Thin Film Interdigital Capacitor Dielectric

Do inter-digital capacitors have a high-k dielectric layer?
Provided by the Springer Nature SharedIt content-sharing initiative Inter-digital capacitors (IDCs) with aerosol-deposition (AD) high-k dielectric layer were compared via simulation and measurements of bare IDCs and AD IDCs at room temperature and subjected to a post-annealing process for realizing capacitive super-sensing applications.

Do THIN ad films improve capacitive intensity?
IDCs with thin AD films can provide higher capacitive intensityand improvements for other dielectric performances. Therefore,IDC patterns with AD high-k dielectric layers were fabricated by varying the finger widths and gap.

Are inter-digital capacitors with aerosol-deposition high-k dielectric layer suitable for Super-sensing applications?
Scientific Reports 9, Article number: 680 (2019) Cite this article Inter-digital capacitors (IDCs) with aerosol-deposition (AD) high-k dielectric layer were compared via simulation and measurements of bare IDCs and AD IDCs at room temperature and subjected to a post-annealing process for realizing capacitive super-sensing applications.

Can co-planar interdigital electrode structures characterize dielectric properties of isotropic electroceramic thin films?
A combination of physical and numerical modeling has been used to investigate the use of co-planar interdigital electrode (IDE) structures to characterize the dielectric properties of isotropic electroceramic thin films.

How are interdigitated capacitors made?
ANALYSIS OF THE GEOMETRICAL EFFECT Generally, the most widely used types of interdigitated capacitors for thin film circuits are fabricated by etching the geometrical pattern (Fig. 1) on metallized conductive films.

How can 3D nanoscale interdigital electrodes be used in a dielectric capacitor?
By depositing carbon nanotubes in both sets of pores inside the AAO membrane,the new dielectric capacitor with 3D nanoscale interdigital electrodes is simply realized. In our new capacitors,the large specific surface area of AAO can provide large capacitance,whereas uniform pore walls and hemispheric barrier layers can enhance breakdown voltage.

2.4 Factors that Influence BST Thin Film Properties 11 ... 3.2.2 Interdigital Capacitors 27 3.3 Fabrication of BST Capacitor 28 ... and dielectric properties of thin films deposited by pulsed laser deposition and sputtering . ix technique was analyzed and compared. The structural characterization of sputtered BST

The typical in-plane dielectric properties of Ba(Zr0.30Ti0.70)O3 thin film are: dielectric constant = 240 (at 10 MHz), tunability = 26% (at 1 GHz and under dc bias of 13 MV/m). View Show abstract

The model of the interdigital capacitor (IDC) has been used for monitoring and analysing the dielectric properties of thin ferroelectric films. The dielectric properties of the film are correlated to ... Expand

Dung Nguyen Anh received a BS degree in telecommunication from Hanoi University of Science and Technology, Hanoi, Vietnam, in 2004, and an MSc degree in electronic engineering from Le Quy Don University, Hanoi, in 2011. He is currently a lecturer at the Faculty of Electronics, Hanoi University of Industry, Hanoi, Vietnam. His current research interests ...

For example, a CeO 2 thin film with a dielectric constant and thickness of 30 and 500 nm, respectively (width and length both unity), contributes a sample capacitance of only ...

PDF | On Jan 1, 2018, Risse Entikaria Rachmanita and others published Fabrication and characterization of interdigital capacitors thin film by DC magnetron sputtering for measuring the ...

Barium Strontium Titanate (BST) thin films have a permittivity that is dependent on applied electricfield. As electronically tunable lumped capacitors they can be used as microwave varactors in phase sbifters, tunable filters, and delay lines. Generally BST films are deposited on single crystalline substrates. This paper reports on the microwave properties of BST films deposited ...

Conformal mapping-based models are given for interdigital capacitors on substrates with a thin superstrate and/or covering dielectric film. The models are useful for a ...

Ferroelectric varactors were then fabricated from the BST thin films by photolithographic techniques based on parallel-plate capacitors (PPCs) and coplanar interdigital capacitors (IDCs). The microstructure, dielectric constant e, loss tan d, tunability t, and temperature dependent characters of the BST film with IDC and PPC electrodes were ...

These capacitors are realized by deposition of a thin film conductor over a substrate with a medium dielectric constant. A series of evaluation tests under several ...

Conformal mapping-based models are given for interdigital capacitors on substrates with a thin superstrate and/or covering dielectric film. The models are useful for a wide range of dielectric constants and layer thicknesses. Capacitors with finger numbers n/spl ges/2 are discussed. The finger widths and spacing between them may be different. The results are ...

Web: https://systemy-medyczne.pl

Thin Film Interdigital Capacitor Dielectric