

## EMBEDDED BOOST CONVERTER USING VOLTAGE FEEDBACK TECHNIQUE

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### ABSTRACT

Renewable energy sources play an important role in electricity generation. This paper presents an approach to design a boost converter for infrared plastic solar cell using PIC microcontroller. This converter is designed to provide stable 24V output by stepping solar panel voltage without any storage element. The output voltage is controlled by microcontroller unit using voltage feedback technique. The output of the boost converter is measured continuously and the value is sent to the microcontroller unit to produce pulse width modulation signal. The PIC controller produces PWM signal using inbuilt CCP (compare, capture and PWM) module. The PWM signal which controls the switching of MOSFET. Thus by switching of MOSFET it would try to keep output as constant. Simulation and experimental results describe the performance of the proposed design. Microcontroller PIC16F877A is used to perform tasks in the proposed design.

**KEYWORDS:** DC-DC Boost Converter, Embedded Boost Converter, Microcontroller, Pulse-Width Modulation