Abstracts

GaAs FET Direct Frequency-Modulators for 42-GHz-Band HDTV Radio Cameras and 7-GHz-Band FMD Pick-Up Transmitters

H. Mitsumoto and K. Imai. "GaAs FET Direct Frequency-Modulators for 42-GHz-Band HDTV Radio Cameras and 7-GHz-Band FMD Pick-Up Transmitters." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 663-666.

This paper describes the design of a direct frequency-modulator with high modulation sensitivity. With a dielectric resonator, two hyper-abrupt-junction varactors, and a GaAs FET, this design achieves a modulation sensitivity greater than 20 MHz/V in a 42-GHz-band frequency-modulator developed for HDTV radio cameras. When this design is used in a 7-GHz-band frequency-modulator for a field pick-up transmitter gathering emergency news, it provides an output power of 22 dBm, a differential gain of less than 3%, and a differential phase of less than 2°. All transmitters using this new frequency-modulator have high broadcast efficiency.

❑ Return to main document.