Abstracts

A High-Performance and Miniaturized Dual-Use (Antenna/Local) GaAs SPDT Switch IC Operating at +3V/0V (1996 [MCS])

H. Uda, K. Nogawa, T. Hirai, T. Sawai, T. Higashino and Y. Harada. "A High-Performance and Miniaturized Dual-Use (Antenna/Local) GaAs SPDT Switch IC Operating at +3V/0V (1996 [MCS])." 1996 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 98. (1996 [MCS]): 159-162.

We have developed an ultra-compact dual-use (antenna/local) switch IC for PHS operating at +3/0 V. This IC has a circuit configuration which utilizes MESFETs with two kinds of pinch-off voltages. Additional applied techniques include a circuit design method that employed electromagnetic field analysis, a pull-up method which utilizes forward current flowing in order through the gates of MESFETs, and high isolation characteristic obtained by use of a chip inductor. The insertion loss and isolation characteristics of this IC are, respectively, 0.54 dB and 28.4 dB at 1.9 GHz and 0.48 dB and 30.0 dB at 1.65 GHz. Furthermore, we were able to suppress adjacent channel leakage power to 61.5 dBc at 600-kHz offset during input power of 22 dBm QPSK modulated signals.

❑ Return to main document.