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Patent Search

Invention Title	MEMS PRESSURE SENSOR BASED ON PULSE WIDTH MODULATION (PWM) TECHNIQUE.
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Abstract:

ABSTRACT The present invention relates to a novel type of pressure sensing mechanism for pressure measurement. The proposed mechanism converts the applied pressure equivalent PWM signal with new innovative and simple structure. The simple structure has been developed in micro electro mechanical system technique. By the sensing proposed the pressure measured can be transmitted as voltage output from the designed MEMS pressure sensor. Hence the additional signal conditioning circuits require converting the sensed pressure to electrical output is not needed. Thus making the pressure sensor as a standalone transducer which can be used in application where pressure has to be measured.

Complete Specification

The following specification describes the invention of MEMS Pressure sensor using Pulse Width Modulation (PWM) Technique

Field of Invention

(01) The present invention in general relates to the pressure sensor and more particularly relates to Micro Electro Mechanical Systems (MEMS) pressure sensor based on pulse width modulation (PWM) technique and method of constructing the same.

Background of the invention

(2) A pressure sensor converts the pressure into an electrical signal proportional to the pressure. The information in the form of mechanical pressure is taken as input and the electrical signal is made available at the output. The main pressure sensing element in a pressure sensor is the diaphragm that converts the pressure into a displacement or deflection or in other words into plane stresses.

(3) A MEMS pressure sensor typically includes a clamped diaphragm of silicon thin film that gets deflected under applied pressure. The diaphragm deflection with its maximum deflection at its center is directly proportional to the applied pressure. Pressure sensors are of several types. Piezoresistive pressure sensors employ piezoresistors of silicon or polysilicon

embedded on the surface of the diaphragm. The change in their resistances due to the bending stress developed in the diaphragm on application of the pressure is

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