Abstracts

A DC-to-100-GHz InP HEMT 1:2 Distributor IC Using Distributed Amplification

Y. Imai, S. Kimura, T. Enoki and Y. Umeda. "A DC-to-100-GHz InP HEMT 1:2 Distributor IC Using Distributed Amplification." 1996 Microwave and Guided Wave Letters 6.7 (Jul. 1996 [MGWL]): 256-258.

This letter describes a 1:2 distributor IC for future very-high-speed optical communication systems. Wideband performance is obtained by applying a distributed amplification technique to a differential circuit. This IC uses a 0.µm-gate-Iength InAIAs/JnGaAs/lnP HEMT and a coplanar-waveguide technology. It has a 3-dB bandwidth of 100 GHz with a low-frequency gain of -2.5 dB. Up to 100 GHz, return loss and isolation are better than -10 dB and -20 dB. We believe the bandwidth is the widest ever reported for multi-RF-port wideband IC's.

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