Abstracts

A 35-GHz Latching Switch (Dec. 1966 [T-MTT])

W.C. Passaro and J.W. McManus. "A 35-GHz Latching Switch (Dec. 1966 [T-MTT])." 1966 Transactions on Microwave Theory and Techniques 14.12 (Dec. 1966 [T-MTT]): 669-672.

The development of a fast switching, small, lightweight latching three-port ferrite circulator is outlined. Geometrical configurations, as relating to the toroidal ferrite element and their apparent effects on operating characteristics, are presented. Considerations relating to the proper selection of ferromagnetic materials, compatible with latching applications, are discussed. The finalized device operates at 35 GHz with an instantaneous bandwidth of 5 percent. Total weight is less than 0.6 oz, while total volume is less than 0.750 cubic inch. Performance characteristics are presented, showing a maximum insertion loss of 0.50 dB and a minimum isolation of 15.0 dB, while switching times of less than 0.3 µs have been achieved (under dynamic operating conditions). The unit exhibits highly stable characteristics over the temperature range of -60°C to + 100°C.

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