Abstracts

The design and analysis of multi-megawatt distributed single pole double throw (SPDT) microwave switches

S.G. Tantawi and M.I. Petelin. "The design and analysis of multi-megawatt distributed single pole double throw (SPDT) microwave switches." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 1153-1156.

We present a design methodology and analysis for an SPDT switch that is capable of handling hundreds of megawatts of power at X-band. The switch is designed for application in high power RF systems in particular future linear colliders. In these systems switching needs to be fast in one direction only. We use this to our advantage to reach a design for a super high power switch. In our analysis we treat the problem from an abstract point of view. We introduce a unified analysis for the microwave circuits irrespective of the switching elements. The analysis is, then, suitable for different kinds of switching elements such as photoconductors, PIN diodes, and plasma discharge in low-pressure gases.

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