



MP2722

I²C Controlled 1-cell 5A NVDC Buck Charger with Integrated USB-C DRP Detection

PRELIMINARY SPECIFICATIONS SUBJECT TO CHANGE

DESCRIPTION

The MP2722 is a highly-integrated 5A switching-mode battery management device for single-cell Li-ion or Li-polymer battery. The Narrow-VDC (NVDC) power management structure provides low impedance power path which optimizes charging efficiency, reduces battery charging time and extends battery life during discharging.

The MP2722 is fully compliant with USB Type-C 1.3 with Dual-Role-Power (DRP) function and Try.SNK and Try.SRC mode support. USB Battery Charging Specification 1.2 (BC1.2) and non-standard adaptor detection are also supported by the input source type identification algorithm.

The I²C interface offers complete operating control, charging parameter programming and status/interrupt monitoring.

The MP2722 supports fully-customizable JEITA profile with programmable temperature windows and actions.

FEATURES

- 5A NVDC Switching Charger with Power Path
- Fully USB Type-C 1.3 Compliant
- Fully-integrated CC Controller with DRP Mode and Autonomous or Manual Mode
- Try.SNK and Try.SRC Mode Support
- Support USB BC1.2 and Non-Standard Adaptors
- 26V Sustainable Input Voltage
- 80mA to 5A I²C Programmable Charge Current
- 100mA to 3.2A I²C Programmable Input Current Limit
- Minimum Input Voltage Loop for Maximum Adaptor Power Tracking
- Comprehensive Safety Features
 - Fully-customizable JEITA Profile
 - Additional NTC Thermistor Input

- Programmable Die Temperature Regulation from 60°C to 120°C
- Complete Charge and Pre-Charge Safety Timers
- Watchdog Safety Timer
- Lockable Registers for Charging Parameters
- Programmable Switching Frequency from 750kHz to 1.5MHz
- Integrated 15mΩ Low-Rdson Battery FET with Shipping and Reset Modes
- Ultra-low 8.5μA Battery Discharge Current in Shipping Mode
- Down to 30mA Termination Current Settings for Wearable Applications
- I²C Port for Flexible System Parameter Setting and Status Reporting
- Programmable Boost-converter for Source Mode (OTG)
 - Programmable Output Current Limit Loop up to 3A
 - Output Over-current Protection
 - Ability to Power into Large Capacitive Loads up to 2mF
 - Programmable Output Voltage from 5.0V to 5.35V
- Accuracy
 - +/- 0.5% Battery Float Voltage Regulation
 - +/- 5% Charge Current
 - +/- 5% Input Current Limit
 - Remote Battery Sensing for Fast Charge
 - ±2% Output Regulation in Boost Mode
- Small QFN-22(2.5mm×3.5mm) Package

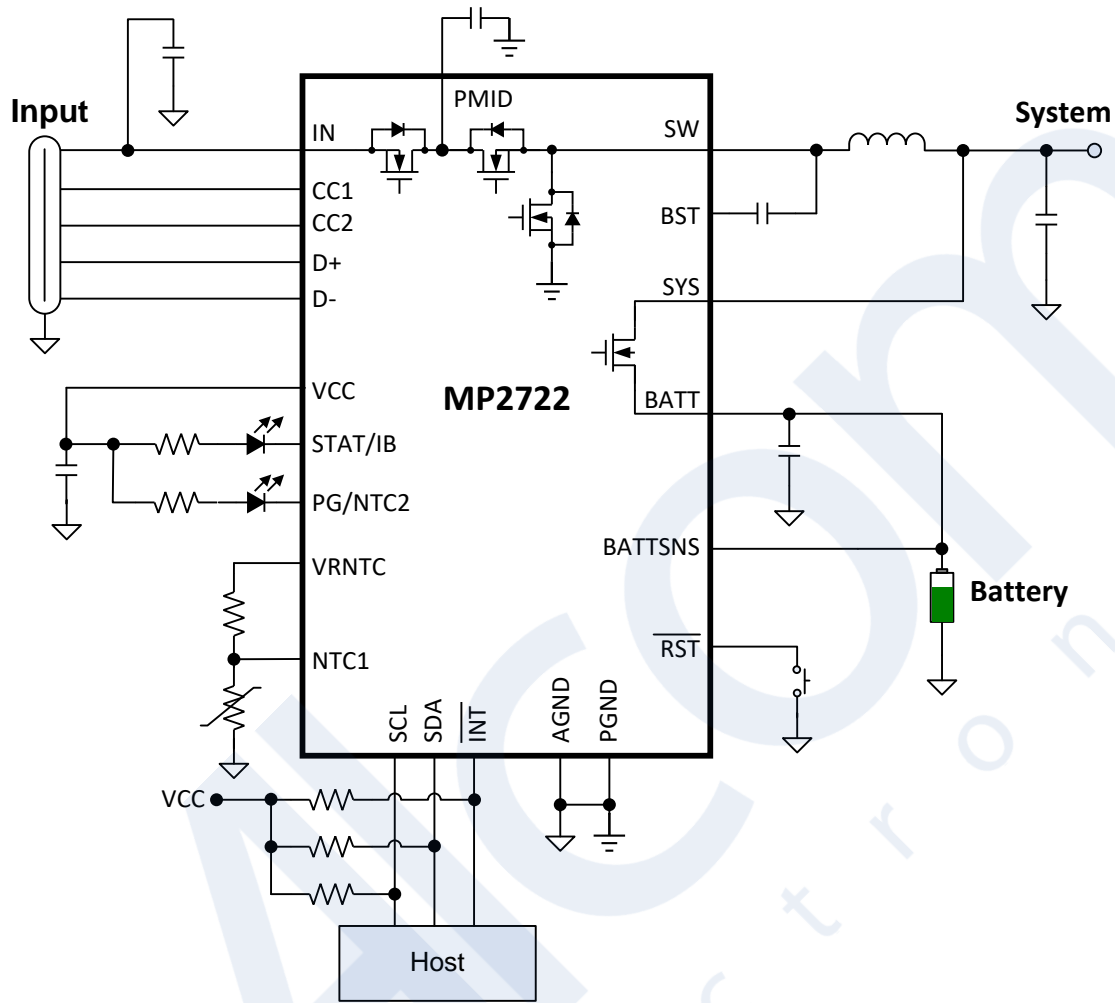
APPLICATIONS

- General <=15W USB-C Applications
- Bluetooth Headphones
- Bluetooth Speakers
- POS Terminals
- Portable Cameras

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TYPICAL APPLICATION



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