

EMI Ferrite Bead



BBUP Series



Overview

EMI ferrite beads are made of ferrite material, which can block high-frequency noise while allowing required signals to pass through, providing high impedance and noise attenuation to improve signal integrity/efficiency and reduce power loss.

Benefits

1. For Power Line
2. Compliance with EMI regulations.
3. Reduced power loss and improved system efficiency
4. Operating temperature range: -55 ~ +125°C
5. Improved signal integrity

Applications

1. Wearable device
2. Industrial
3. Communications
4. Consumer Electronics

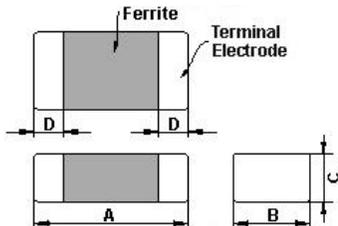
Product Information

Series	Size Code (JIS/EIA)	Impedance (Ω)
BBUP	1005/0402 1608/0603 2012/0805 3216/1206 4532/1812	10 ~ 470



BBUP00160805 Series Specification

6 Configuration and Dimensions:



Dimensions in mm

TYPE	160805
A	1.6±0.15
B	0.8±0.15
C	0.5±0.15
D	0.3±0.20

Net Weight (grms)

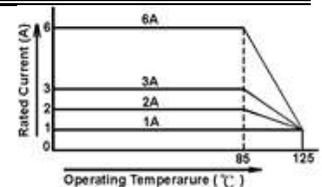
Size Code	Net Weight (grms)
160805	0.00352

7 Electrical Characteristics:

Part No.	Impedance (Ω)	Test Freq.	RDC (Ω)Max.	Rated Current (mA)Max.
BBUP00160805260□00	26	100 MHz,200 mV	0.007	6000
BBUP00160805300□00	30	100 MHz,200 mV	0.007	6000
BBUP00160805600□00	60	100 MHz,200 mV	0.02	4000
BBUP00160805700□00	70	100 MHz,200 mV	0.02	4000
BBUP00160805101□00	100	100 MHz,200 mV	0.025	3000
BBUP00160805121□00	120	100 MHz,200 mV	0.025	3000
BBUP00160805221□00	220	100 MHz,200 mV	0.04	2500
BBUP00160805331□00	330	100 MHz,200 mV	0.07	1500

NOTE: □-tolerance Y=±25% / T=±30%

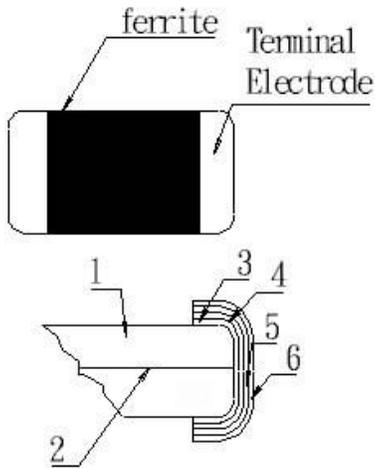
1. Operating temperature range - 5 5 °C ~ 1 2 5 °C(Including self - temperature rise)
2. Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
3. As for BBUP type. Rated Current is derated as right figure depending on the operating temperature.



BBUP00160805 Series Specification

8 BBUP00160805 Series

8.1 Construction:



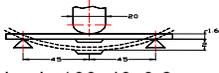
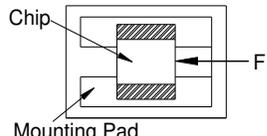
8.2 Material List:

No	Part	Material
1	Ferrite Substance	NiO-CuO-ZnO-Ferrite
2	Silver electrode	Ag
3	Silver electrode	Ag
4	Cu plating	Cu
5	Ni plating	Ni
6	Sn plating	Sn

BBUP00160805 Series Specification

9 Reliability Of Ferrite Multilayer Chip Bead

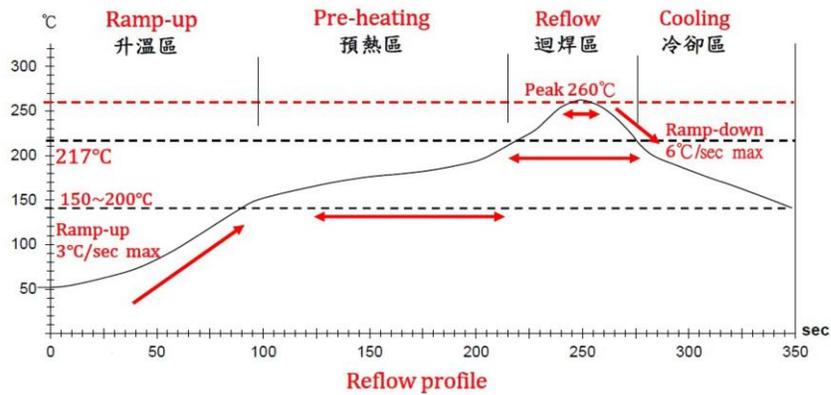
1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Flexure Strength	The forces applied on the right conditions must not damage the terminal electrode and the ferrite	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec  *For 100505, substrate dimension is 100x40x0.8mm
1-1-2	Vibration		Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-3	Resistance to Soldering Heat	Appearance: No damage More than 75% of the terminal electrode should be covered with solder. Impedance : within $\pm 30\%$ of initial value	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 260 \pm 5°C Immersion Time: 10 \pm 1sec
1-1-4	Solder ability	The electrodes shall be at least 95% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245 \pm 5°C (Pb-Free) Immersion Time: 4 \pm 1sec
1-1-5	Terminal Strength Test	No split termination  Chip Mounting Pad	Test device shall be soldered on the substrate, then apply a force in the direction of the arrow. Force : 5N Keeping Time: 10 \pm 1sec

1-2.Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Temperature Cycle	Appearance: No damage Impedance: within $\pm 30\%$ of initial value	One cycle: <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55\pm3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25\pm2</td> <td>3</td> </tr> <tr> <td>3</td> <td>125\pm3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25\pm2</td> <td>3</td> </tr> </tbody> </table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-55 \pm 3	30	2	25 \pm 2	3	3	125 \pm 3	30	4	25 \pm 2	3
Step	Temperature (°C)	Time (min)																
1	-55 \pm 3	30																
2	25 \pm 2	3																
3	125 \pm 3	30																
4	25 \pm 2	3																
1-2-2	Humidity Resistance		Temperature: 40 \pm 2°C Relative Humidity: 90 ~ 95% / Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-3	High Temperature Resistance		Temperature: 125 \pm 3°C / Relative Humidity: 0% Applied Current: Rated Current /Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	Low Temperature Resistance		Temperature: -55 \pm 3°C Relative Humidity: 0% / Time: 1000hrs Measured after exposure in the room condition for 24hrs															

BBUP00160805 Series Specification



Lead-Free(LF)標準溫度分析範圍

Refer to J-STD-020C

管制項目 Item.	升温區 Ramp-up	預熱區 Pre-heating	迴焊區 Reflow	Peak Temp	冷卻區 Cooling
溫度範圍 Temp.scope	R.T ~ 150°C	150°C ~ 200°C	Above 217°C	260±5°C	Peak Temp.~150°C
標準時間 Time spec.	-	60 ~ 180 sec	60 ~ 150 sec	20 ~ 40 sec	-
實際時間 Time result	-	75 ~ 100 sec	90 ~ 120 sec	20 ~ 35 sec	-

NOTE :

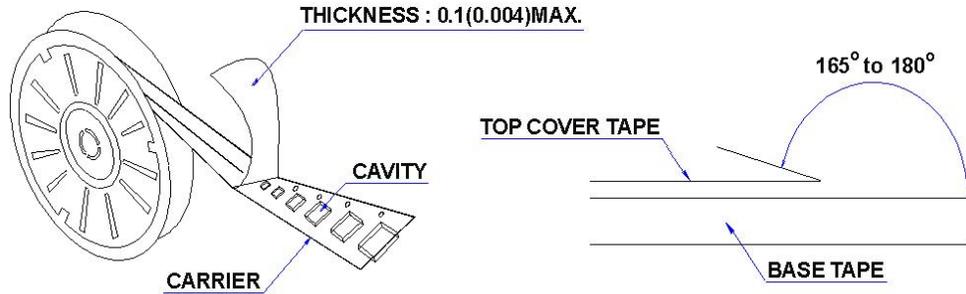
1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow
3. Products can only be soldered with reflow

BBUP00160805 Series Specification

11 Packaging:

11.1 Packaging -Cover Tape

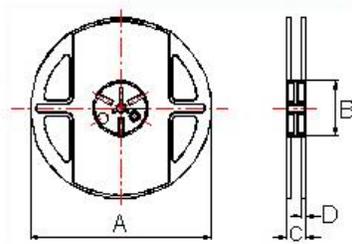
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



11.2 Packaging Quantity

TYPE	PCS/REEL
100505	10000
160805	10000
160808	4000
201209	4000

11.3 Reel Dimensions

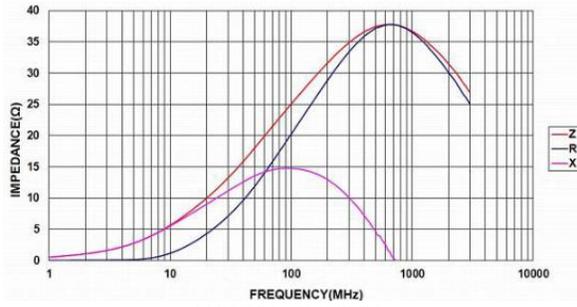


TYPE	A	B	C	D
100505	178	60	12	1.5
160805	178	60	12	1.5
160808	178	60	12	1.5
201209	178	60	12	1.5

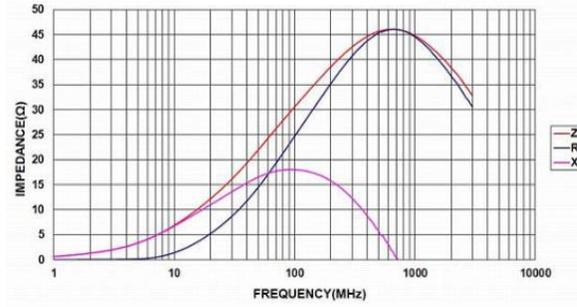
BBUP00160805 Series Specification

14 Graph:

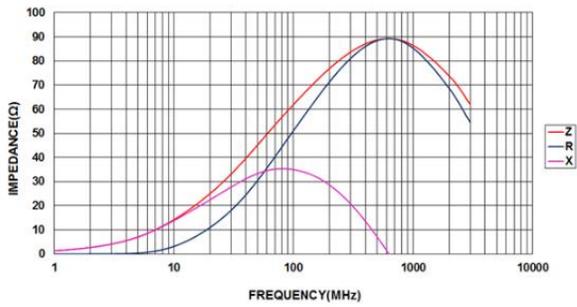
BBUP00160805260Y00



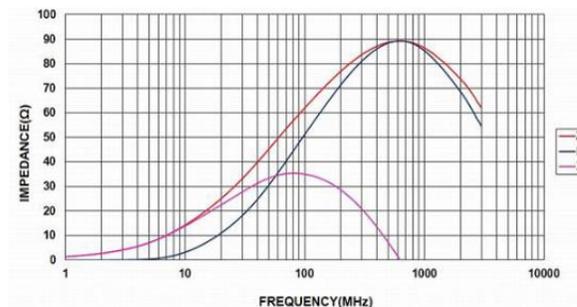
BBUP00160805300Y00



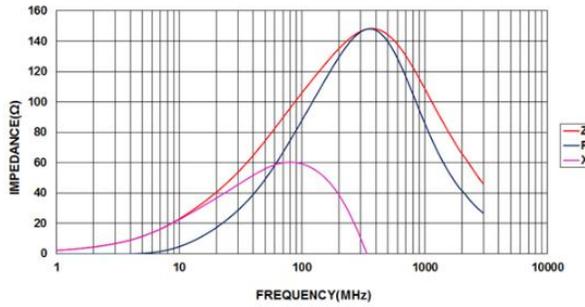
BBUP00160805600Y00



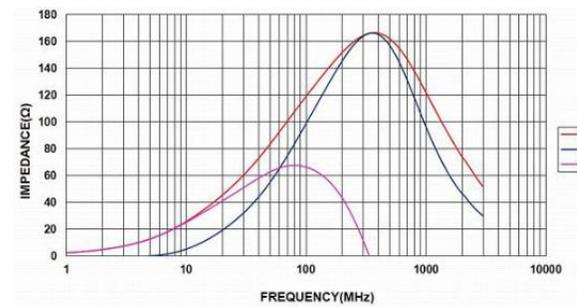
BBUP00160805700Y00



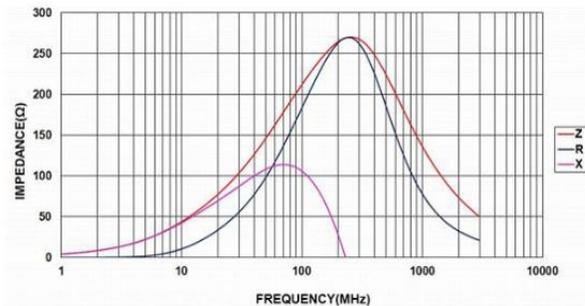
BBUP00160805101Y00



BBUP00160805121Y00



BBUP00160805221Y00



BBUP00160805331Y00

