

OVERSIZED INTERFERENCE MICROWAVE SWITCHES WITH DISTRIBUTED POWER OF A SWITCHING WAVE

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These are the results of the research of the oversized(multimode) interference microwave switch at operating mode TE₀₁. The switch was made of few H-plane T-junctions being connected to each other through either straight arms (series connection) or side arms (parallel connection). Two types of T-junctions were used. One was based on the oversized waveguide with $25 \times 58 \text{ mm}^2$ in cross section and another has straight arms with the same total cross section that was consisting of a package of regular waveguides at TE₁₀ operation mode. The operating frequency was 9.1 GHz. The conducted simulation showed the conditions of the «proper» TE₀₁ mode at «open» and «close» states of the switch. Moreover, the relations between the arm' lengths and field intensity distribution were compared with the similar relations of the regular cascade microwave plasma switch. In additional, experiments were carried out at low and high power level.

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