

MANUFACTURE OF LOW COST SAW DEVICES FOR CHEMICAL SENSING

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Abstract. *This paper presents the fabrication of a low cost SH-SAW sensor used for chemical sensing. The structure is based on a standard delay line configuration, using a 36° rotated Y-cut X-propagating LiTaO₃ regular substrate with both piezoelectric and pyroelectric effects. The packaging process and device characterization provided by analyzing the transmission parameters (amplitude and phase) of the surface acoustic wave are also discussed. In the end, there is presented the characterization method of the SAW chemical sensor using the vector network analyzer.*

Keywords: SAW devices, Chemical Sensors, LiTaO₃ (36°YX), piezoelectric substrate