

Abstracts

A High Power K/Ka-Band Monolithic T/R Switch

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A high power K/Ka-band MESFET switch MMIC has been developed for use in Transmit/Receive (T/R) modules. The switch demonstrates 0.2 dB insertion loss compression with 30 dBm input power, 12 dB higher than previously reported for K/Ka-band MESFET switches. Also no isolation degradation was apparent with up to 28 dBm input power, a 13 dB improvement over the same previously demonstrated switches. A combination of techniques was used to yield higher power handling while preserving low loss and high isolation. These circuit techniques include the use of stacked MESFETs with large peripheries to improve power handling and transmission line transformers to minimize loss and maintain high isolation.

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