Abstracts

Microwave Absorption Modulation by Electron Mobility Variation in n-Type Germanium (Correspondence)

M. Harmatz. "Microwave Absorption Modulation by Electron Mobility Variation in n-Type Germanium (Correspondence)." 1961 Transactions on Microwave Theory and Techniques 9.2 (Mar. 1961 [T-MTT]): 199-200.

Microwave-radiation attenuation in a dissipative medium such as germanium in which the conductivity and microwave frequency conditions sigma<omega epsilon and omega tau<1 are present has been shown by Gibson to be attributed to the absorption constant relation: K = 1635sigma/n db/meter where tau is the carrier relaxation time, omega the microwave angular frequency, and epsilon the permittivity. In the above equation, sigma is the conductivity and n the index of refraction (4.05 in germanium).

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