Abstracts

Ultrahigh-Speed Diode Switch for 50 GHz Band Utilizing Avalanche Breakdown in Varactor Diodes (Dec. 1968 [T-MTT])

S. Sugimoto. "Ultrahigh-Speed Diode Switch for 50 GHz Band Utilizing Avalanche Breakdown in Varactor Diodes (Dec. 1968 [T-MTT])." 1968 Transactions on Microwave Theory and Techniques 16.12 (Dec. 1968 [T-MTT]): 1017-1021.

Ultrahigh-speed switches for the 50 GHz frequency range utilizing avalanche breakdown in varactor diodes have been developed as transmitter-modulators for millimeter-wave PCM communication systems. By switching the diode between forward conduction and avalanche breakdown, better performance was obtained than with standard switching conditions. A typical switch of transmission type with a silver-bonded Ge varactor, GSB3C for an input power of +17 dBm at 48 GHz, gave an insertion loss of 3.5 dB with a maximum attenuation of 31 dB. Some of the distinctive characteristics of diode switches utilizing avalanche break-down in varactor diodes are discussed.

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