Abstracts

A Monolithic Reduced-Size Ku-Band SPDT FET Switch

D.T. Bryant. "A Monolithic Reduced-Size Ku-Band SPDT FET Switch." 1988 MTT-S International Microwave Symposium Digest 88.1 (1988 Vol. I [MWSYM]): 371-374.

A GaAs Ku-band monolithic single-pole double-throw (SPDT) FET switch has been designed and demonstrated. Small-signal insertion loss is less than 1.4 dB over a 14 GHz to 18 GHz bandwidth with a VSWR less than 1.5:1. The common terminal to off-channel isolation exceeds 18 dB. The switching is achieved with a -4.5 volt signal on the gate of the on-channel FET with the other gate at 0 volts. The switching current requirement is only the reverse bias gate leakage current (typically 3 uA). Large-signal performance is similar with a -10 volt control signal. The small chip size, 1.3 mm X 1.3 mm X 0.15 mm, permits more than 2300 monolithic switches to be fabricated on a single 3-inch GaAs wafer.

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