XinaBox Datasheet PL01 - 3.7v LiPo Battery Power Supply

Overview

This xCHIP charges a 3.7v LiPo battery via power input from a Micro USB power source. Unless connected to this Micro USB power source, the circuit draws power from the LiPo battery and supply the xBUS with power.

The on-board MCP73831 LiPo battery charging IC offers a simple and efficient battery charging solution with various features, such as Auto Off, Cell Preconditioning, Cell Temperature Monitoring, Reverse Polarity Protection, Status Indication and Under Voltage Protection/Brown-Out. It is capable of charging the battery at a rate up to a maximum of 500 mA.

The equipped PAM2305 is a step-down current-mode, DC-DC converter. At heavy load, the constant frequency PWM control performs with excellent stability and transient response. To ensure the longest battery life in portable applications, the PAM2305 provides a power-saving Pulse Skipping Modulation (PSM) mode to reduce quiescent current under light load operation to save power.

Product Highlights

- 1 A Continuous Output Current
- Micro USB Charging
- LED Charging Status Indicator
- 500 mA Battery Charging Capacity
- Supports Various 3.7V LiPo Batteries via 2.54 mm Pitch Solder Points
- Charging Auto Off
- Cell Preconditioning
- Reverse Polarity Protection
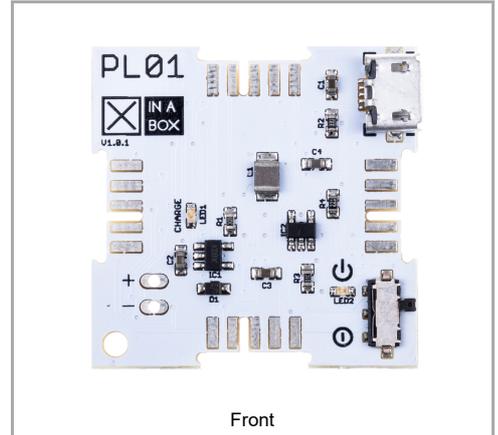- Under Voltage Protection, Brown-Out

Specifications

MCP73831

- 500 mA Continuous Battery Charging Current
- Auto Off
- Cell Preconditioning
- Reverse Polarity Protection
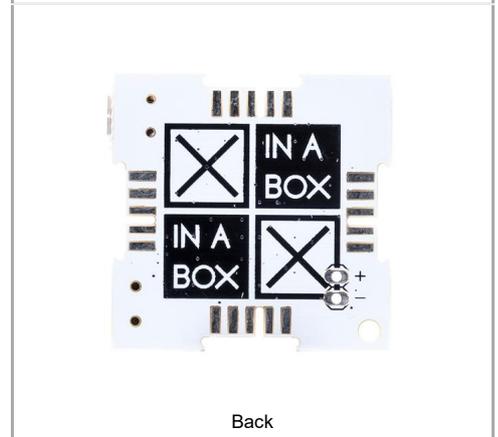- Status Indication
- Under Voltage Protection, Brown-Out

PAM2305

- Efficiency up to 96%
- Only 40µA(typ) Quiescent Current
- Output Current: Up to 1A
- Internal Synchronous Rectifier
- 1.5MHz Switching Frequency
- Soft Start
- Under-Voltage Lockout
- Short Circuit Protection
- Thermal Shutdown

PL01 - 3.7v LiPo Battery Power Supply (AN971 & PAM2305)

Front

Back

⌧CHIP	
Main Category	Power
Sub Category	LiPo
Introduced	1 January 2017
Current version	1.0.0
Current version date	1 January 2017
Dimensions	
Size	2x2U (32x32mm)
Weight	3.5 g
Height	11.3/2.6/8.6 mm
Non-⌧BUS Connections	
East	USB Micro B & ⌧BUS
Main Chip Set	
Main Chip	MCP73831/PAM2305