

DATA SHEET

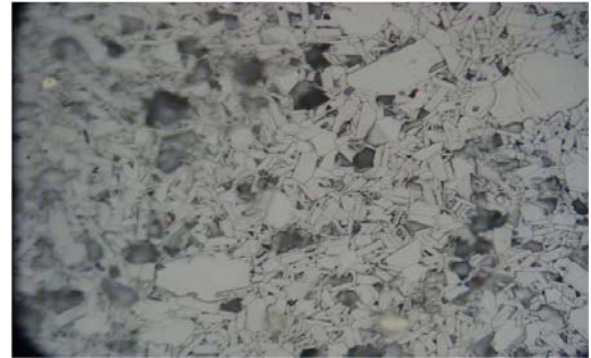
# TTZ-500 and TTZ-100 Hexagonal Ferrites

## Applications

- Antenna, absorber, and inductor applications for military and commercial markets

## Features

- Co<sub>2</sub>Z:K (TTZ-500)
  - Highest frequency resonance on any Z-phase material in the market
  - Designed for 500 MHz antenna applications
- (Zn,Co)<sub>2</sub>Z (TTZ-100)
  - Designed for 100 MHz antenna applications



**Figure 1. TTZ-500 Typical Microstructure at 500x Magnification**

## Description

Skyworks, through its wholly owned subsidiary, Trans-Tech, offers two composition products based on the Z-type hexagonal ferrite material designed for antenna, absorber, and inductor applications.

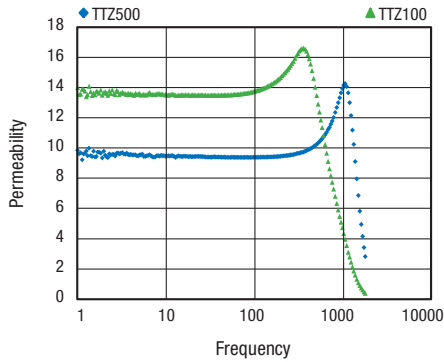
The TTZ-100 is a composition based on the Z-type hexagonal ferrite material with permeability ( $\mu'$ ) >13 and a magnetic Q factor (Q) ( $\mu''/\mu'$ ) >30 (at 100 MHz) that is specifically designed for antenna applications around 100 MHz. The TTZ-100 may be supplied either in powder form with custom particle sizes, or as a sintered ceramic product with dimensions up to 4-inch x 4-inch squares.

The TTZ-500 is a composition based on the Z-type hexagonal ferrite material with permeability ( $\mu'$ ) >7 and a magnetic Q ( $\mu''/\mu'$ ) >15 (at 500 MHz) that is specifically designed for antenna applications around 500 MHz. The TTZ-500 may be supplied either in powder form with custom particle sizes, or as a sintered ceramic product in shapes with dimensions up to 4-inch x 4-inch squares.

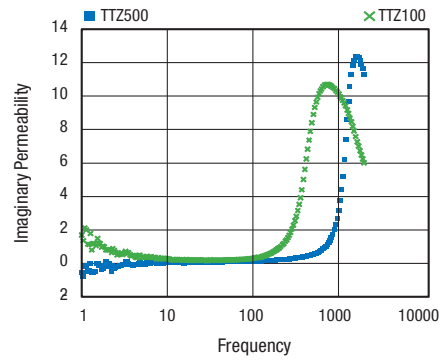
Blends of the TTZ-100 and TTZ-500 are also available for applications in the intermediate frequency range. Although the TTZ-500 may be used for applications up to 800 MHz, the magnetic Q decreases frequency. For applications below 100 MHz, the TT1 and TT2 series of spinels would be most suitable.

Figure 1 shows a typical microstructure at 500x magnification for TTZ-500.

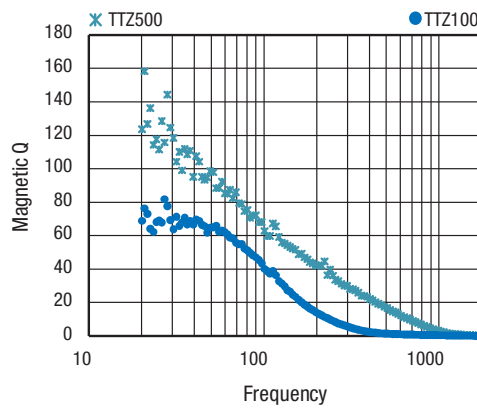
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**Figure 2. Permeability Spectra for TTZ-100 and TTZ-500 Materials**



**Figure 3. Imaginary Permeability for TTZ-100 and TTZ-500 Materials**



**Figure 4. Magnetic Q for Typical TTZ-500 and TTZ-100 Materials**

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