SPV1040: solar battery charger for portable
Embedding MPPT algorithm to maximize energy harvesting

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Key features

- High-efficiency monolithic step-up DC-DC converter
- Proprietary Perturb and Observe embedded MPPT algorithm
- Very low input voltage (down to 0.3 V)
- Very low $R_{DS(on)}$ integrated N-MOSFET and P-MOSFET
- Overcurrent and over-temperature protection
- Input reverse polarity protection

Main benefits

- Energy harvesting
- Up to 95% efficiency
- Optimized battery charging profile
- Suitable for low-power applications powered by only a few solar cells
- Battery and system safety guaranteed
Maximum power point tracking (MPPT) algorithm

Key principle

- Maximized energy transfer through impedance matching between SPV1040 and PV panel
Low-power solar battery charger

Key applications
- Home lighting
- Small appliances
- Smartphones and wireless headsets
- Portable consumer devices and toys
- Sensors
- Digital still cameras
- Portable healthcare

SPV1040 main benefits
- Fast battery charging
- Overcurrent and over-temperature protections

Support tools
- STEVAL-ISV006V2
Lithium-ion solar battery charger

Key applications

- Mobile phones
- Digital cameras
- Camcorders
- Watches
- Thermometers
- Calculators
- Car remote controls and locks

Associated product

- **L6924D**: charge controller for Li-ion batteries

Support tools

- **STEVAL-ISV012V1**
Thank you!

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