

# Abstracts

## A Stable GaAs 6-20 GHz High Gain and Power TWA

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M.M. Oda. "A Stable GaAs 6-20 GHz High Gain and Power TWA." 1991 MTT-S International Microwave Symposium Digest 91.2 (1991 Vol. II [MWSYM]): 437-440.

A stable power cascode distributed amplifier is demonstrated over the 6 to 20 GHz band. This monolithic GaAs traveling wave amplifier exhibits a minimum gain above 11 dB with +/- 0.5 dB of gain flatness over the band. The output power at the 1 dB gain compression point is over 24 dBm @ 20 GHz. The input/output return loss is better than 12 dB over the band. This chip was fabricated using a 0.4 $\mu$ m MESFET process and measures 3.02mm x 0.89mm (area of 2.7 mm<sup>2</sup>). This power wideband amplifier employs 7 cascode stages. The excellent performance is achieved with the specially chosen transmission lines connecting the second gates and vias of each stage. This technique yields stability along with higher gain and power by eliminating the need for damping networks.

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