

The background features a grid of various geometric shapes, including squares, rectangles, and octagons. Some shapes are filled with diagonal hatching, while others are solid gray. The shapes are arranged in a staggered pattern, creating a complex, abstract design. The text is centered over this pattern.

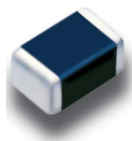
Multi-Layer Ferrite Chip Beads Catalog

DARFON
Darfon Electronics Corp.

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Multi-Layer Ferrite Chip Beads (BF Series)



FEATURES

- High density packaging is possible. This series requires less space and has greater EMI suppression effects.
- Different types with the same shape are available.
- Excellent in physical properties, such as terminal strength, flexure strength, soldering resistance and solderability.
- Applicable to both flow and reflow soldering.
- High impedance cover wide frequency ranges.
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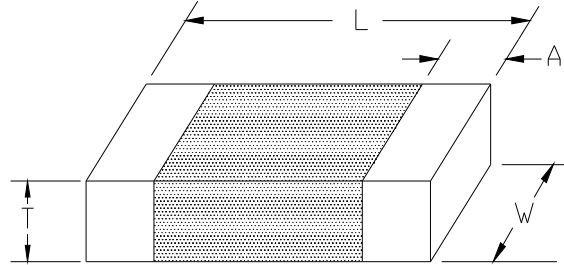
APPLICATION

- Computers and peripheral devices, personal computers, VCR and cameras.
- Noise suppression in digital equipments, car stereo, car engines controllers and OA electronic instruments.
- Communication equipment.

ORDERING CODE

		<u>BF 1005 150 T T S</u>
PRODUCT CODE	BF : Multilayer Ferrite Chip Bead (Lead Free)	
DIMENSION CODE (EIA CODE)	1005 (0402) 1608 (0603) 2012 (0805)	
IMPEDANCE CODE	150 = 15 Ω 151 = 150Ω 152 = 1500Ω	
TOLERANCE CODE	T= +/- 25%	
PACKAGING CODE	B = Bulk T = Tape(Paper)	
Type CODE	P = Large Current S = General Type	

DIMENSIONS SPECIFICATIONS



DIMENSION CODE (EIA CODE)	L	W	T	A (Min/Max)	Unit
1005 (0402)	1.00 +/- 0.10 (0.040 +/- 0.004)	0.50 +/- 0.10 (0.020 +/- 0.004)	0.50 +/- 0.10 (0.020 +/- 0.004)	0.10 / 0.40 (0.004 / 0.016)	mm (inch)
1608 (0603)	1.60 +/- 0.20 (0.063 +/- 0.008)	0.80 +/- 0.20 (0.031 +/- 0.008)	0.80 +/- 0.20 (0.031 +/- 0.008)	0.10 / 0.50 (0.004 / 0.020)	mm (inch)
2012 (0805)	2.00 +/- 0.20 (0.079 +/- 0.008)	1.20 +/- 0.15 (0.047 +/- 0.008)	0.90 +/- 0.20 (0.035 +/- 0.008)	0.20 / 0.80 (0.008 / 0.032)	mm (inch)

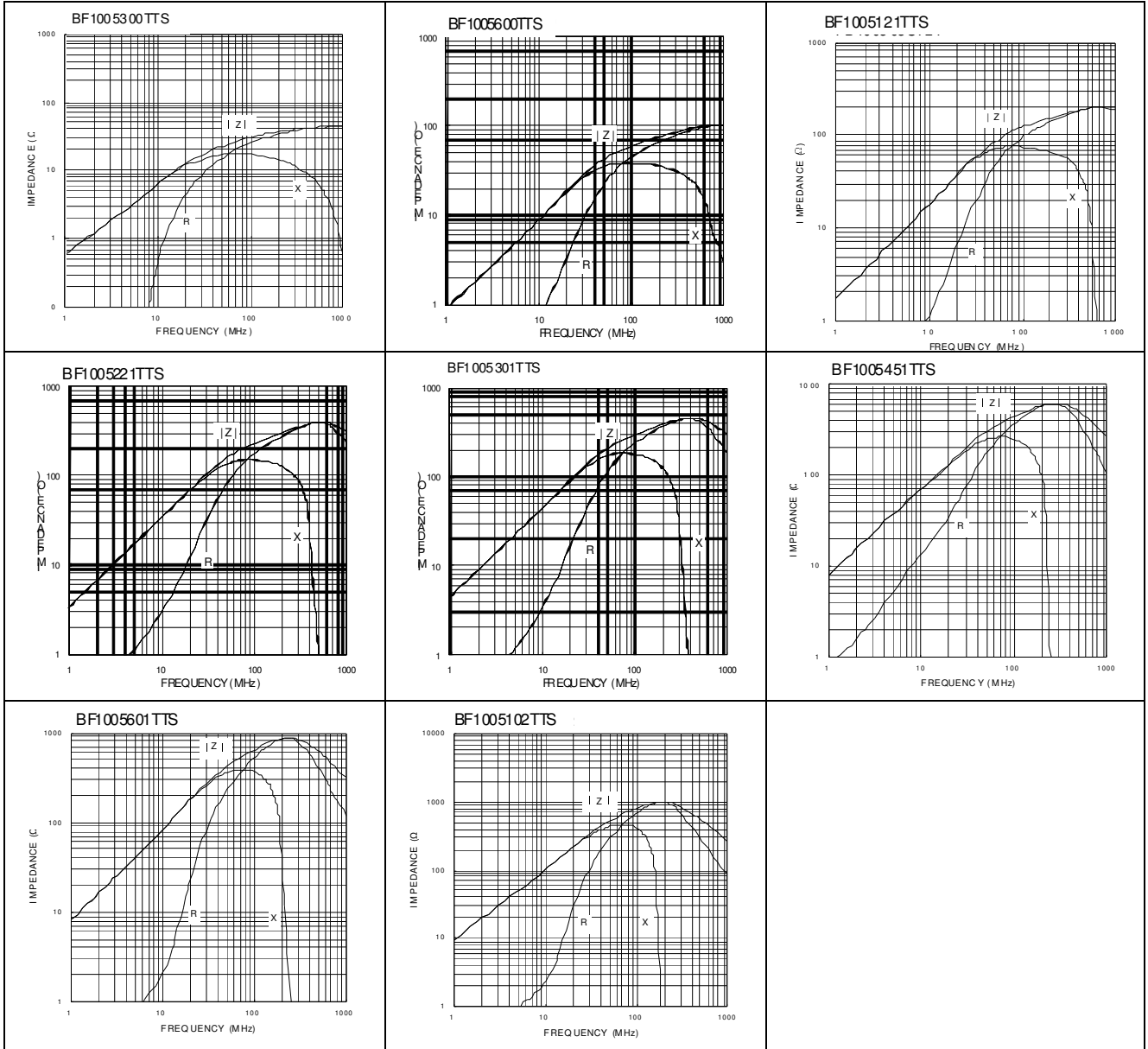
Multi-Layer Ferrite Chip Beads: BF1005 series (EIA 0402 Size)

■ Electric Characteristic

Part Number	Impedance (Ω) $\pm 25\%$ At 100MHz	DC Resistance (Ω) MAX.	Rated Current (mA) MAX.
BF1005300TTS	30	0.3	500
BF1005600TTS	60	0.4	200
BF1005121TTS	120	0.5	200
BF1005221TTS	220	0.7	100
BF1005301TTS	300	0.8	100
BF1005451TTS	450	0.9	100
BF1005601TTS	600	1	100
BF1005102TTS	1000	1.5	50

- OPERATING TEMPERATURE RANGE: -55 °C TO +125 °C

TYPICAL ELECTRICAL CHARACTERISTICS



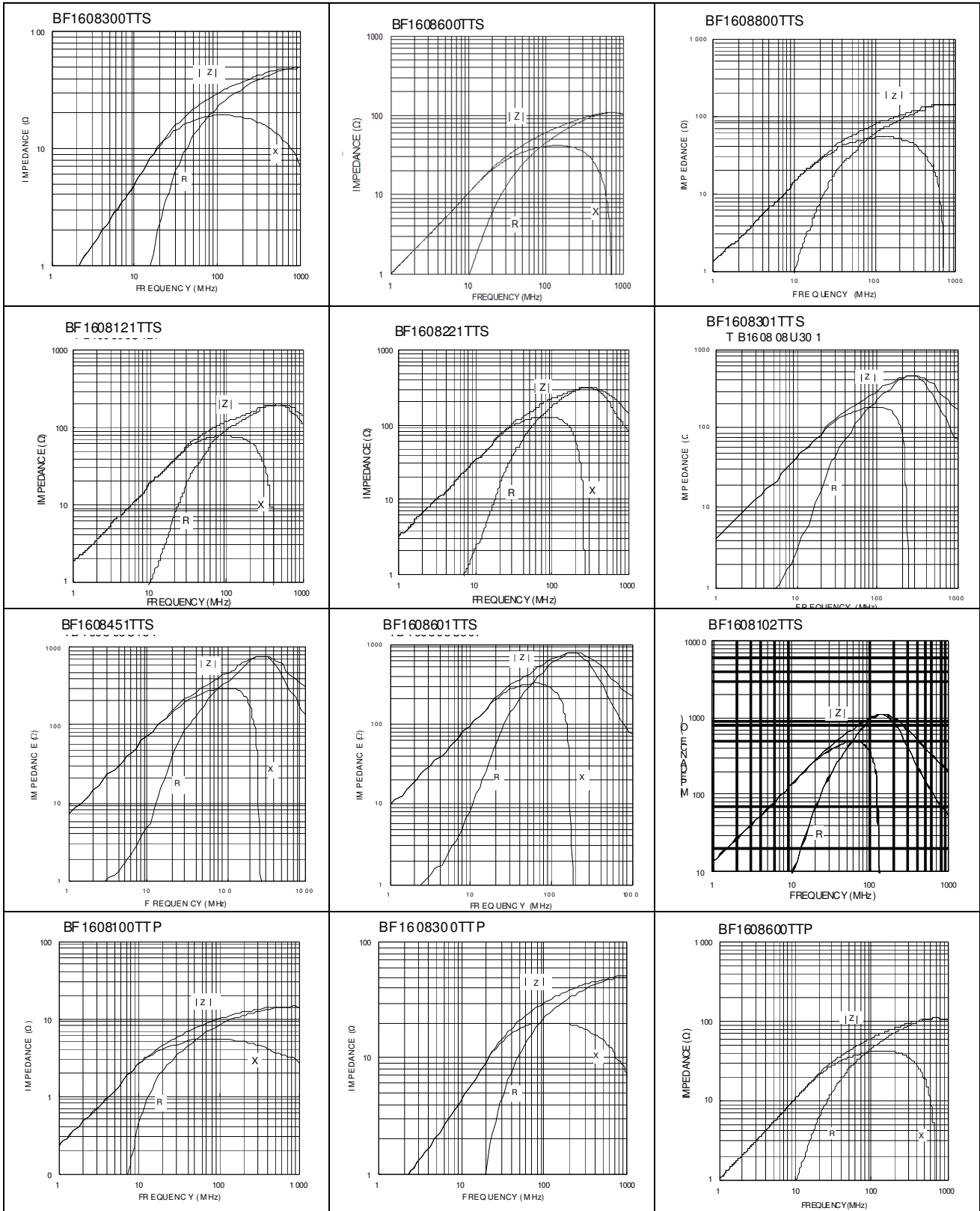
Multi-Layer Ferrite Chip Beads: BF1608 series (EIA 0603 Size)

■ Electric Characteristic

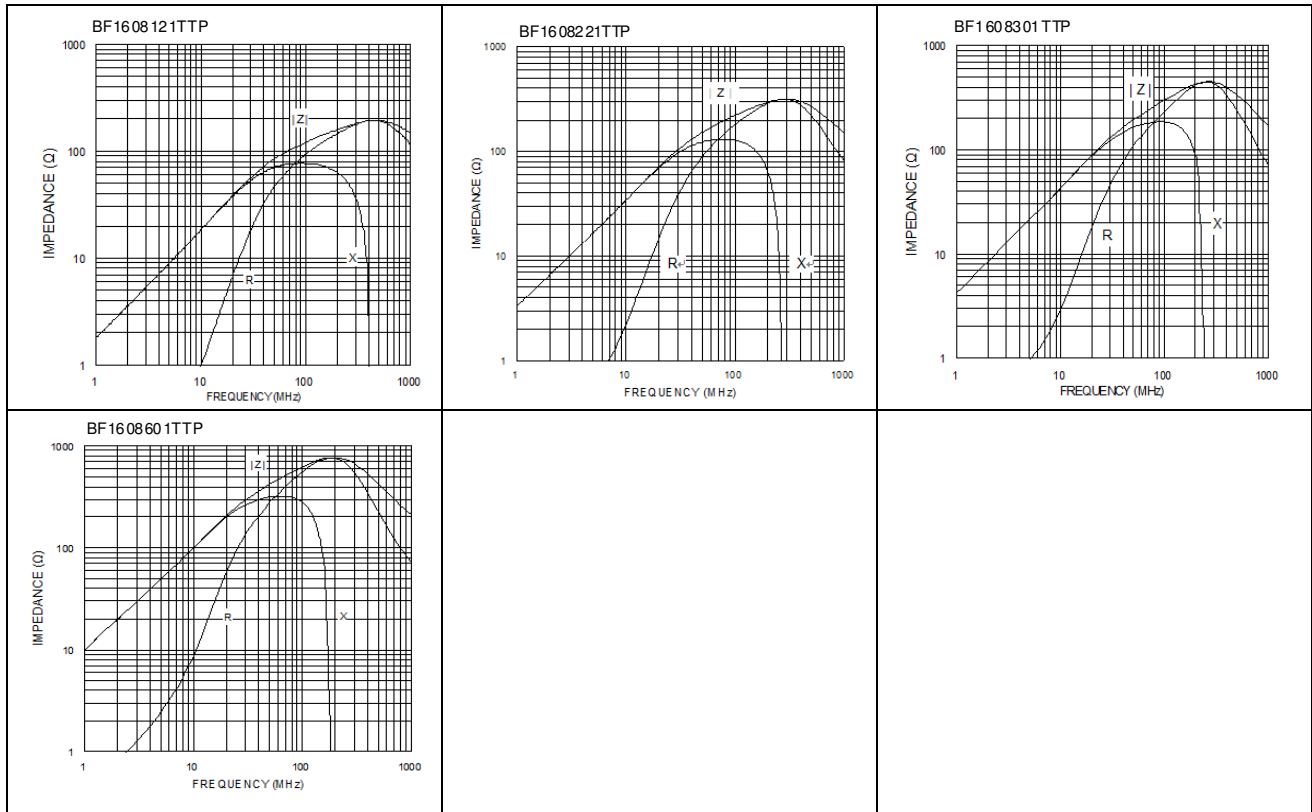
Part Number	Impedance (Ω) $\pm 25\%$ At 100MHz	DC Resistance (Ω) MAX.	Rated Current (mA) MAX.
BF1608090TTS	9	0.200	500
BF1608300TTS	30	0.200	400
BF1608600TTS	60	0.200	300
BF1608800TTS	80	0.200	300
BF1608121TTS	120	0.200	200
BF1608221TTS	220	0.200	200
BF1608301TTS	300	0.350	200
BF1608451TTS	450	0.400	200
BF1608601TTS	600	0.450	200
BF1608102TTS	1000	0.600	100
BF1608100TTP	10	0.030	4000
BF1608300TTP	30	0.050	3000
BF1608600TTP	60	0.050	3000
BF1608121TTP	120	0.100	2000
BF1608221TTP	220	0.150	1500
BF1608301TTP	300	0.150	1500
BF1608601TTP	600	0.200	1000

● OPERATING TEMPERATURE RANGE: -55 °C TO +125 °C

TYPICAL ELECTRICAL CHARACTERISTICS



TYPICAL ELECTRICAL CHARACTERISTICS



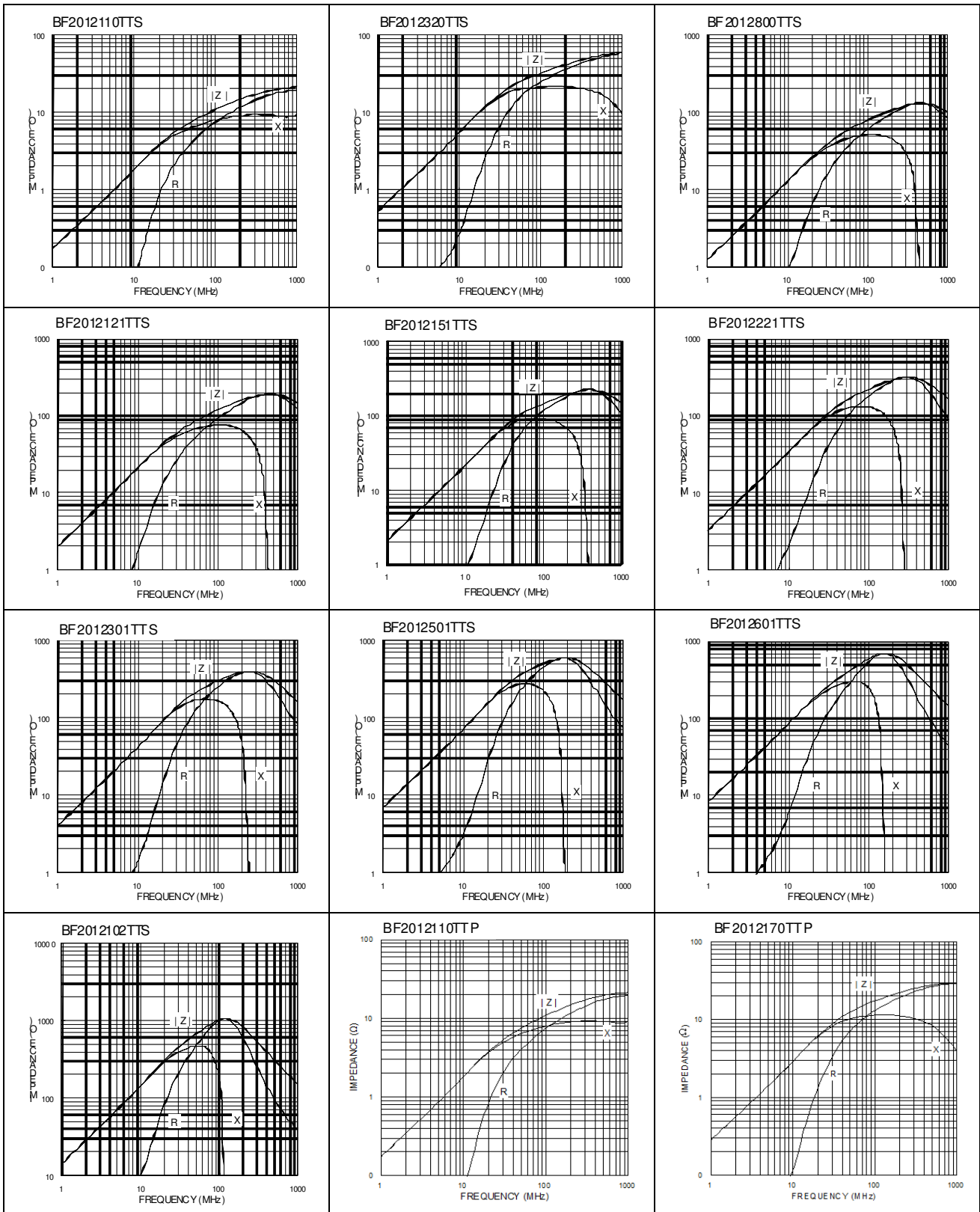
Multi-Layer Ferrite Chip Beads: BF2012 series (EIA 0805 Size)

Electric Characteristic

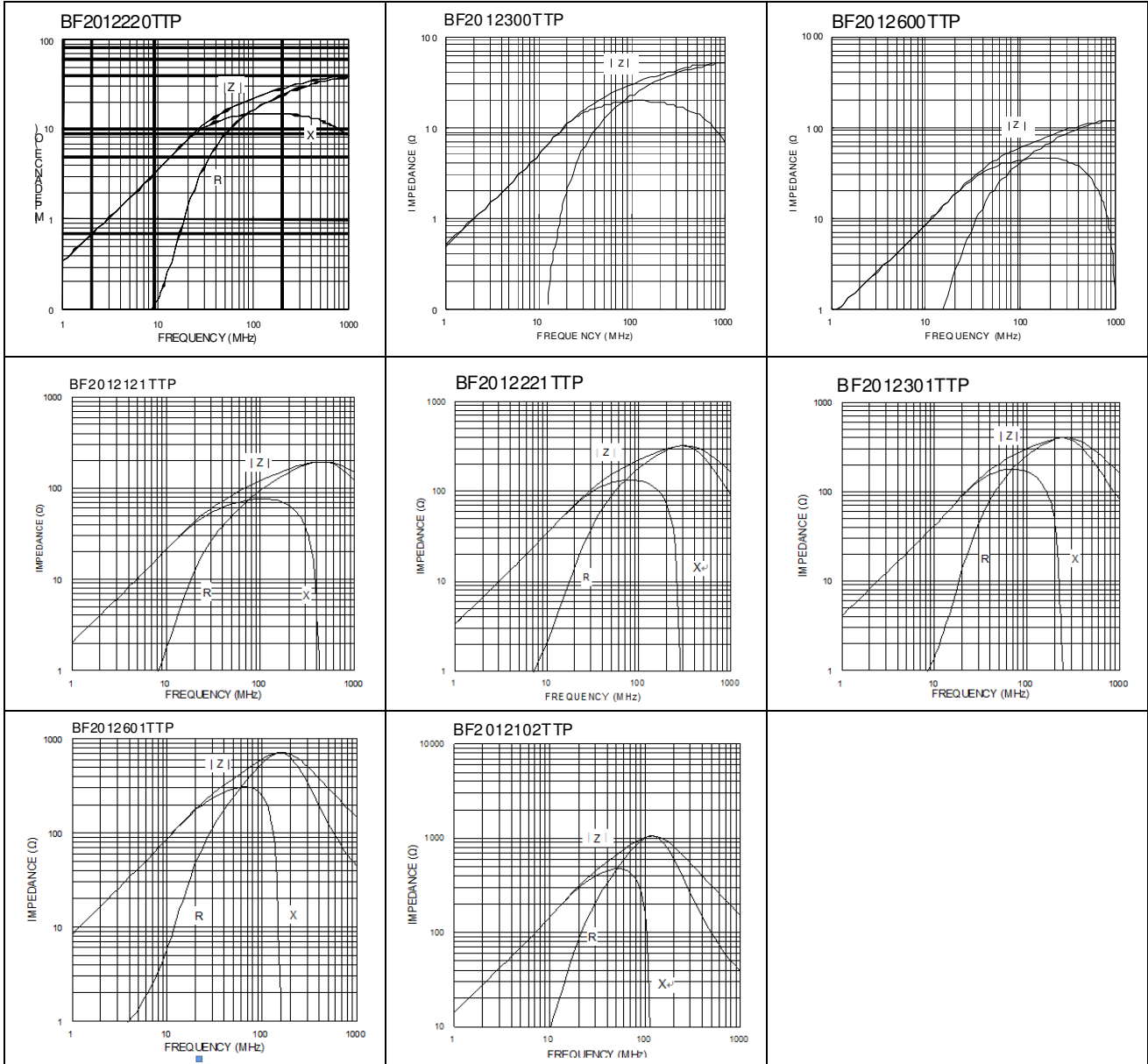
Part Number	Impedance (Ω) \pm 25% At 100MHz	DC Resistance (Ω) MAX.	Rated Current (mA) MAX.
BF2012110TTS	11	0.150	600
BF2012320TTS	32	0.150	400
BF2012800TTS	80	0.150	300
BF2012121TTS	120	0.250	300
BF2012151TTS	150	0.250	300
BF2012221TTS	220	0.300	200
BF2012301TTS	300	0.300	200
BF2012501TTS	500	0.300	200
BF2012601TTS	600	0.350	200
BF2012102TTS	1000	0.450	200
BF2012110TTP	11	0.010	6000
BF2012170TTP	17	0.010	6000
BF2012220TTP	22	0.010	6000
BF2012300TTP	30	0.030	4000
BF2012600TTP	60	0.050	3000
BF2012121TTP	120	0.080	2500
BF2012221TTP	220	0.100	2000
BF2012301TTP	300	0.100	2000
BF2012601TTP	600	0.300	1000
BF2012102TTP	1000	0.300	1000

- OPERATING TEMPERATURE RANGE: -55 °C TO +125 °C

TYPICAL ELECTRICAL CHARACTERISTICS

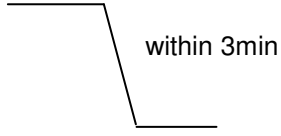


TYPICAL ELECTRICAL CHARACTERISTICS



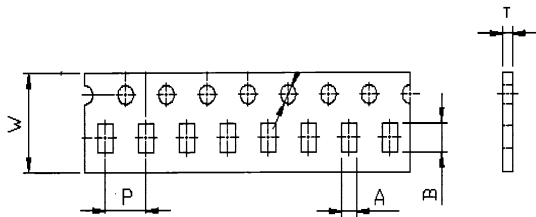
TESTING CONDITION AND REQUIREMENTS

No.	Item	Test Condition	Requirements
1	Impedance	a. Temperature: 25+/- 3°C b. Relative Humidity: 45 to 75%RH c. Measuring equipment and fixture: HP 4291+16192A	Within specified tolerance.
2	DC Resistance	a. Temperature: 25+/- 3°C b. Relative Humidity: 45 to 75%RH c. Measuring equipment: HP 4338	In accordance with electrical specification.
3	Appearance	Inductors shall be visually inspected for visible evidence of defect.	In accordance with specification.
4	Rated Current	a. Temperature: 25+/- 3°C b. Relative Humidity: 45 to 75%RH c. Measuring equipment and fixture: ABM 8306D	In specification
5	Dimension	Dimension shall be measured with caliper or micrometer	In accordance with dimension specification.
6	Solder-ability	Immerse a test sample into a methanol solution containing rosin and immerse into molten solder of 230+/-5°C for 5+/-1 seconds.	More than 75% of the terminal electrode part shall be covered with fresh solder.
7	Bending Strength	<p>Solder the chip to test jig then apply a force in the direction shown in below. The soldering shall be done with the reflow method and shall be conducted with care so that the soldering is uniform and free of defects such as heat shock.</p> <p style="text-align: center;">Mounting Samples</p> <p style="text-align: center;">1. No mechanical damage shall be observed.</p>	
8	Resistance to Soldering Heat	Immerse a test sample into a methanol solution containing resin, preheat it at 120 to 150°C for 1 minutes and immerse into molten solder of 260+/-5°C for 10+/-1 second so that both terminal electrodes are completely submerged.	No visible damage

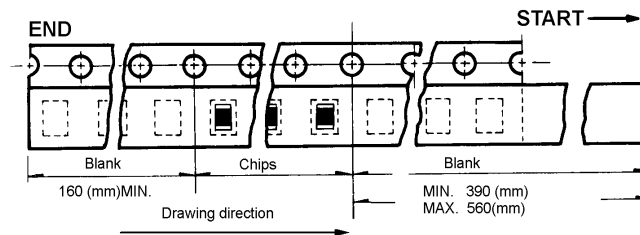
9	Thermal Shock	<p>Solder a test sample to printed circuit board, and conduct 5 cycles of test under the conditions shown as below.</p> <p>Operating temp. range: -40~85°C</p> <p>Cycle: Maximum operating temp. $(30 \pm 3 \text{min})$  Minimum operating temp. $(30 \pm 3 \text{min})$</p>	<p>No visible damage Impedance: Within $\pm 20\%$ of the initial value</p>
10	High Humidity Load Life Test	<p>Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of $40 \pm 2^\circ\text{C}$, 90~95%RH for 500 ± 12 hours while supplying the rated current. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24 ± 2 hrs of recovery under standard condition.</p>	<p>No visible damage. Impedance: Within $\pm 20\%$ of the initial value</p>
11	High Temperature Load	<p>Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of $85 \pm 2^\circ\text{C}$ for 500 ± 12 hours while supplying the rated current. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24 ± 2 hrs of recovery under standard condition.</p>	<p>No visible damage. Impedance: Within $\pm 20\%$ of the initial value.</p>

PACKAGING SPECIFICATIONS

Carrier tape material : Paper

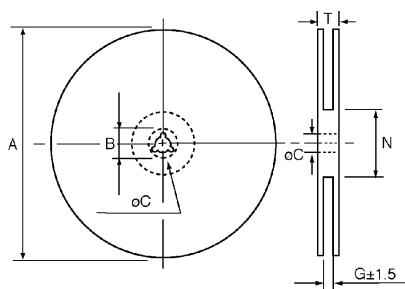


Material : Paper (Dimensions in mm)						
TYPE	A	B	W	P	T	CHIPS / REEL
1005	0.62	1.12	8	2	0.60	10,000
1608	1.10	1.90	8	4	0.95	4,000
2012	1.50	2.30	8	4	0.95	4,000



Reel dimensions

Material : Plastic



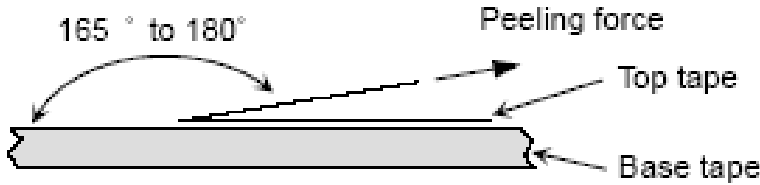
Dimensions in mm

TYPE	8mm	12mm
A	178±2	178±2
B	21.0±0.8	21.0±0.8
C	13.0±0.8	13.0±0.8
G	10.0	14.0
N	75	75
T	12.5	16.5

■ **Peel strength of top cover tape**

The peel speed shall be about 300 mm/min.

The peel strength of top cover tape shall be between 0.1 to 1.0N.



Cautions

■ **Storage**

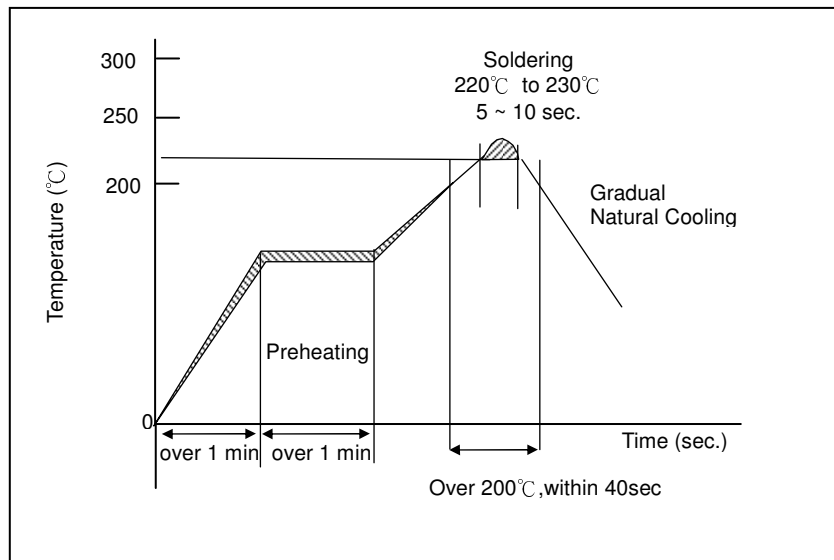
1. The chip inductor shall be packaged in carrier tapes.
2. To keep storage place temperature from +5 to 35°C, humidity from 45 to 70% RH.
3. The storage atmosphere must be free of gas containing sulfur and chlorine. Also, avoid exposing the product to saline moisture. If the product is exposed to such atmospheres, the terminals will oxidize and solderability will be affected.
4. The solderability is assured for 12 months from our final inspection date if the above storage condition is followed.

■ **Handling**

Chip inductor should be handled with care to avoid contamination or damage. The use of vacuum pick-up or plastic tweezers is recommended for manual placement. Tape and reeled packages are suitable for automatic pick and placement machine.

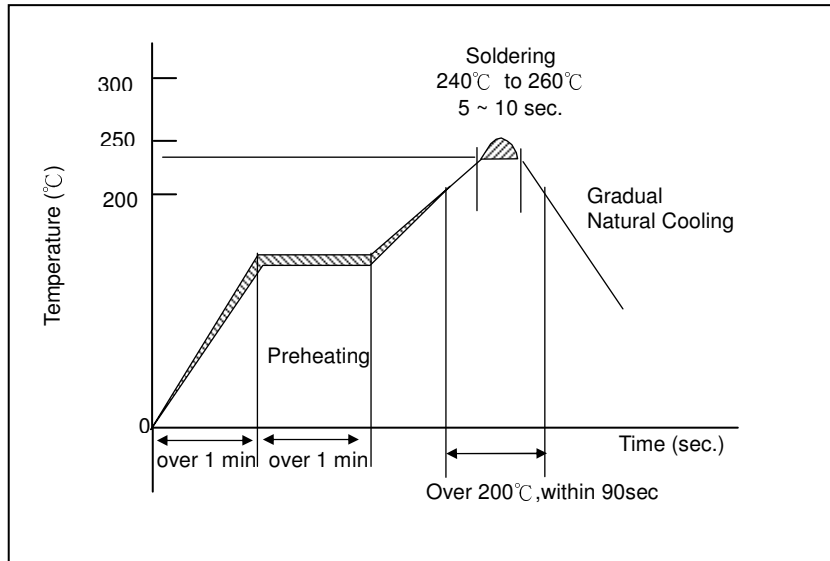
■ **Soldering Profile for SMT Process with SnPb Solder Paste.**

The rate of preheat should not exceed 4°C/sec and a target of 2°C/sec is preferred. Ceramic chip components should be preheated to within 100 to 130 °C of the soldering.

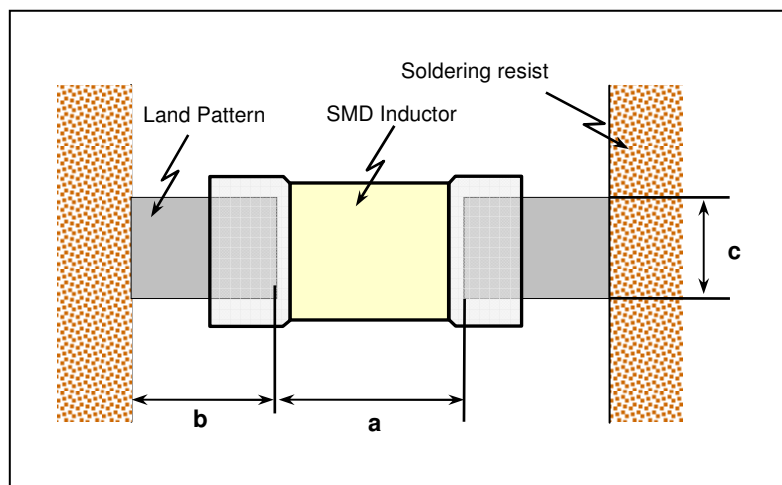


■ **Soldering Profile for SMT Process with Lead Free Solder Paste.**

The rate of preheat should not exceed 4°C/sec and a target of 2°C/sec is preferred. Ceramic chip components should be preheated to within 100 to 130 °C of the soldering.



■ **Recommended pad dimensions**



Size mm (EIA)	L x W (mm)	a (mm)	b (mm)	c (mm)
1005 (0402)	1.0*0.5	0.3 to 0.5	0.35 to 0.45	0.4 to 0.5
1608 (0603)	1.6*0.8	0.7 to 1.0	0.6 to 0.8	0.7 to 0.8
2012 (0805)	2.0*1.25	1.0 to 1.3	0.7 to 0.9	1.0 to 1.2