Abstracts

A Monolithic GaAs Decision Circuit for Gbit/s PCM Transmission Systems

M. Peltier, G. Nuzillat and M. Gloanec. "A Monolithic GaAs Decision Circuit for Gbit/s PCM Transmission Systems." 1980 MTT-S International Microwave Symposium Digest 80.1 (1980 [MWSYM]): 107-110.

A new monolithically integrated GaAs decision circuit has been fabricated in order to satisfy speed requirements of a 840 Mbit/s coaxial cable PCM transmission system. The circuit is of SSI complexity (about 60 integrated components) and utilizes normally-on type MESFETs with 0.75-mu n gate length, exhibiting a cutoff-frequency f/sub T/ = 20 GHz. The main features of the circuit performance are: high clock frequency capability (up to 3 GHz), 100-ps rise- and fall-times, high dynamic sensitivity (65 mV peak-to-peak over a 1 GHz bandwidth), and moderate power consumption (350 mW typically). The described IC is able to drive low impedance transmission lines (output signal 600 mV/50 omega) and can be used for multilevel signal regeneration in the 1-2 Gbit/s range.

❑ Return to main document.