

**THE FEASIBILITY OF A CORELESS PCB ISOLATION
TRANSFORMER IN A LOW-PROFILE LOW POWER DC-DC
CONVERTER**

This thesis is presented in partial fulfillment for the award of the
Bachelor of Electrical Engineering (Hons.)
UNIVERSITI TEKNOLOGI MARA



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ACKNOWLEDGEMENT

Assalamulaikum Warahmatullahi Wabarakatuh.

In the name of Allah S.W.T, the Merciful and Gracious. Praise is for Allah, Lord of the world and Guide of the bewildered; Whose help we seek in worldly matters and in religion. May His Blessings and peace upon our Prophet Muhammad S.A.W, the truthful and Trustworthy.

I would like to convey my sincere gratitude to my supervisor of this final project, PM IR Zulkefli Yaacob for his guidance, supervision, encouragement and discussion throughout the work on this project. I would also like to thank all staff of Faculty of Electrical Engineering for providing me with the necessary facilities required and patience shown by them during the preparation of this thesis.

Last but not least, it would not be possible for me to complete this project without the moral support from my lovely family and friends, especially my mother. May Allah bless you.

Thank You.

ABSTRACT

A low-profile low power converter is in high demand especially for portable electronics applications such as laptops and notebooks. The term low-profile means low cost, low input voltage, low power and small in size. An isolation transformer is used in a converter to block dc signals and only allows ac signals. A new design of low-profile power converter is addressed in this project. It uses a low-profile printed circuit board (PCB) transformer as the isolation transformer and a resonant mode controller to generate the signal instead of using traditional pulse width modulation (PWM) techniques. The low-profile isolation transformer is a coreless transformer that doesn't require manual bobbin and windings. The transformer windings are etched on the opposite side of a double sided PCB. The technique of switching the power converter is also addressed in this paper. The high frequency capability, high reliability and low-profile structure makes coreless PCB transformer a viable and attractive option for a reliable mega hertz switching converters and micro circuits.

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