Abstracts

Geometrical structures and fundamental characteristics of microwave stepped-impedance resonators

M. Sagawa, M. Makimoto and S. Yamashita. "Geometrical structures and fundamental characteristics of microwave stepped-impedance resonators." 1997 Transactions on Microwave Theory and Techniques 45.7 (Jul. 1997 [T-MTT]): 1078-1085.

/spl lambda//sub g//4-,/spl lambda//sub g//2-, and /spl lambda//sub g/-type transmission-line stepped-impedance resonators (SIRs) have been proposed and various practical applications have been reported on the basis of the analysis related to each resonator. This paper standardizes these three types of SIRs and systematically summarizes their fundamental characteristics, such as resonance conditions, resonator length, spurious (higher order) responses, and equivalent circuits. Practical applications which employ features of three types of SIRs are investigated with demonstrations of specific structures. Original design formulas with respect to /spl lambda//sub g/-type dual-mode resonators are analytically derived. Advanced SIR's using composite material and multisteps are also introduced and their availability is discussed.

❑ Return to main document.