

# 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

## External Links

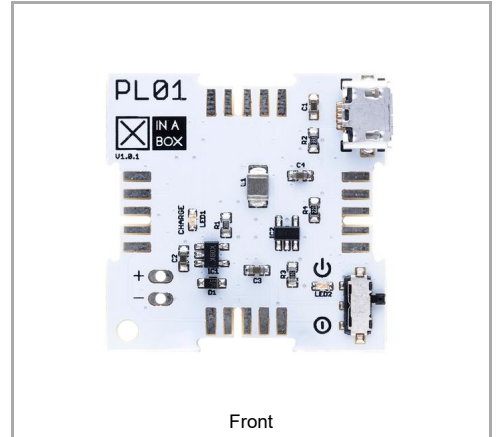
### Datasheet

- MCP73831 From Microchip Technology Inc. (<http://ww1.microchip.com/downloads/en/AppNotes/00971a.pdf>)
- PAM2305 From Diodes Incorporated (<https://www.diodes.com/assets/Datasheets/PAM2305.pdf>)

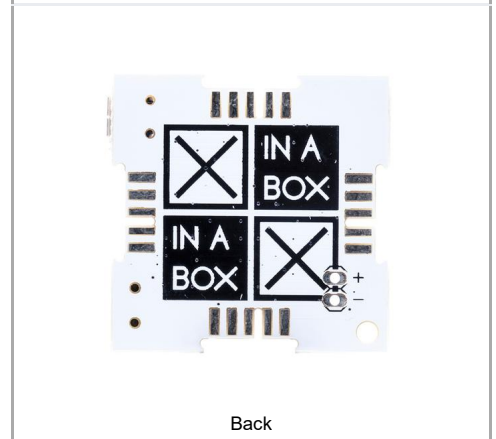
### Shop

- Buy PL01 (<https://xinabox.cc/products/PL01>)

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



Front



Back

### ☒CHIP

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