

New Screen Printed Thick Film Based pMUT Arrays

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ABSTRACT

For A This article reports on the fabrication and characterization of λ -pitched piezoelectric micromachined Ultrasound Transducer (pMUT) arrays fabricated using a unique process combining conventional silicon technology and low cost screen printing of thick film PZT. The pMUTs are designed as 8 element membrane based devices dimensioned to operate in bending mode in the 1-10 MHz regime. The devices are characterized using impedance measurements as well as acoustic pulse echo measurements. The characterization showed resonance frequencies for the bending mode around 6-8 MHz.