Under Development

Soft magnetic metal material

Spherical Submicron Metal Powder

FEATURES

TODA KOGYO has been developing submicron-sized Fe-based soft magnetic metal powders with both high sphericity and uniform particle size distribution. By using this powder, it is possible to realize electronic components such as high-performance inductors. They are also suitable for the development of next-generation electronic components, taking advantage of the characteristics in high frequency band.

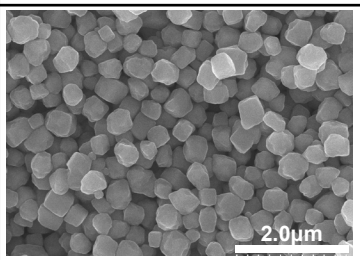
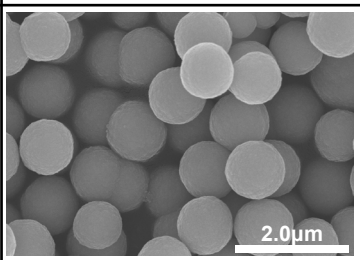
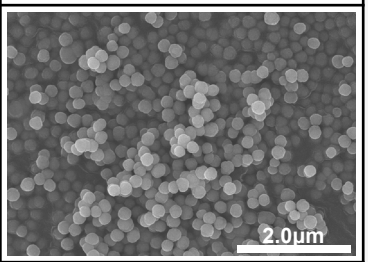
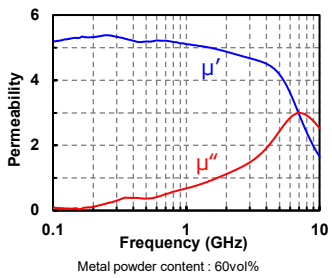
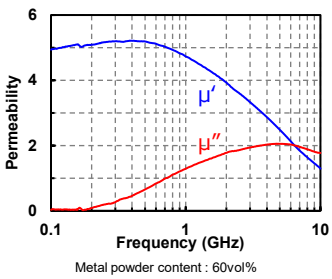
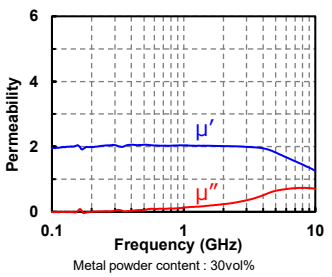
CHARACTERISTICS

1 Uniformly sized fine particles
The particle size can be controlled between 0.2 and 1.0 μm with a uniform particle size distribution.

2 High sphericity
They have a high sphericity and are ideal as auxiliary particles to fill the gaps of large particles to form a close-packed structure.

3 Crystal structure control
Since the crystal and amorphous particles can be prepared, suitable crystal structures are supplied for your application.

SPECIFICATIONS

Crystal structure	Crystal	Amorphous	
Size	D_{50} : 0.4μm	D_{50} : 1.0μm	D_{50} : 0.2μm
Electron microscope image (SEM)			
Complex permeability※1	 Metal powder content : 60vol%	 Metal powder content : 60vol%	 Metal powder content : 30vol%

※1： The data were measured by a network analyzer on a sheet of silicone resin kneaded with metal powder.

APPLICATIONS

- High performance, high frequency inductors.
- High frequency antennas.
- Noise suppression materials such as sheet.

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