

DESIGN OF FULL-BRIDGE DC-DC SERIES-PARALLEL LOADED RESONANT CONVERTER

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Bachelor of Electrical Engineering (Hons)**

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ABSTRACT

This project presents the Design of Full-Bridge DC-DC Series-Parallel Resonant Converter (FB-SPRC) to produce a low voltage supply for electronic device application. This converter is a combination between series and parallel converter and it will take many characteristic advantages from series and parallel resonant converter topology. The design and steady state analysis of series-parallel resonant converter is based on the LCC circuit whereby known as resonant tank and operates at 50kHz switching frequency. Since this converter using full bridge switching semiconductor, the device takes place as zero-voltage switching to generate a square wave form for the resonant tank operation. The simulation for this converter was developed by using MATLAB/Simulink and the selected results are recorded for analysed the concept and operation of series-parallel resonant converter topology.

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