深圳市金力圣电子科技有限公司

KINGLISHENG(SHENZHEN) ELECTRONICS & TECHNOLOGY CO., LIMITED

产 品 承 认 书

SPECIFICATION

客户名称 Customer	Cheikh Tidine Diop		
客户型号 Customer No.	三元 10 串同口 30A		
产品型号 Product No.	JLS-B-Z13S-510-V2（JLS-B510-PR00346-V2）规格书		
版本 Version	V2	送样日期 Sample Date	2025.12.24
编　　制 PREPARED By	审　　核 CHECKED By	批　　准 APPROVED By	品质部 Quality department
2025.12.27	/		/

客 户 确 认 栏

确认意见：INSPEC.RESULT：

签章：

日期：

注：客户收到样品以及规格书后，请及时回复，如在 7 天之内无回复，我司将视客户已承认此规格书中的参数以及送样样机。

规格书中的图片为通用机型的图片，可能与送样样机有一定的差异；此份规格书金力圣保留最终解释权。

Notice: Give us feedback when customers are in receipt of the samples and specification, Once not any reply within seven days, it will be regarded as agreement of the parameters in the specification and samples. KingLiSheng has the final authority to explain the photographs in the specification which is different from sample machine

一、综述 Outline

本规格书适合于深圳市金力圣电子科技有限公司研制的 10 串三元电池保护板，本产品严格满足 ROHS 规范等。This specification applies to the 10 serial-cells lithium manganese battery protection board manufactured by KINGLISHENG(SHENZHEN) ELECTRONICS& TECHNOLOGY CO.,LTD, which strictly conforms to the ROHS standard.

二、应用范围 Application

锂离子、聚合物锂电池等可充电锂电池包。Applies to the rechargeable Lithium battery packs and so on.

三、电气参数 Electrical Characteristic (Ta = 25 ℃.)

Details 详细项目		Min.	Typ.	Max	Error	Unit
电池类型 Battery Gas		3.6 三元电池				
电池组组合方式 Battery Link		10S				
充电电压 Input Charging Voltage			42.5		±1%	V
放电电压 Output Discharging Voltage		27	36	42.5		V
电池容量 Battery capacity						AH
Ambient Condition 工作环境	Operating Temperature 工作温度	-15	-25	60		℃
	Humidity (No Water-Drop)工作湿度	0%		90%		RH
Storage Condition 存储环境	Temperature 存储温度	-40		85		℃
	Humidity (No Water-Drop)存储湿度	0%		90%		RH
Protection Parameters (for Individual Cell).保护参数（对于每节电芯）						
单节过充保护 Cell Voltage Over-Charge Protection	过充保护电压 Over-Charge Voltage Protection (OVP)		4.25		±70mV	V
	过充恢复电压 Over-Charge Voltage Protection Release (OVPR)		4.15		±50mV	V
	过充延时 Over-Charge Voltage Protection Delay Time (OVPDT)		1000		±500	mS
单体过放保护 Cell Voltage Over Discharge Protection	过放电保护电压 Over-Discharge Voltage Protection (UVP)		2.7		±50mV	V
	过放电恢复电压 Over-Discharge Voltage Protection Release（UVPR）		3.0		±50mV	V
	过放电保护延时 Over-Discharge Voltage Protection Delay Time (UVPDT)		1000		±500	mS
充电过流保护 Over Charge Current Protection	充电过流保护电流 Over-Current Charge Protection(OCDP)		35		±10	A
	充电过流保护延时 Over-Current Charge Protection Delay Time (OCPDT)		1000		±500	mS
	充电过流保护恢复 Over-Current Charge Protection Release	充电机移除/放电恢复 Charger Removed / Discharge Recovery				
放电过流保护 Over Discharge Current Protection	一级放电过流保护电流 First Over Protection current		100		±10	A
	一级放电过流保护延时 First Over Protection Delay Time		1000		±500	mS
	二级放电过流保护电流 Second Over Protection Current		200		±20	A
	二级放电过流保护延时 Second Over Protection delay time		500		±100	mS
	放电过流保护恢复 Over-Current Discharge Protection Release	移除负载/充电 Load Removed/Charge Release				
短路保护 Short Circuit Protection	短路保护电流 Short Circuit Current Protection	有短路保护（允许 20AH 内电芯，超出容量范围可能短路会造成保护板损坏）				A
	短路保护延时 Short Circuit Current Protection Delay Time	<256				uS
	短路保护恢复 Short Circuit Protection Release	移除负载/充电 Load Removed/Charge Release				

温度保护 Temperature Protection	MOS 高温保护 MOS Over Temperature Protection		/		±5	℃
	MOS 高温恢复 MOS Over Temperature Recovery		/		±5	℃
	放电高温保护 Discharging High Temperature Protection		65		±5	℃
	放电高温恢复 Discharging High Temperature Protection Release		60		±5	℃
	放电低温保护 Discharging Low Temperature Protection		-25		±5	℃
	放电低温恢复 Discharging Low Temperature Protection Release		-15		±5	℃
	充电高温温度 Charging High Temperature Protection		50		±5	℃
	充电高温恢复 Charging High Temperature Protection Release		45		±5	℃
	充电低温保护 Charging Low Temperature Protection		-10		±5	℃
	充电低温恢复 Charging Low Protection Release		-5		±5	℃
均衡电压 Balanced Voltage	均衡开启电压 Balanced Opening Voltage		4.1		±0.08	V
	均衡电流 Balanced Opening Current		40		±10	mA
	均衡方式 Balanced Opening Mode	静态均衡				
最大持续电流 Max Continuous Current	最大持续充电电流 Max Continuous Charge Current		20	25		A
	最大持续放电电流 Max Continuous Discharge Current		25	35		A
静态模式 Idle mode		≤150				uA
主回路通态电阻 MOS-R_{DS} Main loop electrify resistance		≤30				mΩ
PCBA Size装配结构尺寸		75（±1）×50（±1）×<14				mm

备注： Notice:：

1、使用过程中请遵循设计参数及使用条件，不得超过本规格书中的值.Make sure the design parameters and conditions of usage are under the values which are shown in the specification.

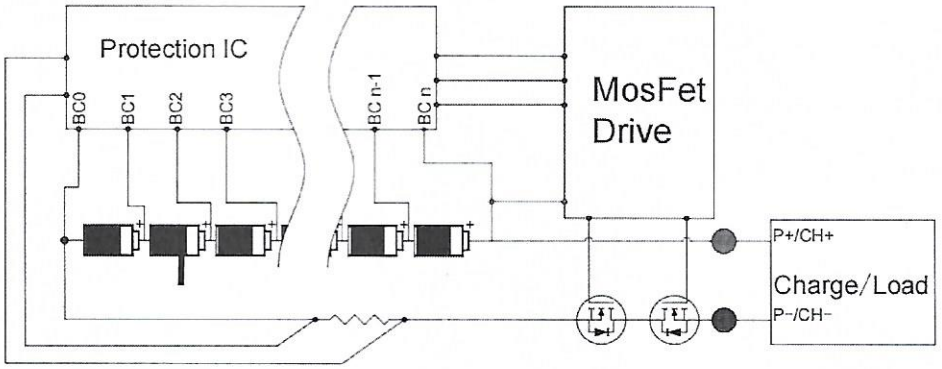
2、以上参数为推荐值，用户可以依据实际应用进行修改.he above parameters are our recommendation and can be modified according to practical application.

四. 主要物料清单

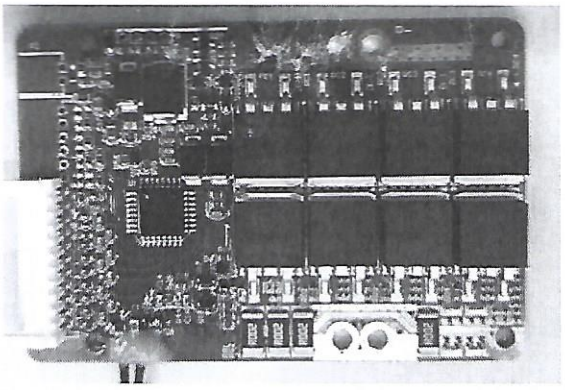
料号	名称	型号	品牌
	锂电保护 IC	SH3676014BP*1	中颖
	充/放电 mos	WMM053N09HGD *8	维安
	限流电阻	0.002R*4	元晖/大毅

备注：我司保护板在批量出货过程中，不同批次的订单我司有可能更换不同品牌不同型号的主要器件及 MOS 管，前提是满足客户性能指标和更优的情况下而做出的更改

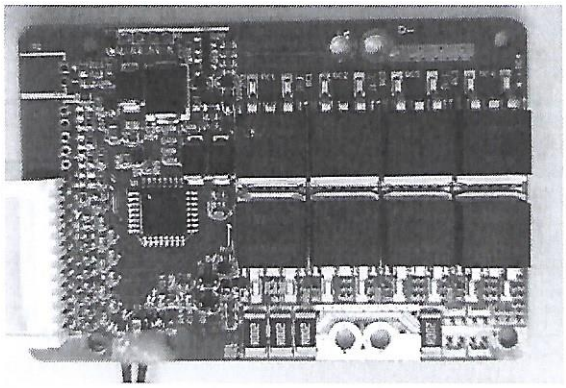
五. 原理框图 Diagrammatic Layout

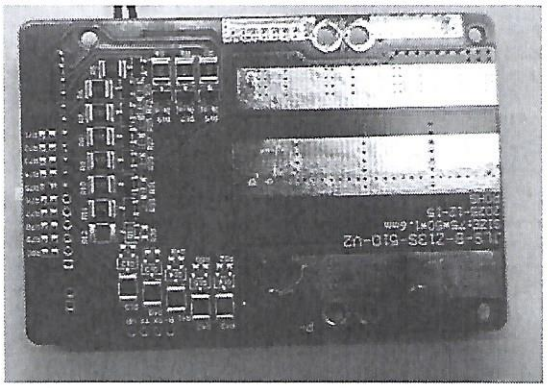


六. Product Dimension 产品尺寸图 （75*50*1.6mm)

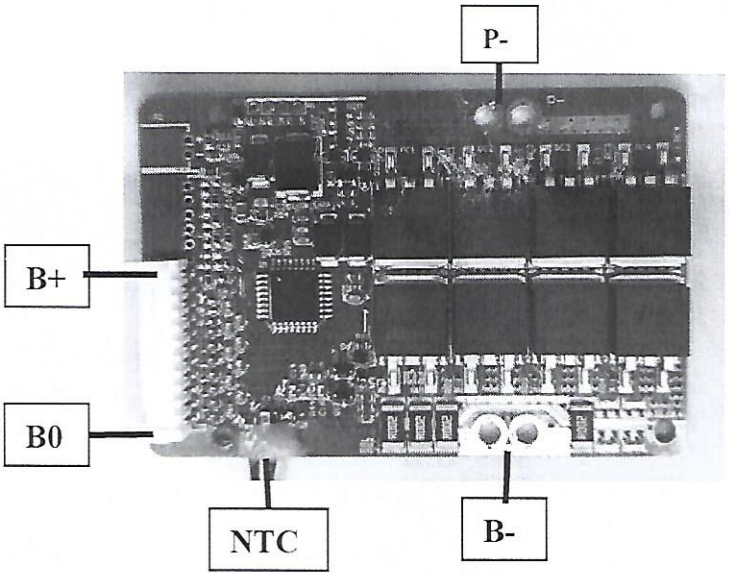


七.Pictures of Product 实物图





接线定义



1、端口说明

Item		Details	
B-		连接到电芯组的总负极 Connected to the negative terminal of Battery.	
P-		充放电负极端口	**Discharge Negative Terminal**
采集排插	B-	连接到第 1 节电芯负极	Connect to Negative of Cell 1.
	B1	连接到第 1 节电芯正极	Connect to Positive Side of Cell 1.
	B2	连接到第 2 节电芯正极	Connect to Positive Side of Cell 2.
	B3	连接到第 3 节电芯正极	Connect to Positive Side of Cell 3.
	…	……	

	B+	连接到第 10 节电芯正极 Connect to Positive Side of Cell 10.

八. 电池连接示意图 Connection Diagram of Battery

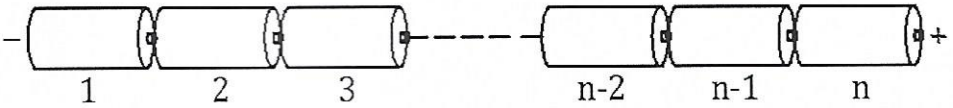


图2. 电池连接顺序示意图 Figure 2. Diagram connection of Battery

连接的注意事项 Matters need attention when connecting

警告：把保护板连接至电芯，或从电池组拆下保护板时，必须遵守以下连接顺序与规定；如果不按要求的顺序作业，会损坏保护板的元器件，从而导致保护板不能保护电芯，造成严重的后果。

Warning: Please remember to keep to the following order and rules when connecting cells to the PCM board and disconnecting them. If not, the PCM board will possibly be damaged, then the PCM board fails to protect battery cell which will cause terrible result.

准备工作：按照接线图所示，将J1对应的电压检测排线连接至电池组。请注意插座所标示的引顺序。

Preparation: Connect the flat cable, which is use to detect battery voltage, to cells as described in Figure 1 and Figure 2. Please pay attention to the pin order of the plug.

A.连接保护板步骤 Connection PCM steps

1）连接电池组的负极B-；Connect the negative of battery B-.
2）连接电池组的正极B+；connect the positive of battery B+.
3）连接电池组的排线（注意正、负极方向）；connect the flat cable（Notice: Port polarity）.
4）连接充电器或者负载；Connect the charger or load.

B.断开保护板的步骤 Removed PCM steps

1）断开负载或者充电器；Remove the load or charger.
2）拔下J1插头里的电压检测线；Remove the flat cable.
3）断开电池组负极的B+连接线；Remove the B+ wire.
4）断开电池组负极的B-连接线；Remove the B- wire.

特别说明：在此环节中要注意静电的防护。
Special Notice: Pay attention to the protection of static electricity.

九、测试图片 The test image