عنوان مقاله:

Design of Capacitive Micromachined Ultrasonic Transducers

محل انتشار:

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خلاصه مقاله:

In this paper a 2-D array of ultrasonic pressure detector design for imaging purposes based on optical micro electromechanical systems (MEMS) is proposed. The proposed detector includes a semiconductor plane and array of laser diodes and photodetectors around them in a given and specific arrangement. Semiconductor plane is deflected due to applied acoustic pressure. High resolution optical displacement sensor is used for deflection detection. 2-D array of displacement detection is based on vertical cavity surface emitting laser diodes operation in infrared region and array of photodetectors around those. For displacement sensing operating in linear range there is a simple relationship between displacement and acoustic pressure. Since so high resolution displacement detection is possible, thus so sensitive pressure detector can be made.

کلمات کلیدی: