Abstracts

Low-Noise Traveling-Wave Tubes

D.A. Watkins. "Low-Noise Traveling-Wave Tubes." 1961 PGMTT National Symposium Digest 61.1 (1961 [MWSYM]): 37-38.

Recent developments have made available a number of different devices for low-noise microwave amplification. These include the maser, the solid-state and electron-beam parametric amplifier, and the traveling-wave tube. In some applications, the ultimate in noise figure offered by the solid-state maser is important and useful, so that it is the only choice. In many other applications, such as the background temperature being near room temperature or countermeasures or sources of interference determining the minimum detectable signal, all of the available devices are suitable from a noise standpoint and the choice of which device to use is made on the basis of other factors. Some of these factors are: gain, bandwidth, weight, size, reliability, stability, large-signal performance, phase characteristics, and power requirements.

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