

INDUCTIVE DEVICES WITH GRANULAR MAGNETIC MATERIALS

ABSTRACT OF THE DISCLOSURE

An inductive device is provided, comprising a conductor configured in a spiral and a first layer of granular magnetic material having a plurality of magnetic grains embedded in an amorphous ceramic matrix. The amorphous ceramic matrix has a dielectric constant greater than 3. A transformer is also provided, comprising a core and a first inductor. The first inductor includes a first conductor configured in a spiral surrounding a first portion of the core, and a first layer of granular magnetic material. The transformer further comprises a second inductor. The second inductor includes a second conductor configured in a spiral surrounding a second portion of the core, and a second layer of granular magnetic material. The first and second layers of granular magnetic material have a plurality of magnetic grains embedded in an amorphous ceramic matrix. The amorphous ceramic matrix has a dielectric constant greater than 3.

Figure 1