Abstracts

Ridged Waveguides for Ultra-Broad-Band Light Modulators

G. Magerl and P.W. Froehling. "Ridged Waveguides for Ultra-Broad-Band Light Modulators." 1982 Transactions on Microwave Theory and Techniques 30.3 (Mar. 1982 [T-MTT]): 220-226.

The electromagnetic field of the dominant mode propagating in the inhomogeneously dielectrically loaded double ridged waveguide is given in terms of a modal series expansion. The numerical evaluation of the propagation constant reveals a remarkably linear dispersion diagram in close agreement with measurements performed in the 8-40-GHz range. Based on this analysis, the bandwidth of a ridged waveguide CO/sub 2/ -laser modulator is calculated to exceed 40 GHz, when a 25-mm long CdTe crystal is used as electrooptic material.

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