Abstracts

Distortion Properties of MESFET and PIN Diode Microwave Switches

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This paper presents a comparison of the distortion properties of microwave switches that employ either PIN diodes or GaAs MESFET semiconductor devices. It analyzes the distortion properties of both devices in a typical switch application. This information will enable design engineers to predict distortion performance and will facilitate the choice of either element in a distortion sensitive application. The results of the analysis indicate that either device is capable of performing with third order intercept point at approximately 40 dBm or better at frequencies from 10 MHz through beyond X-Band. This level of distortion is generally satisfactory for many small signal applications. If better distortion performance is required, the PIN diode is superior.

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