

STL1033-001

Charge Control with Safety and Termination

Electrical Spec REV D

Functional Description:

The STL1033-001 provides both safety and battery management functions for 1-cell Lithium Ion battery packs. In addition to preventing overvoltage during charge mode, undervoltage during discharge mode, and overcurrent during discharge mode, the STL1033-001 actively regulates charge current and voltage to ensure optimal battery charging.

Board Specifications

Board Dimensions:	See Drawing# 03-42584-01
Composition:	FR-4, double-sided, 1 oz copper
Connector:	Hirose A4B-3S-2C connector, A3B-2630SCC terminal
Assembly:	PCBA solder operation utilizes no-clean flux. No secondary cleaning operation performed.
Testing:	Testing performed per IPS-02584-001

Temperature

Operating Temperature:	-20 to 60 °C
Storage Temperature:	-40 to 125 °C

Electrical Specifications at Ta = 25 °C (per cell)

Parameter	Conditions	Min	Typical	Max	Units
Supply voltage	No Load	4.75	5.7	6.2	V
Overdischarge detection voltage		2.3	2.4	2.5	V
Sleep-mode recovery voltage *			1.5		V
Overcharge detection voltage		4.245	4.295	4.345	V
Regulated charge voltage		4.10	4.15	4.26	V
Regulated charge current		250	290	322	mA
Maximum discharge current	Continuous (4V cell voltage)	3.0			A
Maximum discharge current	10 ms pulse, 1% Duty Cycle			10.0	A
Quiescent Current	Vcell < 2.3Vdc		50uA		uA
Quiescent Current	Vcell > 2.3Vdc		200uA		uA

* STL1033-001 will still attempt recovery below this voltage.

Disclaimer:

ICC will not be held responsible when used outside of the recommended parameters / applications.

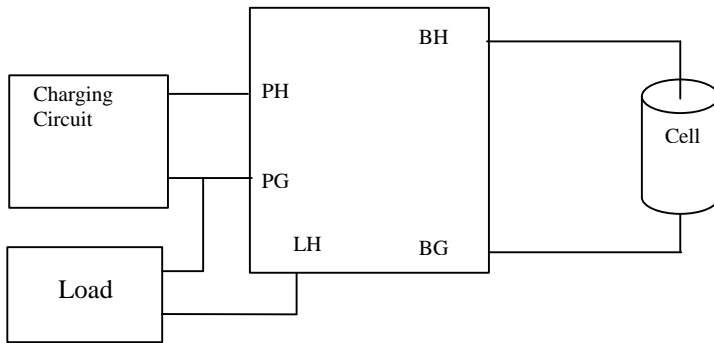
Avoid excessive heat when soldering to the PCB.

Product is tested 100% at the factory. As with all good manufacturing practices, we also recommend 100% testing in the end product.

Questions should be directed to ICC Technical Staff

312-829-2525

Connection Diagram



PAD Designations

BH+	Cell (+)
BG-	Cell (-)
PH+	Charger (+) (red wire)
PG-	Charger/Load (-) (black wire)
LH+	Load (+) (blue wire or alt per drawing 03-42584-01)

STL1033-001 Features

- ***Charge voltage and current regulation-allows use of unregulated power supplies to charge Li-Ion battery***
- ***Built-in Safety Circuit functions to protect battery:***
 - Overvoltage during Charge Mode
 - Undervoltage during Discharge Mode
 - Overcurrent during Discharge Mode
- ***Independent charge and discharge terminals allow for simultaneous battery charging and powering of load .***
- ***Small circuit footprint can be used with majority of prismatic and cylindrical Li-Ion batteries***

Typical Applications

- 1-cell Lithium Ion battery packs
- Video cameras
- Misc. portable products

Disclaimer:

ICC will not be held responsible when used outside of the recommended parameters / applications.

Avoid excessive heat when soldering to the PCB.

Product is tested 100% at the factory. As with all good manufacturing practices, we also recommend 100% testing in the end product.

Questions should be directed to ICC Technical Staff

312-829-2525

