

Parameters Subject to Change Without Notice

DESCRIPTION

The JW[®]3653A/JW3653A-1 is a buck boost converter targets HVDC fast charging and discharging power bank.

The JW3653A/JW3653A-1 supports 1 to 3 cells Li-ion battery, the output voltage can be programmable up to 20.0V through external resistor.

The JW3653A/JW3653A-1 implements the Buck Boost converter with an H-bridge, which can maintain output regulation for input voltage whether greater or less than output voltage.

The integrated low R_{ds(on)} MOSFET minimizes physical footprint, maximizes charge/discharge efficiency, which reduces the power dissipation during discharge. Constant current control is utilized to protect the device from overshooting in unwanted conditions. Built-in loop compensation simplifies the circuit and design. PFM is engaged to maintain high efficiency at light load current.

JW3653A/JW3653A-1 guarantees robustness with thermal protection and battery under voltage lockout.

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FEATURES

- Integrate low R_{DS} (on) power MOSFET
- Wide input range: 4.2V-20.0V, Support 1 to 3 cells battery charge/discharge.
- Full charge voltage: 1.2V-20.0V through external resistor or selectable by BATFB pin JW3653A (4.2V/cell)/JW3653A-1 (4.35V/cell)
- Wide output range: 0.9V-20.0V
- High efficiency buck-boost transition
- 450kHz switching frequency
- Programmable output current limit (up to 3A)
- Output Constant Current Control.
- Quiescent current: <60uA
- Integrate VBUS and Battery short protection
- Integrate thermal protection
- QFN3*4 package

APPLICATIONS

- Power bank systems
- Battery and SuperCapacitor Charging
- USB Power Delivery
- Industrial applications
- Automotive Systems

TYPICAL APPLICATION

