Abstracts

A Novel Phase Shifter Using a GaAs MESFET in Passive Configuration

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A new kind of voltage controllable phase shifter has been developed. The technique used to develop this phase shifter employs GaAs MESFETs as passive elements, similar to those used for monolithic microwave integrated circuit (MMIC) switches and attenuators. The result is a phase shifter that is smaller and that requires fewer components. A demonstration, single MESFET phase shifter was produced for the 3.7 to 4.2 -GHz satellite band. This phase shifter provided near flat, voltage linear phase shifts up to 45 degrees across the design band with a maximum insertion loss of 6 dB.

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