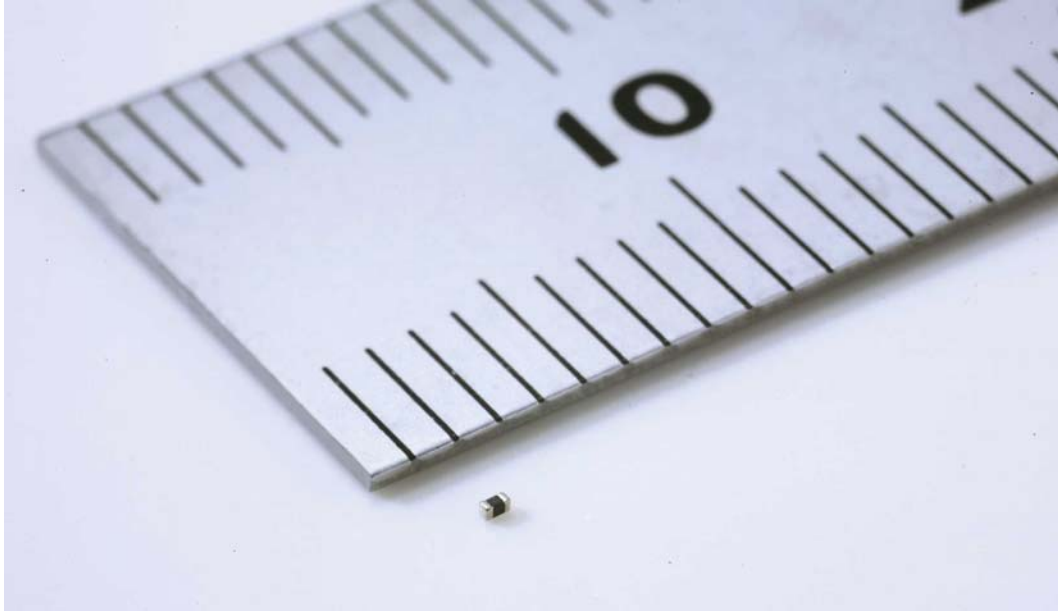


**Commercialization of High-impedance, Small Chip Ferrite Beads for Power  
Amplifier Modules in Wireless Mobile Communication Equipment  
—0603(0201 EIA) Size BLM03AG102SN1—**



**[Body]**

Murata Manufacturing Co., Ltd. has commercialized a chip ferrite bead, BLM03AG102SN1, boasting the industry's highest impedance in the 0603(0201 EIA) size, at 0.6 x 0.3 x 0.3 mm(L x W x T).

This product is a small chip ferrite bead having the industry-highest impedance of 1000Ω (at 100MHz). Replacing the existing 1005 size chip ferrite beads with the new 0603(0201 EIA) size model realizes the smaller size of components and reduces mounting space by approximately 60%. In this way, it can contribute significantly to making the equipment in which they are used smaller and lighter in weight, and is expected to have higher noise suppression effect in products that require compactness and space efficiency, such as power amplifier modules for mobile phones (\*1). We have realized higher impedance at 0603(0201 EIA) size by improving the coil structure in the element using ferrite multilayer technology that Murata has been nurturing. No substances controlled by the RoHS directive. (\*2) are used.

There are five items in the line up of Murata's BLM03A series, with impedance values of 10, 70, 120, 240 and 600Ω (at 100MHz) for noise suppression on general signal lines. Mass production of the new 1000Ω (at 100MHz) product is scheduled to begin in April 2007 at 100 million units per month.

## **[Background]**

Chip ferrite beads are widely used for noise filters to suppress EMI or prevent abnormal oscillation in various types of electronic equipment. Murata has been commercializing chip ferrite beads with various sizes and properties to accommodate those applications.

Since electronic equipment has become smaller with more advanced features, there are greater demands for smaller and more effective noise filters to suppress EMI. Murata has commercialized the 1005(0402 EIA) size chip ferrite beads of impedance 1000Ω (at 100MHz), but the demands for smaller and higher impedance components are becoming stronger.

Murata strived to increase the impedance of its existing 0603(0201 EIA) size products and to reduce the size of its existing 1005 size. As a result, we have succeeded in achieving the 0603(0201 EIA) size an impedance 1000Ω (at 100MHz).

## **[Terminology]**

\*1: Power amplifier modules for mobile phones

: Power amplifier capable of generating high-output RF signals. There are used for many types of wireless communication equipment including mobile phones. (RF stands for Radio Frequency corresponding to 500 MHz to 1 GHz bandwidth.)

\*2 RoHS directive: RoHS directive limits the use of lead, cadmium, mercury, hexavalent chromium, PBB and PBDE in electric and electronic equipments, executed by the EU since July 2006.

## **[Features]**

1. Realization of 0603(0201 EIA) size of industry-highest impedance of 1000Ω (at 100MHz)
2. Optimal performance for prevention of abnormal oscillation in power amplifier modules for mobile phones
3. External electrode has Ni+Sn plating structure having solder dip resistance. 100% lead-free.

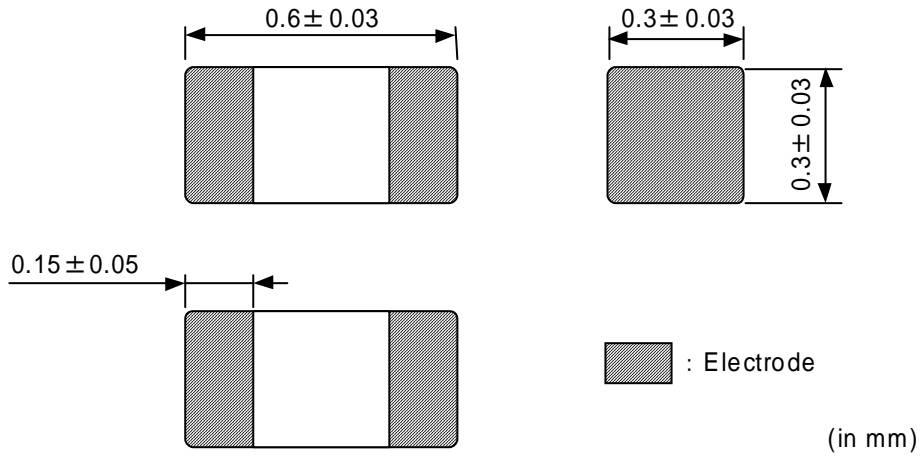
## **[Applications]**

- EMI suppression for various types of electronic equipment
- Noise suppression for general signal lines
- Prevention of abnormal oscillation in power amplifier modules for mobile phones

## **[Parts Number]**

BLM03AG102SN1
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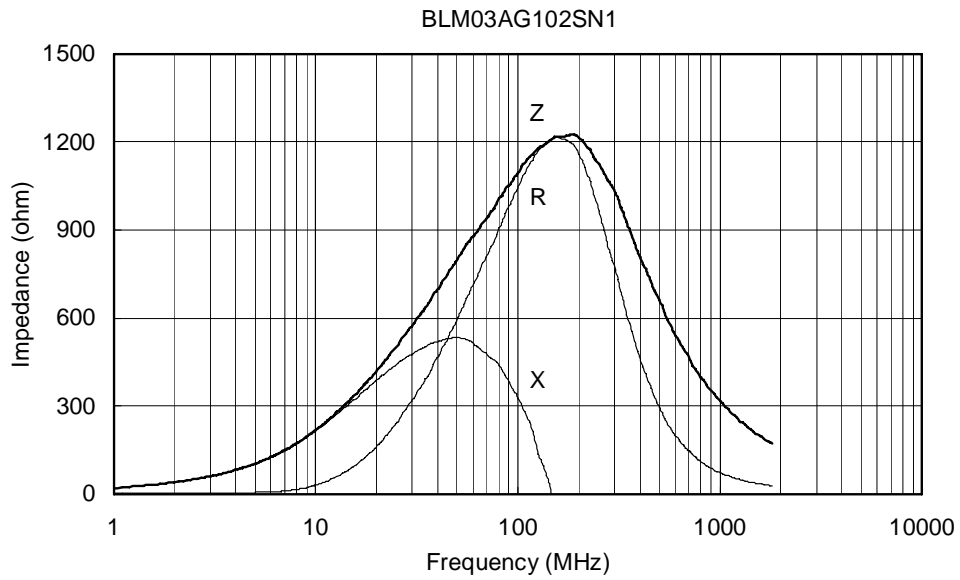
**[External Dimensional Diagram]**



**[Part Number and Specification]**

Part Number	Impedance (ohm) at 100MHz	Rated Current (mA)	DC Resistance (ohm) max.	Operating Temp. Range(°C)
BLM03AG102SN1	1000 ± 25%	100	2.5	-55 ~ +125

**[Characteristics]**



**[Sample Price]**

•5YEN per unit

**[Production]**

100 million units per month in April 2007

**[Patents]**

One patent pending