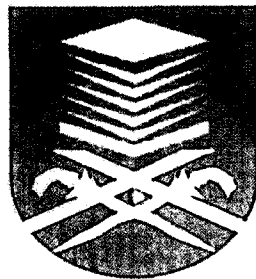


**COMPUTER SIMULATION OF BOOST RECTIFIER USING SINGLE PHASE
MATRIX CONVERTER WITH REDUCED SWITCH COUNTS**

This thesis is presented in partial fulfillment for the award of the
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ABSTRACT

This paper focus on boost rectifier using Single Phase Matrix Converter with reduced switch count. The proposed topology employed only 6 switches compared to conventional single phase matrix converter that used 8 main switches in order to reduce the complicated of the SPMC circuit to a simple circuit. The Pulse Width Modulation technique was used to calculate the switch duty ratio to synthesize the output waveform. The MATLAB/Simulation results were provided to validate the feasibility of this proposed method.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This chapter is divided into seven subtopics which is background of study is discussed in subtopic 1.2, subtopic 1.3 rises the problem that going to be solved in the project. Subtopic 1.4 and 1.5 discusses on the objectives and scope of study of the project respectively. Subtopic 1.6 summarizes the entire chapter in this thesis.

1.2 BACKGROUND OF STUDY

Development of advanced power semiconductor devices, increased usage of power switching circuits and other power electronic applications are becoming a common place within modern commercial and industrial environment particularly in applications for AC-DC conversions. Classical rectifier normally uses bridge-diode without affording any control function and is unidirectional in nature. Bidirectional operation is also possible with the inclusion of anti-parallel switch in H-bridge topology but is not fully controllable.