# Abstracts

## DC-40 GHz and 20-40 GHz MMIC SPDT Switches (Dec. 1987 [T-MTT])

*M.J. Schindler and A. Morris. "DC-40 GHz and 20-40 GHz MMIC SPDT Switches (Dec. 1987 [T-MTT])." 1987 Transactions on Microwave Theory and Techniques 35.12 (Dec. 1987 [T-MTT] (1987 Symposium Issue)): 1486-1493.*

DC to 40 GHz and 20 to 40 GHz monolithic GaAs SPDT switches have been demonstrated. Both the measured and the modeled small-signal performance are presented. Measured power handling performance and switching speed data are also presented. The 20-40 GHz switch uses a combination of shunt FET’s and quarter-wave transformers. Better than 2 dB insertion loss and 25 dB isolation have been achieved. The dc-40 GHZ switch uses a combination of series and shunt FET’s. Better than 3 dB insertion loss and 23 dB isolation have been achieved. A simplified switchhg FET model is used to adequately model switch performance. It is demonstrated that parasitic "off" state resistance is an important FET characteristic for broad-band switch design. The switches use MESFET’s with the same characteristics as an existing millimeter-wave amplifier to allow for ease of future integration.

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