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COMPARISON OF POWER LOSSES IN SWITCH OF BOOST QRPC WITH PARALLEL AND SERIES RESONANT CIRCUITS

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Abstract

In this work the calculation of energy indicators of electromagnetic processes in power switches of boost quasi-resonant pulse converters (QRPC) with parallel and series resonant circuits is performed. The calculations were performed using the operator method and the method of stitching the results of change of transistor switch current and voltage. For each switching interval the analytical expressions were obtained, which allow to estimate the energy losses at each interval, as well as total losses. The findings made it possible to compare two converters with the same parameters of supply, power stage and load depending on the connection of the resonant circuit. References 4, figures 4, table 1.

Key words: resonant circuit, quasi-resonant pulse converter, transistor switch

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