

The design is intended for one 3.7[V] Li-Ion 18650 battery cell

The circuit diagram shows the MCP73833 battery charger IC connected to three LEDs (DS1, DS2, DS3) labeled BLUE, GREEN, and RED. The LEDs are connected to VCC through resistors R1, R2, and R3 (all 470Ω). The IC pins are configured as follows:

- VDD1, VDD2, STAT1, STAT2, PG, and VSS are connected to GND.
- VBAT and THERM are connected to +VBAT_CELL.
- R10 (1KΩ) is connected between THERM and NTC.
- R11 (1KΩ) is connected between PROG and GND.
- R13 (124KΩ) is connected between NTC and GND.
- C2 (1μF) is connected between VBAT and GND.
- C4 (10μF) is connected between +VBAT_CELL and GND.

TABLE 5-1: STATUS OUTPUTS

Charge Cycle State	STAT1	STAT2	PG
Shutdown	Hi-Z	Hi-Z	Hi-Z
Standby	Hi-Z	Hi-Z	L
Charge In Progress	L	Hi-Z	L
Charge Complete (EOC)	Hi-Z	L	L
Temperature Fault	Hi-Z	Hi-Z	L
Timer Fault	Hi-Z	Hi-Z	L
System Test Mode	L	L	L

$\beta = 3380K$
Temperature range: 0 – 50 [°C]

For other charge currents, change Rprog

F1 0ZCG0200FF2C +VBAT_CELL
 Max power dissipation = 60[mW]
 U2 AP9101C Battery protection IC
 +VBAT BT1 100nF C3
 -VBAT
 R4 330R U2_VDD 5 VDD NC 4
 6 VSS VM 2 VM
 DO 3 CO 1
 R12 2K7
 Q1 NTR3C21NZ MOSFET
 Q2 NTR3C21NZ Diode
 Max power dissipation on both transistors = 140[mW]
 GND

Max power dissipation = 325[mW]
Max temp rise = 38[*C]

Max power dissipation = 60[mW]

Max power dissipation = 200[mW]
Max temp rise = 36[*C]

Vout = 5[V]
Max Current = 1[A]

After tests decide if bigger inductor is needed (22uH) and bigger output capacitor (22uF)

[illegible]

Diagram illustrating the pin connections for the ADXL345 module:

- VCC is connected to TP1.
- VOUT is connected to TP2.
- GND is connected to TP3.
- BOOST_VIN is connected to TP4.
- BOOST_EN is connected to TP5.
- BOOST_IND is connected to TP6.
- BOOST_FB is connected to TP7.
- BOOST_SW is connected to TP10.
- U2_VDD is connected to TP11.
- DO is connected to TP12.
- CO is connected to TP13.
- VM is connected to TP14.
- +VBAT is connected to TP15.
- VBAT is connected to TP16.

$V_{in} (VCC) = 5[V]$
 $V_{out} = 5[V]$
 Max output current = $1[A]$
 Battery charge current = $1[A]$
 *For other charge currents change Rprog
 ** The max output current and power
 are determined by the battery cell
 MAKE SURE YOUR BATTERY CAN WITSTAND THE MAX RATINGS

X – Marks 'not connected' components
 NC