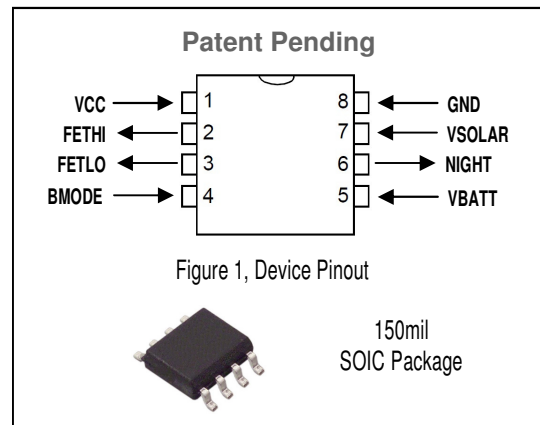


- Complete Integrated Solar Power Subsystem
- Advanced MPP Solar Power Conversion
- Supports NiMH and LiPO₄ Battery Types
- Wide VDD range, 3.3V to 5V
- Flexible input voltage range, 2 to 18 cells (1V to 9V)
- Uncommitted output for Day/Night indication
- Low Power, 500uA typ run mode
- Automatic sleep mode, <1uA
- High Efficiency Synchronous Boost Converter
- Stable Hysteritic control loop
- Industry standard compact SOIC 8-pin package
- Easy to use, minimum parts count
- Low Cost for small systems
- For applications where VSOLAR < VBATTERY



General Description:

The SSP1010 is a fully integrated end-to-end solution for adding solar power to consumer and industrial products. The SSP1010 is intended for use with small (usually < 5W) solar system where it is a substantial cost advantage to use small numbers of individual solar cells rather than a solar panel assembly. In this application the typical voltage from the solar panel is less than the minimum voltage of the battery pack. The SSP1010 uses a highly efficient synchronous boost topology to maximize the power conversion. The Maximum Power Point (V_{mpp}) of the solar cells is set by two external resistors. The Patent Pending control method uses a hysteretic control method to move the solar cells back and forth between their constant-current and constant-voltage operating regions. This method adapts on a cycle-by-cycle basis to changes in illumination levels and temperature of the solar cells. The SSP1010 includes the functions needed to support the popular battery chemistries of NiMH and LiPO₄. Lithium polymer, Lithium-ion, and Lead-acid battery types are not supported at this time. Contact SSP directly if your application requires the use of an unsupported battery type. A "Night" pin is provided which combines a solar status and battery status output signal. This pin is high only when no illumination is present and the battery voltage is above a safe cutoff value. The Night pin is used to control loads which are commonly used in small solar energy systems, such as lights, or to signal status to an embedded microcontroller.

