Abstracts

High isolation V-band SPDT switch MMIC for high power use [HEMTs application]

T. Shimura, Y. Mimino, K. Nakamura, Y. Aoki and S. Kuroda. "High isolation V-band SPDT switch MMIC for high power use [HEMTs application]." 2001 MTT-S International Microwave Symposium Digest 01.1 (2001 Vol. I [MWSYM]): 245-248 vol.1.

This paper presents design and performance of a V-band SPDT switch MMIC for high power use. The switch design utilizes distributed 5-shunt diodes. The developed SPDT switch shows an isolation of greater than 32 dB and an insertion loss of less than 1.8 dB in a broadband frequency range from 50 GHz to 70 GHz. Input and output return losses are better than 9 dB in ON-state. The chip size is 2.65 mm /spl times/1.33 mm. The power-handling capability was confirmed to be higher than 10 dBm of input power at 60 GHz. To our knowledge, this total broadband performance of high isolation and low insertion loss, as well as the high power-handling capability is the best among V-band SPDT switch MMICs so far.

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