Abstracts

High-power photonic microwave generation at K- and Ku-bands using a uni-traveling-carrier photodiode

H. Ito, H. Fushimi, Y. Muramoto, T. Furuta and T. Ishibashi. "High-power photonic microwave generation at K- and Ku-bands using a uni-traveling-carrier photodiode." 2001 MTT-S International Microwave Symposium Digest 01.1 (2001 Vol. I [MWSYM]): 65-68 vol.1.

A K- to Ka-band photonic microwave generator (PMG) consisting of a uni-traveling carrier photodiode (UTC-PD) and a monolithically integrated bias circuit utilizing a 1/4-wavelength coplanar waveguide is presented. The device exhibits a high saturation-output-power of +14 dBm at 26 GHz for a bias voltage of -4 V. The output power is almost constant within a frequency range from 23 to 29 GHz. The 3-dB down bandwidth of the generator is as wide as 20 GHz, which is in good agreement with the circuit model calculation. Two types of device, one with and without a DC-cut capacitor, exhibit almost the same input-output characteristics. The PMG is a suitable device for the broadband high-output fiber-radio applications.

❑ Return to main document.