



Telephone:0769—82960405

Website:<http://www.jiabaida.com>

Address: Baoyuan 2nd Road, Lianhu, Tangxia Town, Dongguan City40Number6Dong2building

Alibaba:<http://jiabaida.1688.com>

Product Confirmation

Customer Name		Customer Model	JBD-HP08S001-L8S-50A-B
Our material number		Customer Part Number	
Sample delivery date	2021-12-10	Company Model	JBD-HP08S001 V1.2
Edition	A2	Pages	7
Approved	Audit		Draft
	Yi Yuanbing		Liu Jun
Material No.	JBD-HP08S001-L8S-50A-B		

Customer confirmation column

Confirmation:

signature:

date:

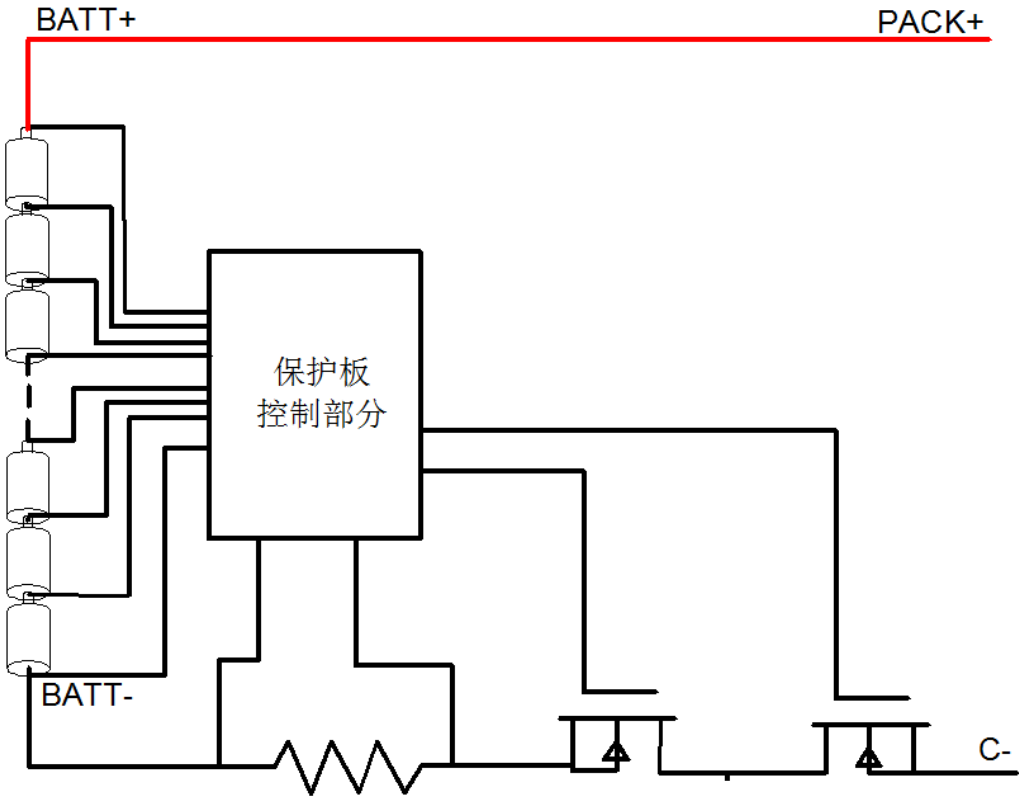
Special Notes:

1. After receiving the samples, please organize the test in time and feedback the test results to our company so that we can arrange the follow-up work of this project.
do.If there is no response within 3 days, the company will assume that the customer has passed the test and the project will be completed normally.
2. If the customer has passed the test, please indicate the product name and product code in the customer opinion column and stamp and sign to confirm. Otherwise, please
Point out the problems in the qualified column and make suggestions for improvement.
32. Our company can only accept the order after receiving the original document signed by the customer and attached with detailed function description of the product.

1. Introduction and Features
- JBD-HP08S001Dongguan Jiabaida Electronic Technology Co., Ltd. is specialized in electric bicycles, power tools and other products8The same port protection board solution is designed for serial battery packs; it can be applied to lithium batteries with different chemical properties, such as lithium ion, lithium polymer, lithium iron phosphate, etc. The protection board has a strong load capacity and the maximum continuous discharge current can reach50A.

 - 3~8Battery-saving cell series protection
 - Various protection functions for charging and discharging
 - Hardware discharge overcurrent and short circuit protection function processing
 - Reserved discharge control switch and discharge temperature protection position
 - Extremely low static current consumption

2. Principle Block Diagram



3. Basic parameters
- 3.1Scope of use:

Battery pack structure:

8S

Charging method:

CC-CV(Constant current and constant voltage)

Discharge method:

Constant current discharge

Output terminals:

C-;

Input terminals:

B-,BC0~BC8

JBD-HP08S001 V1.2	Specification:Protection circuit module	
	Page:3	Total:7
Date:12/10/2021		

3.2Electrical parameters (The test needs to be performed at temperature25±2℃, relative humidity65+/-20%Indoors.)

Function	Test items	Specification			unit
		Minimum	Typical values	Maximum	
Operating voltage	Voltage range	16.8		30	V
Working current	Charging current (continuous)	--		40	A
	Discharge current (continuous)	--		40	A
Charging protection	Charger voltage (CC-CV)	30			V
	Overcharge protection voltage	3.700	3.750	3.800	V
	Overcharge protection delay time	500	1000	1500	mS
	Overcharge protection recovery voltage	3.550	3.600	3.650	V
Discharge protection	Over-discharge protection voltage	2.000	2.100	2.200	V
	Over-discharge protection delay time	100		400	mS
	Over-discharge protection recovery voltage	2.200	2.300	2.400	V
	Over-discharge protection recovery conditions	Charge recovery			
Overcurrent protection	Charging overcurrent protection value		/		A
	Charge overcurrent delay		/		mS
	Charge release adjustment	/			
	Discharge overcurrent1Protection current value		/		A
	Discharge overcurrent1Protection Delay		/		mS
	Discharge overcurrent protection recovery conditions	Disconnect the load			
Short-circuit protection	Short circuit protection delay time	80	100	200	uS
	Short circuit protection recovery	Disconnect the load			
Equalization function	Balanced turn-on voltage	3.550	3.600	3.650	V
	Balancing current	20		35	mA
Temperature protection	Temperature protection value		/		℃
	Temperature protection release value		/		℃
Internal resistance	Discharge circuit internal resistance	/	10	20	mR
Self-consumption	Working Mode	/	20	50	uA
Operating temperature	Normal operating range	- 20		70	℃
Storage temperature	Humidity below90%,	- 40		85	℃
Protection plate size	Length*Width*Height	110±2*55±2*9±2			mm

JBD-HP08S001 V1.2	Specification:Protection circuit module		
	Page:4	Total:7	Date:12/10/2021

3.3Protection function description:

Overcharge protection: When the battery is charging, the voltage continues to rise. When the protection board detectsAny sectionCell voltageHigher than the overcharge protection value, the protection board starts timing immediately, and when the time reaches the overcharge protection delay, the protection board shuts off the chargingMOSTube, charging is terminated, and charging is not possible at this time.

Overcharge protection recovery: After the protection board has overvoltage protection, the battery voltage drops when the battery is at rest or discharged.Each sectionVoltageLower than the overcharge protection recovery voltageWhen the protection board outputs a signal, charging startsMOSThe tube can be charged at this time.

Over-discharge protection: When the battery is in discharge state, the voltage continues to decrease. When the protection board detectsAny sectionCell voltageLower than the over-discharge protection value, the protection board starts timing immediately. When the time reaches the over-discharge protection delay, the protection board outputs a signal to shut down the discharge.MOSTube, discharge is cut off, load lock circuit works, and discharge is not possible at this time.

Over-discharge protection recovery: After the protection board has over-discharge protection, the battery voltage continues to rise when the battery is at rest or charging. Each sectionVoltageHigher than the over-discharge protection recovery voltageAt this timeThen disconnect the load or charge, the protection board outputs a signal to start dischargingMOSThe tube can be discharged at this time.

Overcurrent protection: When the battery is at rest or in discharge state, the current suddenly increases. When the protection board detects that the current has reached the overcurrent protection value, the protection board starts timing. When the current in the circuit lasts for a period of time that reaches the overcurrent protection delay time, the protection board outputs a signal to shut down the discharge.MOSThe load lock circuit works and cannot discharge at this time.

Overcurrent protection recovery: After the protection board has discharge overcurrent protection, dischargeMOSThe tube is turned off and the current in the circuit becomes0.At this time, the load is disconnected or charging, the protection board outputs a signal, and the discharge is startedMOSThe tube can be discharged at this time.

4. Detailed explanation of numbering:

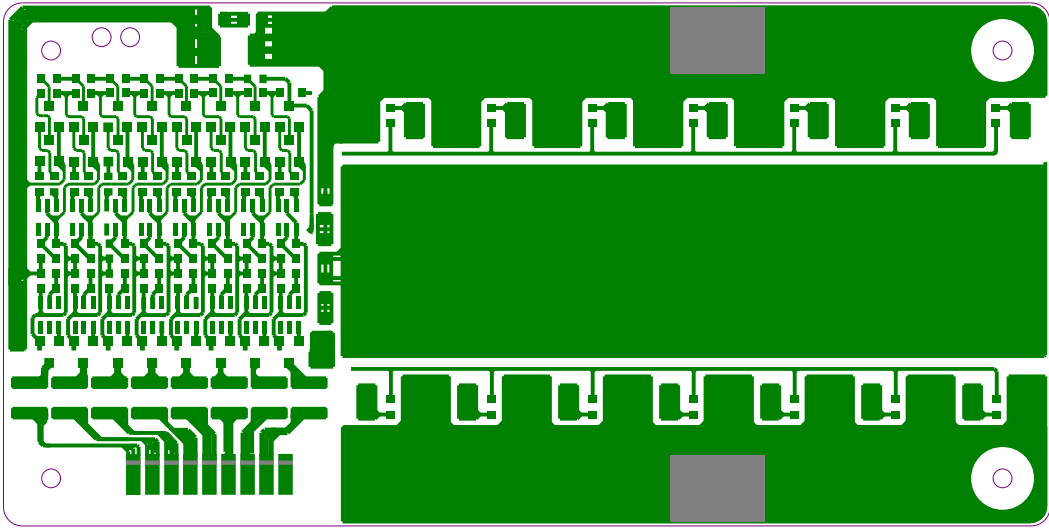
JBD -HP08S001 -L8S -50A -B

- (1) (2) (3) (4) (5)
- (1) Jiabaida Electronic Technology Co., Ltd. Abbreviation:JBD
- (2) Model of our protection board:HP08S001 ,Maximum support8String. (3)L8SThat is, the sample sent this time is lithium iron phosphate type battery8String protection board.
- (4) Maximum charge and discharge current. If this current is exceeded, the protection board may be permanently damaged. (5) With balancing function

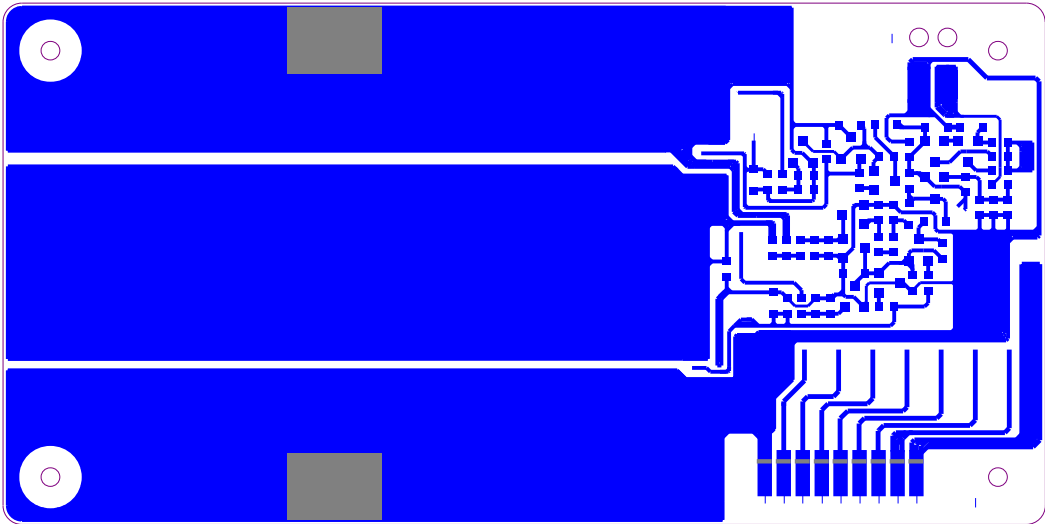
After your company receives the specification and samples and completes the verification test, if you need subsequent batches, please sign this specification and return it to our company. Our company will make the batch for you according to the parameters in this specification.

This specification defines the functions, electrical and mechanical parameters, as well as packaging, transportation, installation, and usage instructions for the lithium battery pack management system designed and manufactured by Dongguan Jiabaida Electronic Technology Co., Ltd. (hereinafter referred to as "our company") based on your company's design requirements. This specification is valid upon your company's confirmation and is for internal use only. It may not be provided to any third party without our permission. Our company reserves the final right of interpretation of this specification.

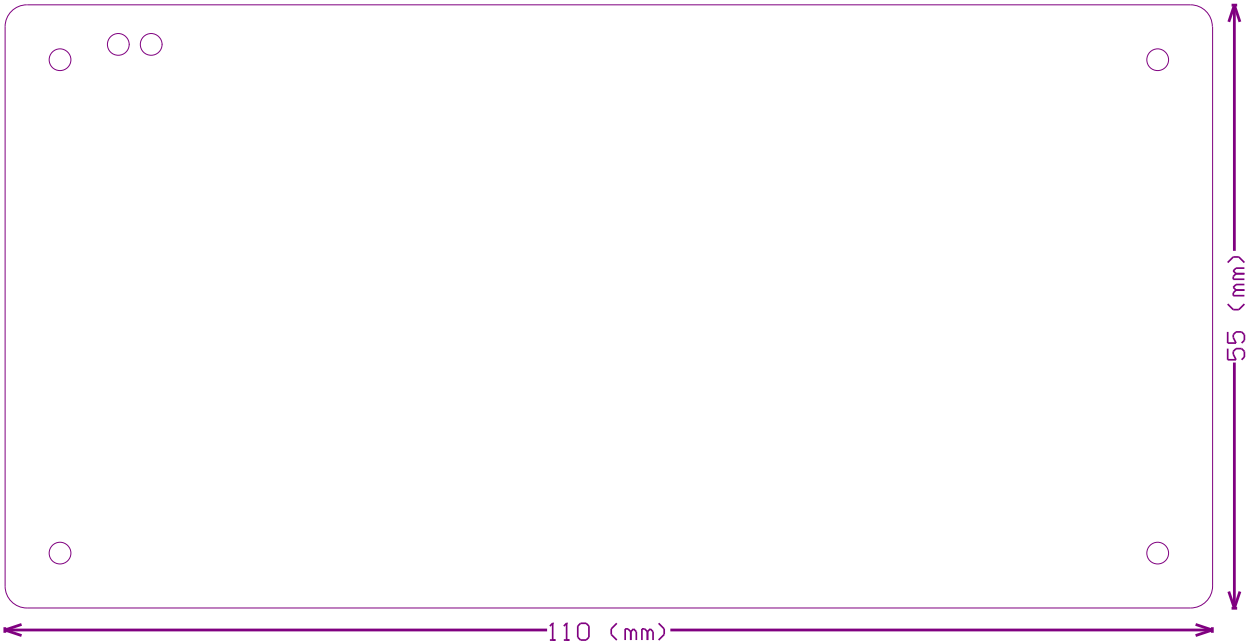
five,PCBRouting and dimension structure diagram



Top layer routing diagram

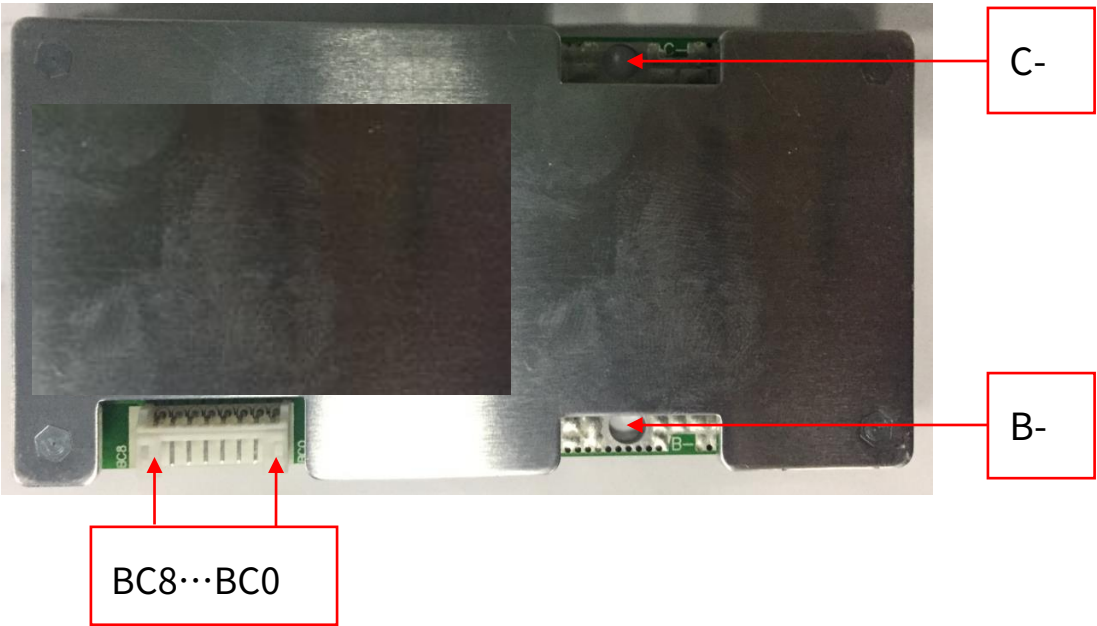


Bottom layer wiring diagram



Border size chart

6. Wiring Diagram



Port Description:

port	explain	bright
C-	Charge and discharge negative terminal	
B-	Connect the battery pack1Series negative pole, that is, the total negative pole of the battery pack	
BC0	Connect the battery pack1Series negative electrode	
BC1	Connect the battery pack1Positive electrode in series	
...	...	
...	...	
...	...	
BC8	Connect the battery pack8Positive electrode in series	

7. Wiring sequence

When assembling the wiring, solder the cable to the battery correctly.PCMofB-Connect it to the total negative pole of the battery cell, and then insert the cablePCMThe needle seat on the (Note: The wiring method is different for different string numbers, and the wiring method for the same port is also different).

JBD-HP08S001 V1.2	Specification:Protection circuit module		
	Page:7	Total:7	Date:12/10/2021

8. Precautions for use

- 1.During use, be sure to follow the design parameters and usage conditions and do not violate the parameters in this specification. Otherwise, it will easily damage the protection board and thus the battery pack.
- 2.Anti-static measures must be taken during use, and appropriate anti-static measures must be taken when testing, installing, or touching the protection board.
- 3.The charging port can withstand a maximum specified DC voltage. Chargers with voltages exceeding this limit cannot guarantee damage to the protection board. Please use the charger within this specification. It is best to choose a charger with a trickle shutdown feature at the end of the charging current for added protection. Chargers without a trickle shutdown feature are designed for lead-acid batteries and are not suitable for lithium batteries.
- 4.During use, be careful not to let the lead ends, soldering irons, tin slag, etc. touch the components on the circuit board, otherwise the protection board may be damaged.
- 5.The maximum discharge current is the maximum current that lasts for a few seconds. During the test, the duration should not be too long to avoid powerMOSDamage from overheating.
- 6.When assembling the protection board and battery pack, do not place the heat dissipation aluminum plate close to the surface of the battery cell. Otherwise, the heat will be transferred to the battery cell and affect the safety of the battery pack.
- 7.If any abnormal situation occurs during use, please stop using it immediately, return it to the original factory or ask professional maintenance personnel to repair it.
- 8.If it is a split protection board, it is prohibited toP-Used as a charging port becauseP-When used as a charging port, the battery pack has no overcharge protection.C-It is used as a discharge port when splitting.
- 9.It is prohibited to connect two or more protection boards in series or in parallel.
- 10.This protection board has undergone a large number of reliability tests, and its reliability is far higher than that of general protection boards on the market. The process of the battery cell must also be guaranteed at the same time to minimize the occurrence of combustion.
- 11.This protection plate is not equipped with0VBattery charging function, once the battery appears0VIn such cases, the battery performance will be severely degraded or even damaged.
- 12.In order to avoid damaging the battery, the user should2AH, storage exceeds3months) when not in use, it needs to be charged regularly to replenish the power; and when in use, it needs to be charged after the power is discharged.12Charge in time within 2 hours to prevent the battery from discharging due to self-consumption. 0VCustomers are required to have a clear mark on the battery casing that requires users to maintain the battery regularly.
- 13.This protection board does not have reverse charging protection function. If the polarity of the charger is reversed, the protection board may be damaged.

Safety precautions:

Our company is committed to improving quality and reliability. However, generally speaking, electrical components will have a certain probability of failure. The durability will vary depending on the usage environment and conditions. We adopt a redundant design when using to avoid abnormal heating, smoking, and even personal accidents, fire accidents, and social damage caused by overload.

9. Document Revision History

date	Draft	Audit	Modifications
2021-04-09	Yi Yuanbing	Zhang Qiaoqiao	First edition
2021-12-10	Liu Jun	Yi Yuanbing	Partial revision