Abstracts

A Technique for Obtaining DC Isolation in Coaxial Cable RF Transmission Lines (Correspondence)

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In many applications involving microwave tubes it is desirable to monitor the voltages and currents of the various tube elements. This is particularly true of experimental tubes. The situation may be illustrated by a high voltage pulsed traveling-wave tube in which the. collector and body are operated at or near ground level with the cathode at a negative potential. In order to observe current pulses at collector and body it is necessary to ground these points through a series resistor. Since the RF terminals of the device are generally fixed to the body, some form of dc isolation is required on the input and output transmission lines. If the ports are of waveguide construction, one method commonly employed is to place a thin teflon or polyethylene window between two cover flanges which are held together with nylon insulating screws. Tubes with coaxial connectors are usually adapted to waveguide and the above procedure is followed. The technique described below has been developed for obtaining dc isolation quite simply in coaxial cable.

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