

Integrated Microwave Tunnel Diode Device

H.C. Okean. "Integrated Microwave Tunnel Diode Device." 1966 G-MTT International Microwave Symposium Digest 66.1 (1966 [MWSYM]): 135-141.

A microwave tunnel diode amplifier usually requires both a stabilizing network and one or more reactive tuning elements associated with the tunnel diode. The stabilizing network insures satisfaction of the appropriate stability criteria governing the given amplifier configuration at all frequencies within the active frequency range of the tunnel diode (dc to resistive cutoff frequency) and, in particular, those outside the operating band. Such networks generally take the form of band rejection filters which resistively terminate the diode outside the operating band and appear essentially reactive within it. The tuning element usually consists of a shunt inductor to resonate the generally capacitive parasitic reactance of the diode at the center frequency of the amplifier.

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