Abstracts

Heterostructure Acoustic Charge Transport Technology for Programmable Transversal Filters

W.J. Tanski, S.W. Merritt, D.E. Cullen, R.D. Carroll, E.J. Branciforte, R.N. Sacks and W.D. Hunt. "Heterostructure Acoustic Charge Transport Technology for Programmable Transversal Filters." 1990 MTT-S International Microwave Symposium Digest 90.3 (1990 Vol. III [MWSYM]): 1107-1110.

Significant progress has been made recently in the development of heterostructure acoustic charge transport (HACT) technology. In this paper the HACT device concept is reviewed, details of the layer structure, monolithic integration, and acoustic performance are discussed, and the performance of transversal filters is presented. A transversal filter 3.35 µsec long (1 cm) with 480 taps and charge transfer efficiency in excess of 0.9999 is described. This is the longest acoustic charge transport device reported to date. Measurements show the thermal dynamic range of the device to be 80 dB, and the spurious free dynamic range is 62 dB, over the 300 kHz bandwidth of the filter.

❑ Return to main document.