

500KHz 2A Boost Charger for 2-Cell Li-Ion Battery with Reverse Buck Converter

DESCRIPTION

The MT9528 is a fully integrated high efficiency Boost mode charger for 2-cell Li-ion battery systems with reverse Buck converter. It integrates the two PWM switching FET and a battery charging FET for charging control and battery short protection.

The MT9528 is a full function battery charger with trickle charge (TC), constant-current (CC) and constant-voltage (CV) charging. Programmable charging current and input voltage clamp offers great flexibility to work with different input sources. Cell balance, NTC temperature monitoring and watchdog timer ensures the safety and reliability of the battery charging. The MT9528 also has two status pins to indicate the charging status or fault event in case of some fault condition triggers.

The MT9528 can also be configured to operate in reverse buck mode to supply the system from the battery. The external feedback resistors are used to set the buck output voltage. Noted that output voltage setting should be greater than 3V. Both the Boost charger and Buck converter have robust hiccup mode short circuit protection. The MT9528 is available in small QFN4X4_20L package.

FEATURES

- 4V to 6V operating input range with 18V surge protection
- Internal input UVP
- Programmable input VDPPM
- Built-in 60mΩ disconnect FET.
- Integrated 55mΩ/50mΩ HS and LS switches for boost charger and buck converter
- 500kHz switching frequency PCM control.
- Accurate Trickle-Charge, constant current regulation
- Built-in 2-hour Trickle Charger Timer and 8-hour CC Charge Timer
- Indicates input status (STAT1) and various charger operations (STAT2)
- Programmable buck system output voltage
- Cycle-by-cycle current limit protection
- Hiccup mode for short circuit and over-load protection for system output
- EN control input to allow system control of charger.
- Available in small QFN4X4_20L package

APPLICATIONS

- Hi-Fi wireless speakers
- E-cigarettes
- Power banks and External backup battery

TYPICAL APPLICATIONS

