Abstracts

Slotline Annular Ring Elements and Their Applications to Resonator, Filter and Coupler Design (Short Papers)

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A slotline type of annular ring element has been developed as a new circuit component for resonator, filter, and hybrid coupler applications. Various coupling methods were devised for the use of this slotline ring in many applications. A new type of slotline dual-mode filter has been developed with a bandwidth of 12.3% and a stopband attenuation of more than 30 dB at the center frequency of 3.5 GHz. Another slotline type of cross-over hybrid ring coupler which utilized a slotline T-junction and a resistively-coupled slotline ring has also been developed with a bandwidth of more than 80%, an excellent power dividing balance of +0.2 dB, and a fairly good isolation of 35 dB. With the ease of adding series and shunt components, the slotline annular ring element should have many applications for MIC's and MMIC's.

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