Abstracts

A Broad-Band Optoelectronic Microwave Switch

E.H. Hara and R.I. MacDonald. "A Broad-Band Optoelectronic Microwave Switch." 1980 Transactions on Microwave Theory and Techniques 28.6 (Jun. 1980 [T-MTT]): 662-665.

A broad-band optoelectronic switch based on an avalanche photodiode is described. The microwave signal is supplied to the switch as intensity modulation on an optical carrier wave. Switching is achieved by reverse biasing the APD for the on-state and forward biasing for the off-state. Isolation of better than 80 dB is reported over a signal frequency range of 10 MHz to 1 GHz. In the same switch, isolation greater than 60 dB is observed up to 3 GHz. A turn-on time of 400 ns was observed without special techniques for discharging the junction, the turn-off time is much shorter.

❑ Return to main document.