Abstracts

IC Compatible SAW Devices on GaAs

T.W. Grudkowski, G.K. Montress, M. Gilden and J.F. Black. "IC Compatible SAW Devices on GaAs." 1981 MTT-S International Microwave Symposium Digest 81.1 (1981 [MWSYM]): 386-388.

The application of gallium arsenide (GaAs) technology to high frequency digital and microwave integrated circuits is rapidly maturing. The present work considers the additional capabilities afforded by the inherent piezoelectric properties of GaAs. The emphasis of the work is on Surface Acoustic Wave (SAW) device configurations which may eventually be integrated with electronic circuits on the same substrate. The basic transduction and propagation characteristics for Rayleigh waves on <001>, (110) GaAs are reviewed for device operation in the 100-200 MHz frequency range. Recent developments in the design and performance of tunable SAW phase shifters, two-port SAW resonators having loaded Q's up to 13,000, and a monolithic asynchronous correlator/programmable matched filter are presented. The potential of the technology for further development is also addressed.

❑ Return to main document.