Abstracts

General design equations of three-port unequal power-dividers terminated by arbitrary impedances

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The three-port power divider with arbitrary power divisions terminated by arbitrary impedances considered in this paper is useful not only for small-sized microwave circuit design but also for easy design facilities due to as many sets of design equations as possible. Therefore the design equations fan be called "general design equations" and an arbitrary design impedance "a" is introduced to describe these general design equations. On the basis of the derived general design equations, simulated results are compared with those of a conventional three-port power divider and a coplanar three power divider with a power split ratio 3 dB terminated by arbitrary impedances was fabricated on ceramic (Al/sub 2/O/sub 3/). This three-port power divider was designed with "/spl alpha/"=50 /spl Omega/ so that a commercial resistor 100 /spl Omega/ can be used as an isolation resistance.

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