Power.L1.N

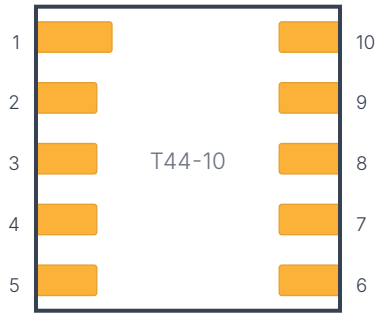
1C Li-Ion charge manager w/ 1.8 & 3.3V out

Single-cell Li-ion/Li-poly/$LiFePO_4$ battery charging and power management tile built around the Nordic nPM1300 PMIC. Provides both 1.8V and 3.3V regulated outputs via high-efficiency buck converters rated to 200mA each. An unregulated VSYS rail is also available for loads that require direct battery voltage or higher current. USB-C power input with CC pins exposed for connection detection. Supports charging currents from 32 to 800 mA for batteries up to 1000 mAh, and has three on-board LEDs for state observation.

Overview

Revision	a
Package	T44-10
Component	NPM1300
Interfaces	I2C

Pad Assignments



(top view)

PAD	TYPE	FUNCTION	NOTE
1	power	GND	common ground for the charger, battery, and output
2		CC1	
3		CC2	
4	interface	I2C.CLK	
5	interface	I2C.DAT	
6	power	CHG	charger input
7	power	BATT	battery positive terminal
8	power	VSYS	system output voltage
9	power	3V3	normally-on 3.3V buck output
10	power	1V8	normally-on 1.8V buck output

Interfaces

I2C

I2C

Mode: slave

Address: 0x6B
Format: 7-bit addr

FUNCTION	REQ	PAD(S)
I2C.CLK	No	4
I2C.DAT	No	5

Application Notes

Battery charging
Battery charging, if desired, must be enabled via firmware.

LEDs
Three onboard LEDs (red, yellow, green) driven by the nPM1300's LED outputs provide visual indication of charging and system status. Red is connected to LED0 (default = error reporting), yellow to LED1 (default = charge indication), and green to LED2 (default = host control). The LED outputs must be enabled via firmware.

CC pads for USB C
The two CC pads can be connected to the CC lines of a standard USB C input to detect the source power capability. They have internal 5.1k pull-down resistors to conform to the standard for a sink device. Upon connection and detection, the source capability is reported in the USBCDETECTSTATUS register.

Charging Current
The default charging current limit is set to 100mA, and can be adjusted via firmware.