EVKT-MP2672 Product Brief

MP2672 Evaluation Kit

Charger Boost Charger with Cell Balance for 2-Cell in Series Lithium-Ion Battery

The MP2672 is a highly-integrated, flexible switch-mode battery charge IC for a Lithium battery. With 2 cells in series, this device can be used in a wide range of portable applications.

When the input power supply is present, the MP2672 operates in boost mode to charge the battery with 2 cells in series. When charging is enabled, the MP2672 automatically detects the battery voltage and charges the battery in three phases: pre-charge, constant current charge and constant voltage charge. Other features include charge termination and auto-recharge.

The device also has a narrow voltage DC (NVDC) power structure. When the battery is weak, the MP2672 regulates the system output at the pre-charge threshold voltage to power the system instantly while charging the battery via the battery FET.

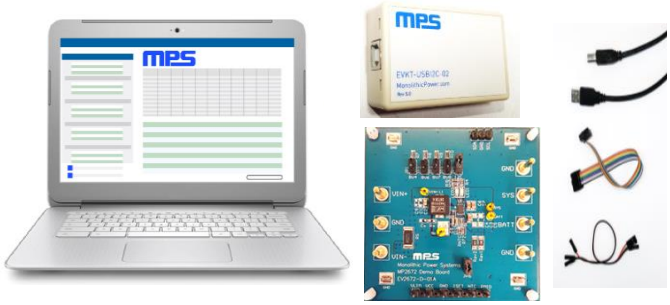
The cell-balance function allows the device to monitor the voltage across each cell, and equalize cell voltages once the difference exceeds the mismatch threshold.

The MP2672 has two configuration modes: standalone mode, and host-control mode. In standalone mode, the charging parameters can be configured by the hardware pins. While in host-control mode, the charging parameter can be configured by the I²C registers.

The device has diversified and robust protections. It has a thermal regulation loop to decrease the charge current in case the junction temperature exceeds the thermal loop threshold. It also has battery temperature protections compliant with the JEITA standard. Other safety features include input over-voltage protection, battery over-voltage protection, thermal shutdown, watchdog timer, and a programmable back-up timer to prevent prolonged charging of a dead battery.

Kit Contents

- MP2672 demo board (EV2672-D-01A)
- Communication interface with accessories (EVKT-USBI²C-02)
  - USB to I²C communication interface
  - Ribbon cable
- Online GUI installation file and supplemental documents



Feature	Specification
Supply for Board	4.5V to 6.0V
Operating Input Voltage	4.5V to 6.0V
Battery Regulation Voltage	8.4 / I²C V
Charge Current	2 (max) / I²C A
Pre-Charge Threshold	6.5 / I²C V
Cell Voltage Mismatch Threshold	50 / I²C mV
System Current	2.5 (max) A
System Voltage	6.7 / I²C V
Operating Systems Supported	Windows XP, 7, and later
System Requirements	Minimum 22.2 MB free
GUI Software	MP2672 R0.1
EVB Size (L x W)	6.35 cmx6.35 cm

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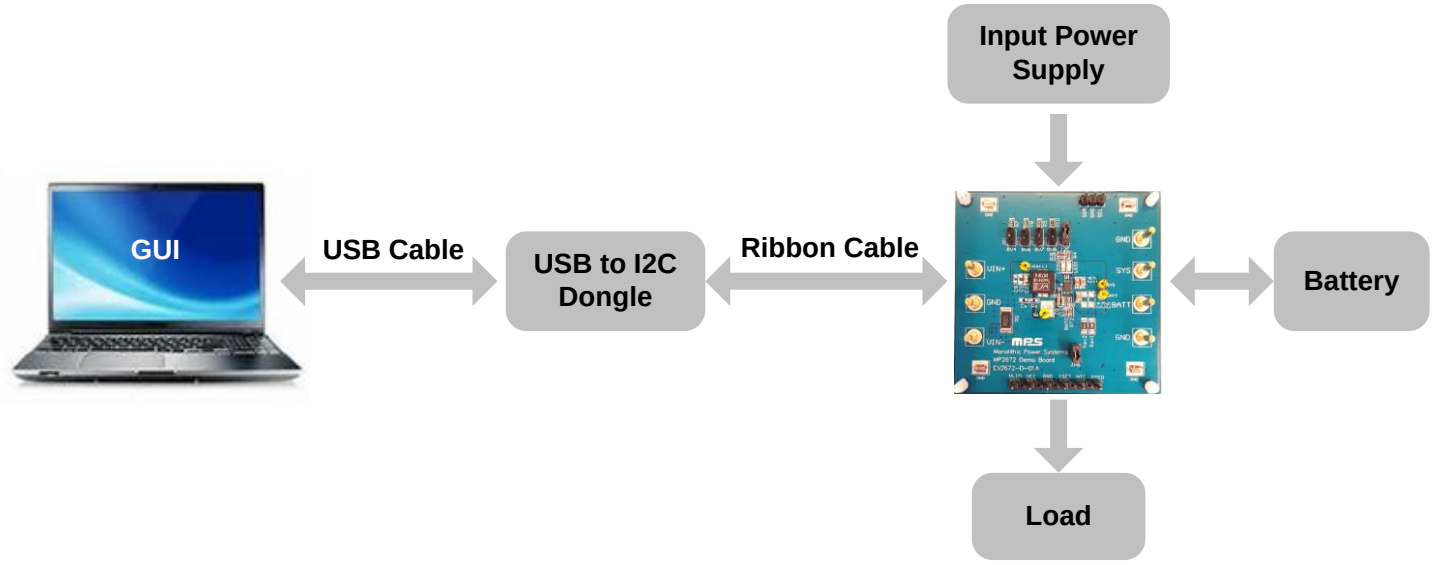
Quick Start (Refer to the user guide for more details.)

1. Install the GUI software.
2. Use the provided ribbon cable to connect the EVB and the USB to I^2C communication interface.
3. Preset the power supply output to between 4.5V and 6.0V and connect the EVB.
4. Connect the communication interface to the PC and turn the power supply on.
5. Open the GUI software and program as needed.

Note: Kit offers rapid application assessment and requires minimal external components



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