Abstracts

High-Power Duplexers

C.E. Muehe, Jr.. "High-Power Duplexers." 1961 Transactions on Microwave Theory and Techniques 9.6 (Nov. 1961 [T-MTT]): 506-512.

The various circuit arrangements used in duplexers are analyzed in terms of their power-handling ability in two situations: first, where the bandwidth is narrow so that insertion loss determines maximum Q, and second, where large bandwidths are required and the maximum Q is determined by available Q band-width products. In both cases the ATR duplexer has an advantage. Arc loss was measured for folded cylinder TR tubes. At medium current densities the results agree well with experimental measurements in dc positive columns. At high current densities a constant conductivity is reached. Graphs of power-handling ability for a unity coupler duplexer using different methods of cooling are presented. It is shown that the requirements for easy firing and long life limit the achievable recovery time.

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