Abstracts

Novel High-Isolation FET Switches

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This paper describes novel high-isolation monolithic microwave/millimeter-wave integrated circuit (MMIC) field-effect transistor (FET) switches that have higher isolation characteristics than conventional switches without much insertion loss degradation. The newly developed switches consist of series/shount FET's and T-shaped R-C-R circuit. Each FET switch utilizes the parasitic capacitive component of the FET's in the off-state to produce a band-rejection filter at the operating frequency. The design method of the newly proposed switches and their characteristics are described herein. With this method, the isolation characteristics are improved by more than 15 dB between 5.4 GHz and 6.4 GHz and more than 20dB between 5.5 GHz and 6.1 GHz over conventional values.

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