

# **Design and Construction of a PWM Based 50Hz,12VDC/220V AC, 2.5 KVA Solar Inverter**

**Hemen Ch Medhi<sup>1,\*</sup>**

1 DEPT OF ELECTRONICS, ST. EDMUND'S COLLEGE, SHILLONG, MEGHALAYA, INDIA

\* Presenting author (hemenmedhi1984@gmail.com)

**Abstract:** The epileptic property of power generation via traditional method in India has given rise to alternate forms of power generation. On account of erratic nature of power, some communities are deprived for days, weeks or months from the nation's grid. This gap period of no supply or cut off from the grid, can be solved by designing and constructing an alternate source using solar power inverter suitable for house hold applications. The aim of this paper is to design and construct a 50Hz, 12VDC /220VAC 2.5KVA Solar inverter. The inverter circuit consists of four important stages which include the transformation stage, oscillator stage (implemented with IC SG3524 pulse width Modulator (PWM), driver stage (implemented with MOSFET IRFP260) which controls the switching and feed back stage.

**Keywords:** Inverter, Pulse Width Modulator, MOSFET, Transformer, Feedback.