Abstract

Photo-voltaic (PV) systems are affected by converter losses, partial shading and other mismatches in the panels. Maximum Power Point Tracking (MPPT) at Single Solar Cell level is most efficient. A Power Management IC for a Single Solar Cell is designed. New method of implementing Maximum Power Point Tracking (MPPT) is proposed. This technique does not require ADCs & DSP for calculating power, thus saving overhead power and area require. A Switch Capacitor based power sensor is developed which can sense current of boost converter without using any sense resistor. Advantages are low area, low power Isolation of high voltage power path and low voltage sensor circuit. A complete system is designed including charge pump for startup, Switching Regulator for MPPT & Regulation.