

FEM Analysis of MEMS Capacitive Pressure Sensor with Segmented Boss Structure for Diaphragm

A. K. Ramesh ¹, P. Ramesh¹

¹College of Engineering Munnar, Munnar, Kerala, India

Abstract

Microelectromechanical system (MEMS) based capacitive pressure sensor designs with improved sensitivity is always a matter of great concern and the recent developments in such a design is the MEMS capacitive pressure sensor with bossed diaphragm. The bossed diaphragm model improves sensitivity but it compromises the range of operation which lead to a new design with the segmented boss structure . This paper describes the FEM analysis and suggests the simple fabrication techniques for developing a MEMS capacitive pressure sensor with segmented boss structure for the diaphragm. The FEA was carried out using MEMS Module of COMSOL Multiphysics® software.

Reference

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