



Telephone:0769—82960405

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

Address: Lianhu Baoyuan 2nd Road, Tangxia Town, Dongguan City40Number6building2building

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

Product confirmation

client's name		Customer Type	JBD-ZP08S002-L8S-200A-200A-BT
Our material number		Customer part number	
Sample delivery date		Company model	JBD-ZP08S002 V1.2
Edition	A01	Number of pages	7
approve	Review		draw up
	Zhang Qiaoqiao		Wang Xiang
material code	JBD-ZP08S002-L8S-200A-200A-BT		
Customer confirmation column			
Confirmation:			
signature:			
date:			

Special Note:

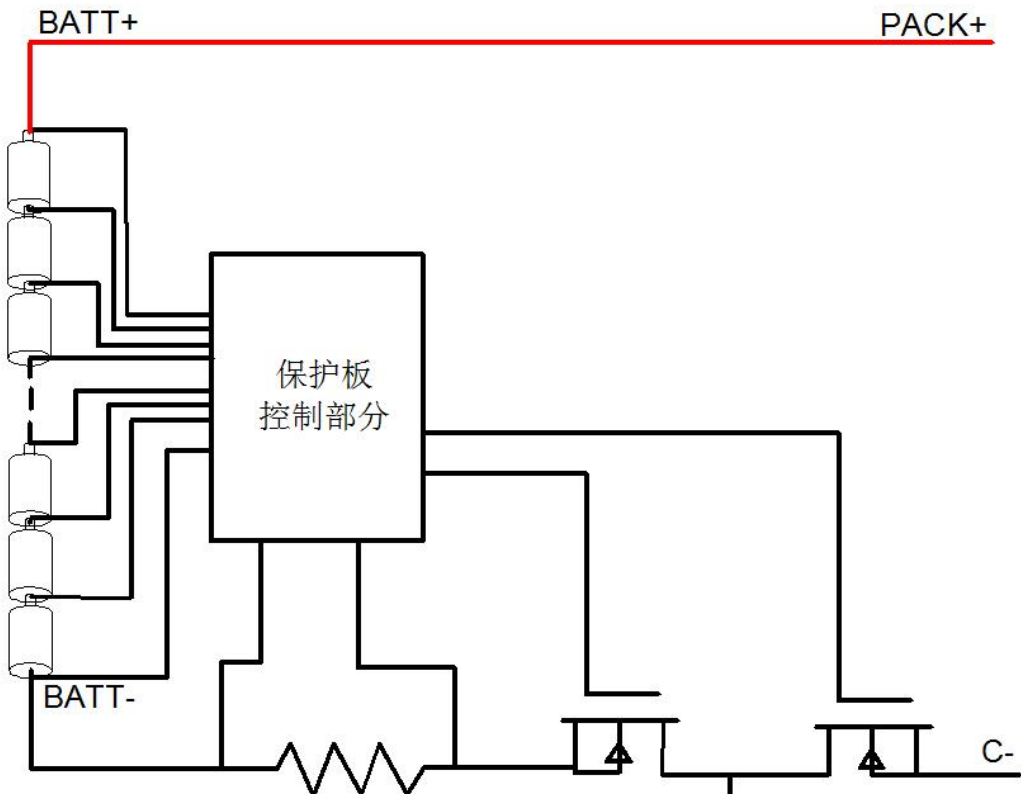
1. After the customer receives the sample, please organize the test in time and feed back the test results to our company to facilitate our company to arrange the follow-up work of this project.
do.5If there is no reply within days, the company will assume that the customer has passed the test and the project will end normally.
2. If the customer test passes the test, please indicate the product name and product code in the customer comments column, and stamp and sign for confirmation. Otherwise, please confirm without testing.
In the qualified column, problems are pointed out and suggestions for improvements are made.
3. Our company can only accept the order after receiving the original signed by the customer and attaching the product description and detailed function description.

1. Introduction and characteristics

JBD-ZP08S002Dongguan Jiabaida Electronic Technology Co., Ltd. specializes in energy storage and other products8The same port protection board solution designed for string battery packs; it can be used for lithium batteries with different chemical properties, such as lithium ion, lithium polymer, lithium iron phosphate, etc. The protection board has strong load capacity and the maximum continuous charge and discharge current can reach200A.

- 8Battery-saving core series protection
- Various protection functions for charging and discharging
- Equalization function
- Extremely low quiescent current consumption
- Offline protection
- Reserved weak current switch
- Charge and discharge high temperature protection

2. Schematic 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 terminal: | C- |
| Input terminal: | B-,B1~B8 |

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3.2Electrical parameters (The test needs to be at temperature25±2°C, relative humidity65+/-20%performed indoors.)					
Function	Test items	Specification			unit
		minimum value	Typical value	maximum value	
Operating Voltage	voltage range	17.6		30	V
Working current	recharging current			120	A
	Discharge current			200	A
Charging protection	Charger voltage (CC-CV)	28.8			V
	Overcharge protection voltage	3.700	3.750	3.800	V
	Overcharge protection delay time	500	1000	2000	mS
	Overcharge protection recovery voltage	3.500	3.550	3.600	V
Equalization function	Balanced turn-on voltage	3.450	3.500	3.550	V
	Balanced current	120		160	mA
Discharge protection	Over discharge protection voltage	2.100	2.200	2.300	V
	Over-discharge protection delay time	4000	5000	6000	mS
	Over-discharge protection recovery voltage	2.600	2.700	2.800	V
	Over-discharge protection recovery conditions	Charge			
Overcurrent protection	Charging overcurrent protection current value				A
	Charge overcurrent protection delay				mS
	Charging overcurrent protection recovery conditions				
	Discharge overcurrent1Protection current value				A
	Discharge overcurrent1protection delay				mS
	Discharge overcurrent2Protection current value				A
	Discharge overcurrent2protection delay				mS
	Discharge overcurrent protection recovery conditions				
Short circuit protection	Short circuit protection current				A
	Short circuit protection delay time				uS
	Short circuit protection recovery	disconnect load			
	Charging high temperature protection	80	85	90	°C
	Charging high temperature protection release	50	60	70	°C
	Discharge high temperature protection	80	85	90	°C
	Discharge high temperature protection release	50	60	70	°C
internal resistance	Discharge circuit internal resistance		10	20	MR
self-consumption	Operating mode		30	50	uA
Operating temperature	normal working range	- 20		70	°C

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storage temperature	Humidity lower than90%,	- 40		85	°C
Protection board size	length Width Height	(230±5)*(105±1)*(20±2),long			mm
Degree includes copper strip width					
3.3Protection function description:					
Overcharge protection: When the battery is in charging state, the voltage continues to rise. When the protection board detectsany sectionCell voltageHigher than overcharge protection value, the protection board starts timing immediately. When the time reaches the overcharge protection delay, the protection board turns off charging.MOStube, charging is cut off and charging cannot be done at this time. Overcharge protection recovery: After the overvoltage protection occurs on the protection board, the battery voltage drops when the battery is left at rest or discharged. When the protection board detectevery sectionVoltage isLower than overcharge protection recovery voltageWhen, the protection board outputs a signal and starts chargingMOStube, it can be charged at this time. Over discharge protection: When the battery is in a discharged 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 output signal turns off the discharge.MOStube, discharge is cut off, the load lock circuit works, and discharge cannot be performed 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 left standing or charging. When the protection board detectevery sectionVoltage isHigher than over-discharge protection recovery voltagetime, at this timeThen disconnect the load or charge, the protection board outputs the signal and turns on the dischargeMOStube, it can be discharged at this time. Overcurrent protection: When the battery is in a static or discharging state, the current suddenly increases. When the protection board detects that the current reaches the over-current protection value, the protection board starts timing. When the current duration in the circuit reaches the over-current protection delay time, the protection board Output signal turns off dischargeMOS tube, the load lock circuit works and cannot be discharged at this time. Overcurrent protection recovery: After the protection board has discharge overcurrent protection, the dischargeMOSThe tube is turned off and the current in the loop becomes0.At this time, disconnect the load or charge, the protection board outputs a signal and starts the discharge.MOStube, it can be discharged at this time.					
4. Detailed explanation of numbering:					
<u>JBD</u> <u>-ZP08S002</u> <u>-LS8</u> <u>-200A</u> <u>-200A</u> <u>-B</u> <u>-I</u>					
(1)	(2)	(3)	(4)	(5)	(6) (7)
(1)Abbreviation of Jiabaida Electronic Technology Co., Ltd.:JBD (2) Our company's protective board model:ZP08S002,support8String protection board. (3)LS8That is to say, the samples sent this time are lithium iron phosphate batteries.8String protection board. (4) Maximum charging current. If this current is exceeded, the protective board may be permanently damaged. (5) Maximum discharge current. If this current is exceeded, the protection board may be permanently damaged. (6) Balance function mark. (7) Temperature protection mark. After your company receives the specifications and samples, the verification test is completed. If you need subsequent batches, please sign this specification and return this specification to our company. Our company will provide your company with the parameters of this specification. batch. This specification defines the functions, electrical parameters, mechanical parameters and packaging of the lithium battery pack management system designed and manufactured by Dongguan Jiabaida Electronic Technology Co., Ltd. (hereinafter referred to as "our company") based on the design requirements provided by your company. Transportation and installation instructions. Once confirmed and effective by your company, this specification can only be used internally by our company and your company. It shall not be given to third parties without our permission, and our company has the final right to interpret this specification.					

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five,PCBWiring and size structure diagram

Top-level wiring diagram

Frame size chart

6. Wiring diagram

Pictures are for reference only, please refer to the actual product.



Port description:

port	explain	bright
C-	Charge and discharge negative electrode	
B-	Connect the battery pack1The negative pole of the series, that is, the total negative pole of the battery pack	
B1	Connect the battery pack1Positive string	
B2	Connect the battery pack2Positive string	
...	...	
B+	Connect the battery pack8The positive pole of the series is the total positive pole of the battery pack.	

7. Main components

sequence Number	Material name	Manufacturer	Dosage
1	ProtectIC\ SH367007X\ TSSOP-20	Zhongying	1PCS
2	MOSTube\HYG020N04NR1B\TO-263	Hua Yiwei	26pcs

Under the premise of ensuring product performance, the above materials can be replaced by materials with the same specifications or better specifications. Our company will not make further notice, and the final right of interpretation belongs to Jiabaida.

8. Wiring sequence

When assembling the wiring, weld the cable and battery core correctly, and PCMoFB-Connect it to the total negative pole of the battery, and then insert the cablePCMon the needle holder. (Note: The wiring methods are different depending on the number of series, and the wiring methods for the same port and separate ports are also different).

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9. Precautions for use

- During use, be sure to follow the design parameters and usage conditions, and do not use it contrary to the parameters in this specification, otherwise it will easily damage the protective plate and then damage the battery pack.
- Anti-static measures must be taken during use. Corresponding measures must be taken to discharge static electricity when testing, installing, or touching the protective board.
- The charging port can withstand the maximum specified DC voltage. Chargers with a voltage higher than this cannot guarantee that the protective plate will not be damaged. Please use the charger within this specification. It is best to choose a charger with a trickle shut-off function at the end of the charging current. This provides double insurance.
Chargers without a trickle-off feature are designed for lead-acid batteries and are not suitable for use with lithium batteries.
- During use, be careful not to let lead tips, soldering iron, tin slag, etc. touch the components on the circuit board, otherwise the protection board may be damaged.
- The maximum discharge current is the maximum current that lasts for several seconds. When testing, it cannot be sustained for too long to avoid power loss.MOSDamage due to overheating.
- When assembling the protective plate and battery pack, do not place the heat-dissipating aluminum plate close to the surface of the battery core. Otherwise, heat will be transferred to the battery core and affect the safety of the battery pack.
- If any abnormality occurs during use, please stop using it immediately and return it to the original factory or ask professional maintenance personnel for repair.
- Split port protection board, prohibitedP-Use it as a charging port becauseP-When used as a charging port, the battery pack has no overcharge protection. prohibitC-Used as a discharge port when branching
- It is prohibited to connect two or more protection boards in series or parallel.
- This protective board has undergone a large number of reliability tests, and the reliability is much higher than the general protective boards on the market. The process of the battery core must also be guaranteed to reduce the occurrence of combustion as much as possible.
- This protection board is not equipped with0VBattery charging function, once the battery appears0Vsituation, the battery performance will be severely degraded and may even be damaged.
- In order not to damage the battery, users should2AH, storage exceeds3Months) When not in use, it needs to be charged regularly to replenish the battery; when in use, it must be discharged after12Charge in time within hours to prevent the battery from being discharged to 0V. Customers are required to have an obvious sign on the battery casing that the user regularly maintains the battery.
- This protection board does not have a reverse charging protection function. If the charger is connected with reverse polarity, the protection board may be damaged.

Safety Precautions:

Our company is committed to improving quality and reliability, but generally speaking, electrical parts will have a certain probability of failure.

Depending on the use environment and conditions, the durability will be different. Use a lengthy design when using it to avoid overloading. Abnormal fever, smoke, and even personal accidents, fire accidents, social damage, etc. may occur.

10. Document revision history

date	draw up	Review	Modify content
2017-11-21	Yi Yuanbing	Zhang Qiaoqiao	First edition released
2018-03-14	Yi Yuanbing	Zhang Qiaoqiao	Change parameters