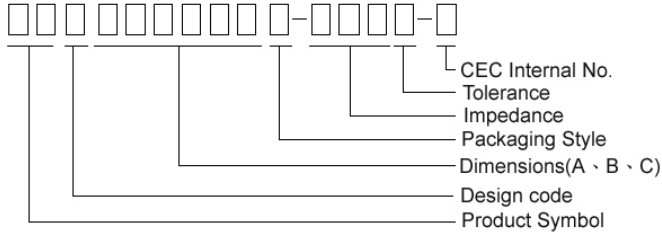


Multilayer Ferrite Chip Beads



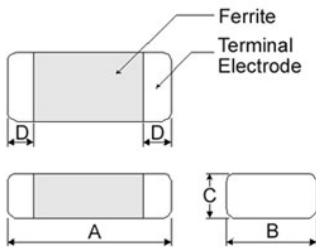
Chilisin offers a wide range of multi-layered ferrite chip beads with various sizes, frequency characteristics, and impedance values for EMI solutions. These ferrite formulas are used to compose seven types of EMI suppression chip beads: SB, GB, PB, UPB, NB, HF, and VPB series.

Product Identification



- Product symbol: SB, GB, PB, UPB, NB, HF, VPB
- Packaging: T : Tape and Reel ; B : Bulk
- Tolerance: Y = $\pm 25\%$; M = $\pm 20\%$; T: $\pm 30\%$
- Note: RoHS Compliant

Shape and Dimensions

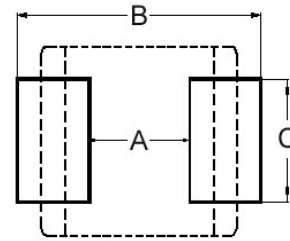


Dimensions in mm

| TYPE | A | B | C | D |
|---------|----------------|-----------------|-----------------|-----------------|
| ①060303 | 0.6 \pm 0.03 | 0.30 \pm 0.03 | 0.3 \pm 0.03 | 0.15 \pm 0.05 |
| ②100505 | 1.0 \pm 0.10 | 0.50 \pm 0.10 | 0.5 \pm 0.10 | 0.25 \pm 0.10 |
| ③160808 | 1.6 \pm 0.15 | 0.80 \pm 0.15 | 0.8 \pm 0.15 | 0.3 \pm 0.2 |
| ④201209 | 2.0 \pm 0.20 | 1.25 \pm 0.20 | 0.9 \pm 0.20 | 0.5 \pm 0.3 |
| ⑤201212 | 2.0 \pm 0.20 | 1.25 \pm 0.20 | 1.25 \pm 0.20 | 0.5 \pm 0.3 |
| ④321611 | 3.2 \pm 0.20 | 1.60 \pm 0.20 | 1.1 \pm 0.20 | 0.5 \pm 0.3 |
| ⑥321616 | 3.2 \pm 0.20 | 1.60 \pm 0.20 | 1.6 \pm 0.20 | 0.5 \pm 0.3 |
| ⑦322513 | 3.2 \pm 0.20 | 2.50 \pm 0.20 | 1.3 \pm 0.20 | 0.5 \pm 0.3 |
| ⑧451616 | 4.5 \pm 0.25 | 1.60 \pm 0.20 | 1.6 \pm 0.20 | 0.5 \pm 0.3 |
| ⑧453215 | 4.5 \pm 0.25 | 3.20 \pm 0.20 | 1.5 \pm 0.20 | 0.5 \pm 0.3 |

- ① : SB / PB / NB ② : SB / PB / NB / HF ⑦ : SB / PB
 ③ : SB / PB / NB / GB / UPB / HF / VPB ⑤ : UPB ⑥ : SB
 ④ : SB / PB / NB / GB / UPB ⑧ : PB / UPB

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 |
| ③160808 | 0.7 ~ 0.8 | 1.8 ~ 2.0 | 0.6 ~ 0.8 |
| ④201209 | 1.0 ~ 1.2 | 2.6 ~ 4.0 | 1.0 ~ 1.2 |
| ⑤201212 | 1.0 ~ 1.2 | 2.6 ~ 4.0 | 1.0 ~ 1.2 |
| ④321611 | 2.0 | 4.2 ~ 5.2 | 1.2 |
| ⑥321616 | 2.0 | 4.2 ~ 5.2 | 1.2 |
| ⑦322513 | 2.0 | 5.5 ~ 6.5 | 1.8 |
| ⑧451616 | 3.0 | 5.5 ~ 6.5 | 1.2 |
| ⑧453215 | 3.0 | 5.5 ~ 6.5 | 2.4 |

- * Don't apply narrower pattern than listed above to PB and UPB. Narrow pattern might cause excessive heat or open circuit.

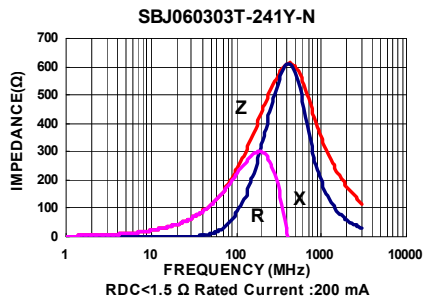
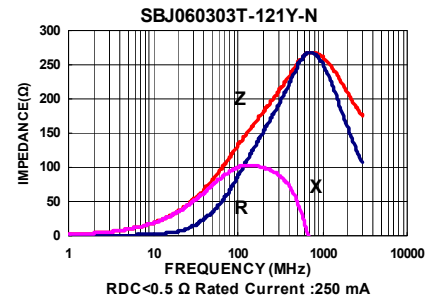
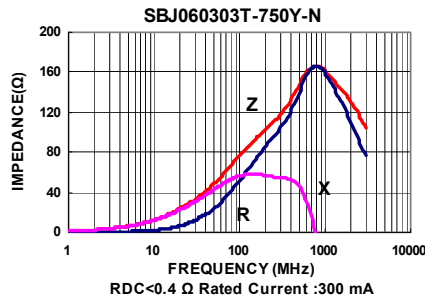
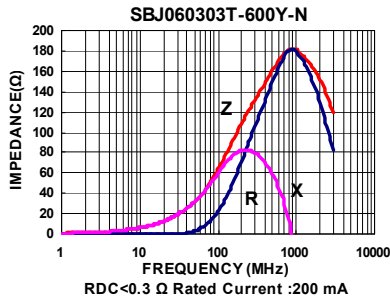
Dimension Conversion

| Code | Dimension in mm (AxBxC) | EIA |
|--------|-------------------------|------|
| 060303 | 0.6X0.3X0.3 | 0201 |
| 100505 | 1.0X0.5X0.5 | 0402 |
| 160808 | 1.6x0.8x0.8 | 0603 |
| 201209 | 2.0x1.2x0.9 | 0805 |
| 201212 | 2.0x1.2x1.25 | 0805 |
| 321611 | 3.2x1.6x1.1 | 1206 |
| 321616 | 3.2x1.6x1.6 | 1206 |
| 322513 | 3.2x2.5x1.3 | 1210 |
| 451616 | 4.5x1.6x1.6 | 1806 |
| 453215 | 4.5x3.2x1.5 | 1812 |

Electrical Characteristics

| Part Number | Test Frequency (MHz) | Impedance ($\Omega \pm 25\%$) | DC Resistance (Ω) Max | Rated current (mA) Max |
|-------------------|----------------------|---------------------------------|--------------------------------|------------------------|
| SBJ060303T-600Y-N | 100 | 60 | 0.3 | 200 |
| SBJ060303T-750Y-N | 100 | 75 | 0.4 | 300 |
| SBJ060303T-121Y-N | 100 | 120 | 0.5 | 250 |
| SBJ060303T-241Y-N | 100 | 240 | 1.0 | 220 |

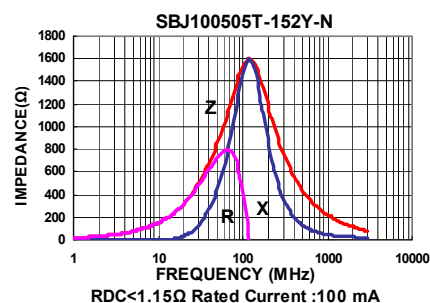
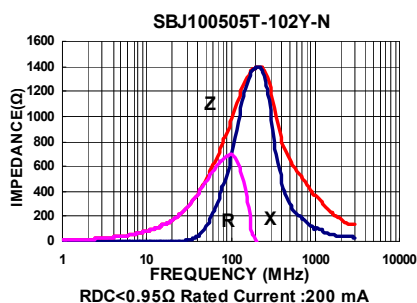
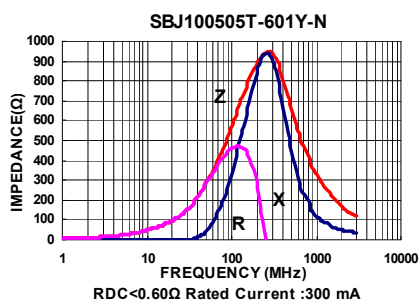
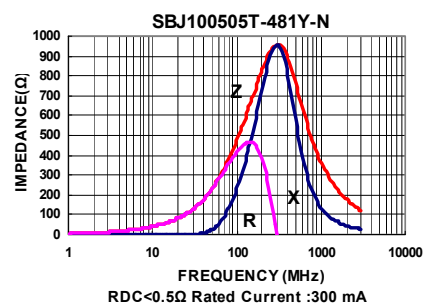
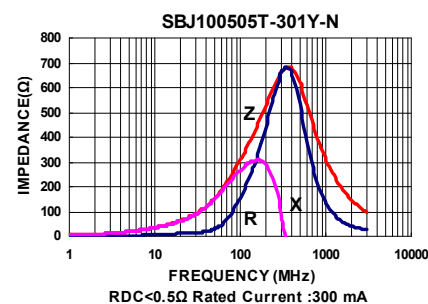
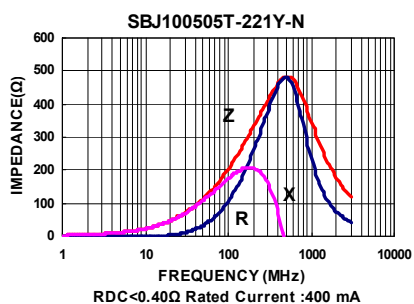
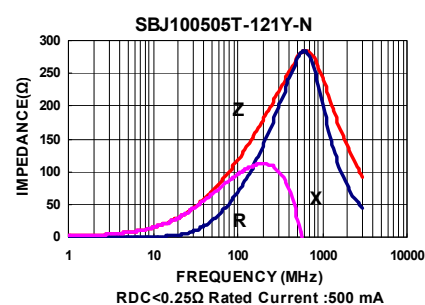
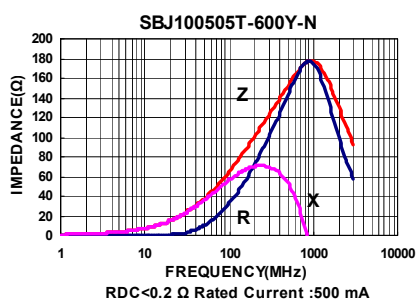
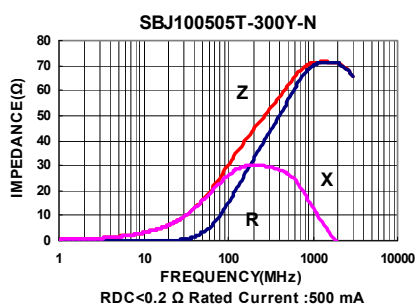
Test Instruments : Agilent E4991A Impedance / Material Analyzer



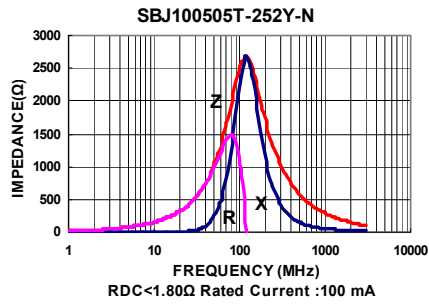
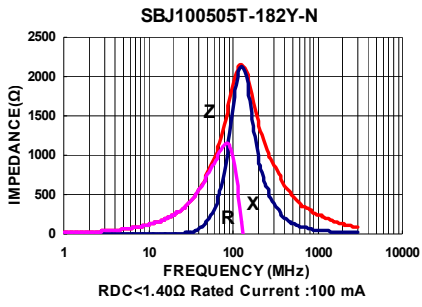
Electrical Characteristics

| Part Number | Test Frequency (MHz) | Impedance ($\Omega \pm 25\%$) | DC Resistance (Ω) Max | Rated current (mA) Max |
|-------------------|----------------------|---------------------------------|--------------------------------|------------------------|
| SBJ100505T-300Y-N | 100 | 30 | 0.20 | 500 |
| SBJ100505T-600Y-N | 100 | 60 | 0.20 | 500 |
| SBJ100505T-121Y-N | 100 | 120 | 0.25 | 500 |
| SBJ100505T-221Y-N | 100 | 220 | 0.40 | 400 |
| SBJ100505T-301Y-N | 100 | 300 | 0.50 | 300 |
| SBJ100505T-481Y-N | 100 | 480 | 0.50 | 300 |
| SBJ100505T-601Y-N | 100 | 600 | 0.60 | 300 |
| SBJ100505T-102Y-N | 100 | 1000 | 0.95 | 200 |
| SBJ100505T-152Y-N | 100 | 1500 | 1.15 | 100 |
| SBJ100505T-182Y-N | 100 | 1800 | 1.40 | 100 |
| SBJ100505T-252Y-N | 100 | 2500 | 1.80 | 100 |

Test Instruments : Agilent E4991A Impedance / Material Analyzer



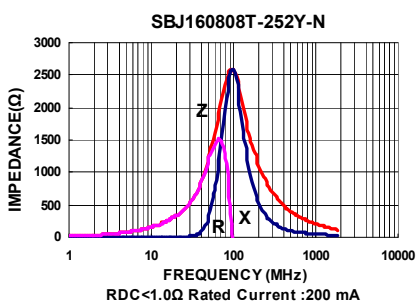
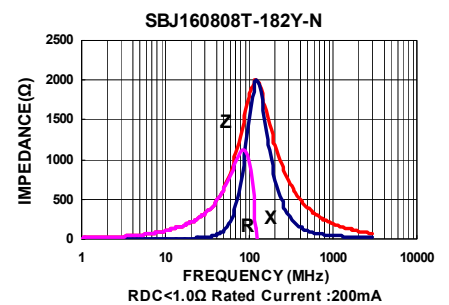
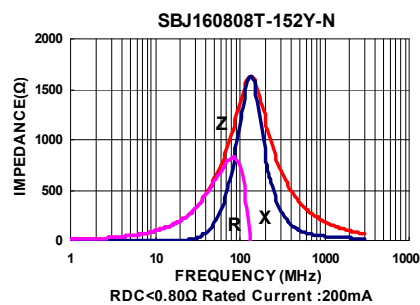
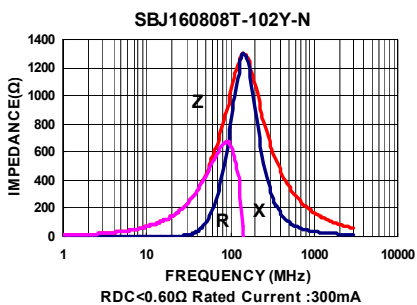
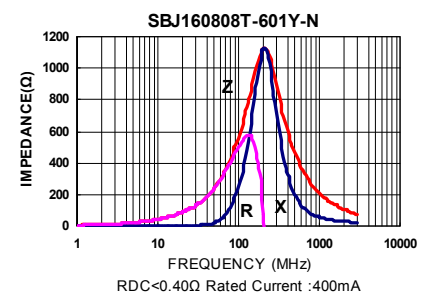
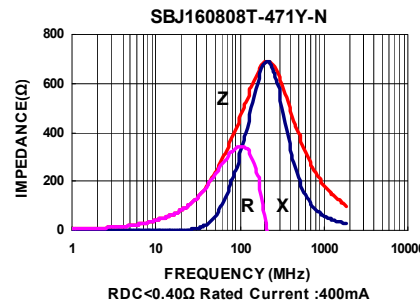
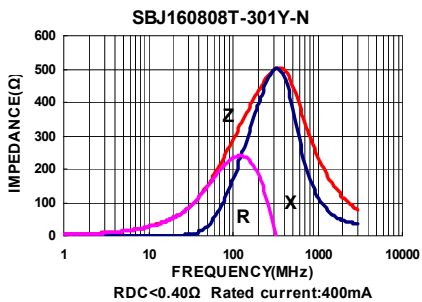
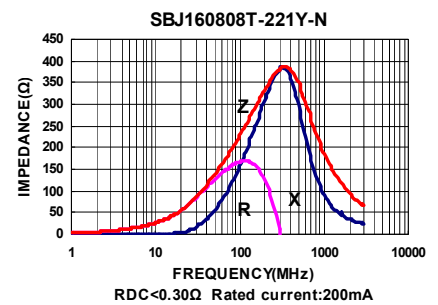
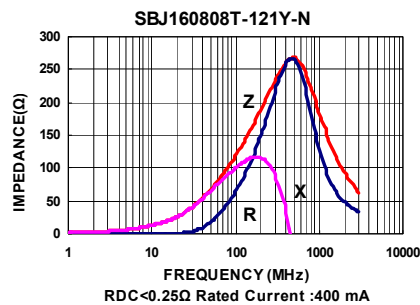
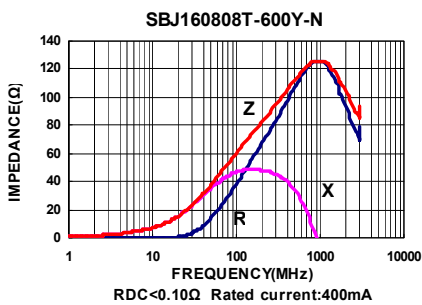
Test Instruments : Agilent E4991A Impedance / Material Analyzer



Electrical Characteristics

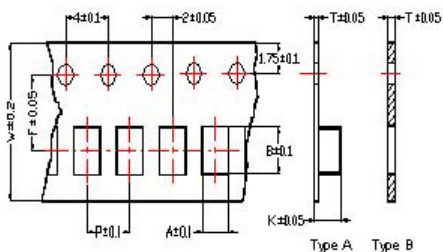
| Part Number | Test Frequency (MHz) | Impedance ($\Omega \pm 25\%$) | DC Resistance (Ω) Max | Rated current (mA) Max |
|-------------------|----------------------|---------------------------------|--------------------------------|------------------------|
| SBJ160808T-600Y-N | 100 | 60 | 0.10 | 400 |
| SBJ160808T-121Y-N | 100 | 120 | 0.25 | 400 |
| SBJ160808T-221Y-N | 100 | 220 | 0.30 | 400 |
| SBJ160808T-301Y-N | 100 | 300 | 0.40 | 400 |
| SBJ160808T-471Y-N | 100 | 470 | 0.40 | 400 |
| SBJ160808T-601Y-N | 100 | 600 | 0.40 | 400 |
| SBJ160808T-102Y-N | 100 | 1000 | 0.60 | 300 |
| SBJ160808T-152Y-N | 100 | 1500 | 0.80 | 200 |
| SBJ160808T-182Y-N | 100 | 1800 | 1.0 | 200 |
| SBJ160808T-252Y-N | 100 | 2500 | 1.0 | 200 |

Test Instruments : Agilent E4991A Impedance / Material Analyzer



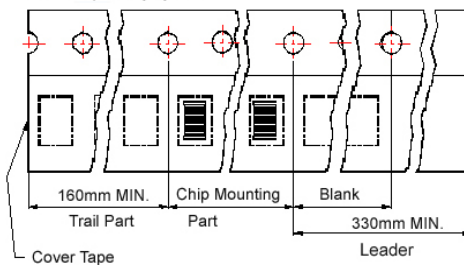
Packaging Specifications

Tape Dimensions

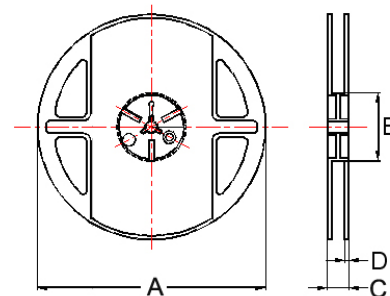


Tape Material

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



Reel Dimensions



- ① : SB / PB / NB ② : SB / PB / NB / HF ③ : SB / PB
- ④ : SB / PB / NB / GB / UPB / HF / VPB ⑤ : UPB
- ⑥ : SB / PB / NB / GB / UPB ⑦ : SB ⑧ : PB / UPB

Dimensions in mm

| TYPE | Tape Dimensions | | | | | | | | Reel Dimensions | | | | Quantity 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 | 0.65 | 1.15 | 0.60 | 8.0 | 2.0 | 3.5 | - | B | 178 | 60 | 12 | 2 | 10000 |
| ③160808 | 1.05 | 1.85 | 0.95 | 8.0 | 4.0 | 3.5 | - | B | 178 | 60 | 12 | 2 | 4000 |
| ④201209 | 1.50 | 2.30 | 0.97 | 8.0 | 4.0 | 3.5 | - | B | 178 | 60 | 12 | 2 | 4000 |
| ⑤201212 | 1.35 | 2.25 | 0.22 | 8.0 | 4.0 | 3.5 | 1.35 | A | 178 | 60 | 12 | 2 | 3000 |
| ④321611 | 1.88 | 3.50 | 0.22 | 8.0 | 4.0 | 3.5 | 1.27 | A | 178 | 60 | 12 | 2 | 3000 |
| ⑥321616 | 1.88 | 3.53 | 0.22 | 8.0 | 4.0 | 3.5 | 1.80 | A | 178 | 60 | 12 | 2 | 2000 |
| ⑦322513 | 2.77 | 3.42 | 0.22 | 8.0 | 4.0 | 3.5 | 1.55 | A | 178 | 60 | 12 | 2 | 2500 |
| ⑧451616 | 1.93 | 4.95 | 0.24 | 12 | 4.0 | 5.5 | 1.93 | A | 178 | 60 | 14 | 2 | 2000 |
| ⑨453215 | 3.66 | 4.95 | 0.24 | 12 | 8.0 | 5.5 | 1.85 | A | 178 | 60 | 14 | 2 | 1000 |