Abstracts

Single-chip coplanar 94-GHz FMCW radar sensors

W.H. Haydl, M. Neumann, L. Venveyen, A. Bangert, S. Kudszus, M. Schlechtweg, A. Hulsmann, A. Tessmann, W. Reinert and T. Krems. "Single-chip coplanar 94-GHz FMCW radar sensors." 1999 Microwave and Guided Wave Letters 9.2 (Feb. 1999 [MGWL]): 73-75.

A low-cost 94-GHz monolithically integrated coplanar FMCW radar chip has been developed, using 0.15-/spl mu/m AlGaAs-InGaAs-GaAs PM-HEMT technology. The chip includes a VCO, electrically tunable over several gigahertz, transmit and receive amplifiers, a mixer, and a directional coupler. The monolithic microwave integrated circuits (MMICs) are as small as 8 mm/sup 2/, delivering up to 10 mW of radio frequency (RF) power at a DC power consumption of 0.7 W. The receiver noise figure is 6-7 dB, and the conversion gain is 10 dB.

❑ Return to main document.