



الحمادي للإلكترونيات
ALHAMMADI FOR ELECTRONICS

Note:

This protection board cannot be used for iron ion polymer batteries, hand drill battery packs, electric fish machine battery packs, electric bicycle battery packs, 2 pieces of 24V in series connection, 775 (4A) or above motors, 1W fisheye LED lights, for the above combination of customers please note!.

The described power range applies to the following products:

Vacuum cleaner battery pack, LED light backup power, 12V electronics, solar street light battery pack, monitoring backup power, and other products.

DescriptionExplained:

3 strings (for 3 18650 cells or polymer lithium batteries in series)

10.8V (rated voltage for polymer batteries)

11.1V(18650 或 3.7V 锂电池的额定电压)

12.6V (voltage after full charge of lithium battery)

Discharge 10A (refers to maximum discharge current limit)

Lithium battery protection board

Built-in: overcharge, overdischarge, overcurrent,
short-circuit protection

18650 Lithium Battery Pack Essential !!

Overview:

The main IC adopts the original "Seiko" imported components. It has the protection functions of overcharge, overdischarge, overcurrent, short circuit, etc., and is used for 3.7V lithium cells of various capacities and shapes. It adopts high-quality MOSFETs such as Japan Seiko protection IC, vishay, aos, IR, etc., FR-4 low temperature coefficient board, excellent design and comprehensive testing. Small size,

suitable for many occasions requiring high integration and low cost, it can meet various performance requirements and ensure the absolute safety and reliability of the battery pack.

Attributes of this lithium battery protection board:

型号: **HX-3S-01** 过充电压范围: **4.25-4.35v±0.05v**

尺寸: **50*16*1.0mm** 过放电压范围: **2.3-3.0v±0.05v**

**Maximum working current: 5-8A Operating temperature:
-40---+50°C**

**Maximum instantaneous current: 9-10A Storage conditions:
-40-- +80°C**

**Quiescent current: less than 6uA Effective life: more than 30000
hours**

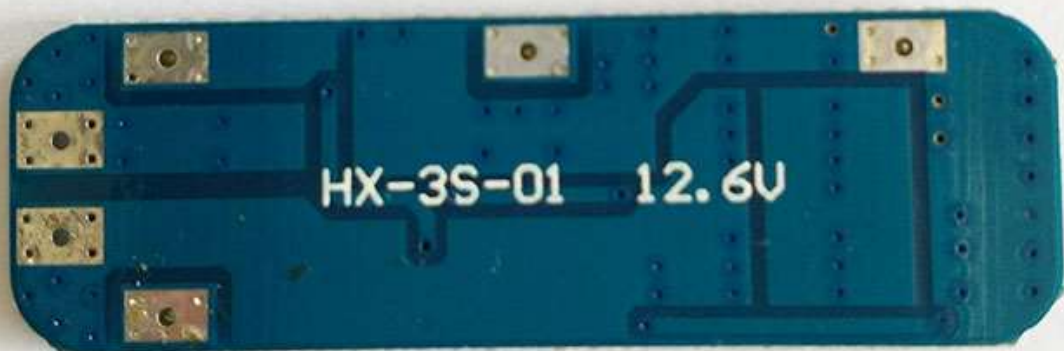
**Internal resistance: less than 60mΩ Short-circuit protection:
protectable, delayed self-recovery.**

Dimensions and device descriptions of the protection board;

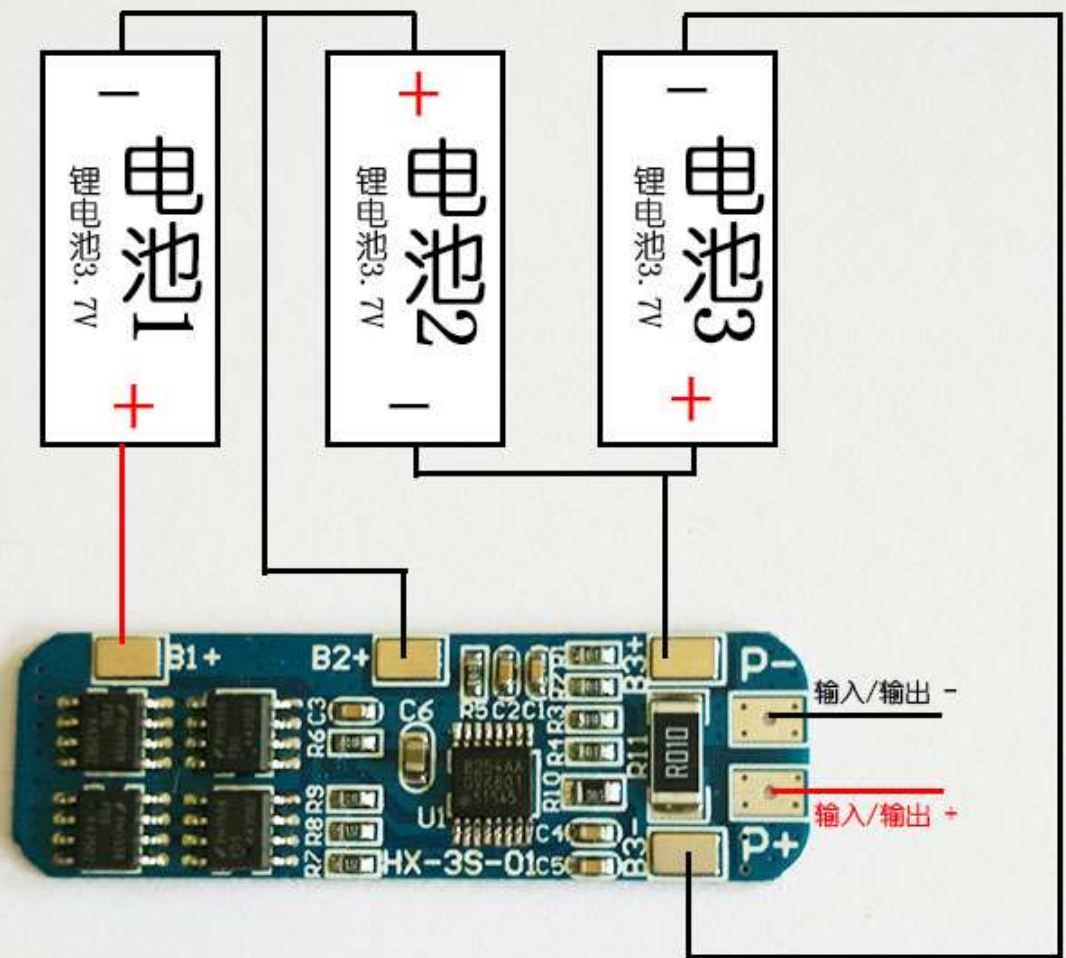
**The size of the protection board is 50*16*1.0mm; The
components are Seiko S-8254AA protection chip and 4435A*4
of genuine FDS;**

Note: The nickel flakes and accessories described below are not included in the price of this link, and the shipment is a single plate.

12V (11.1V) 锂电池三串保护板

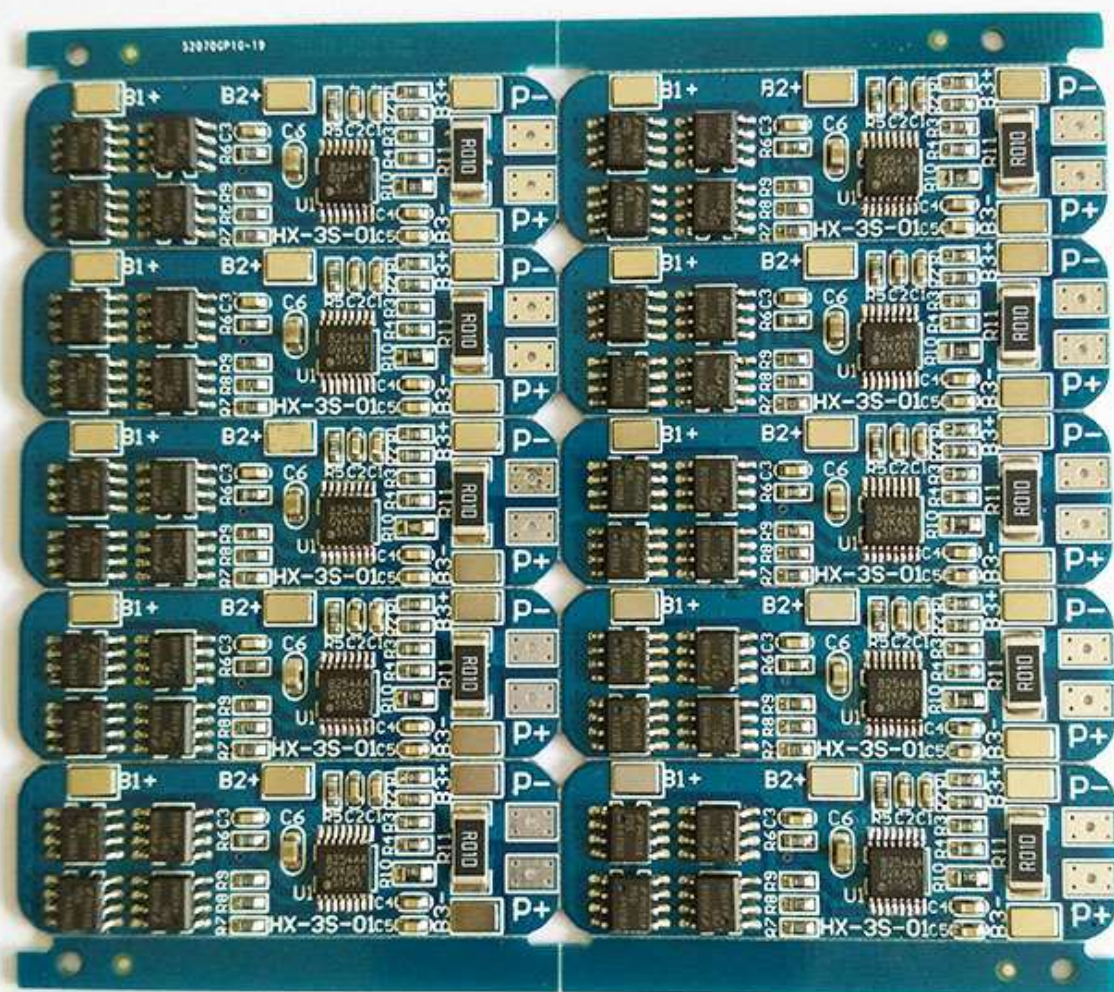


最大工作电流8A 峰值10A
精工8254AA FDS4435A MOS管



第一次连接好后P+ P-是没有输出的，
用12.6V电压通电激活一下就有输出。

用于3串18650或聚合物电池组保护板

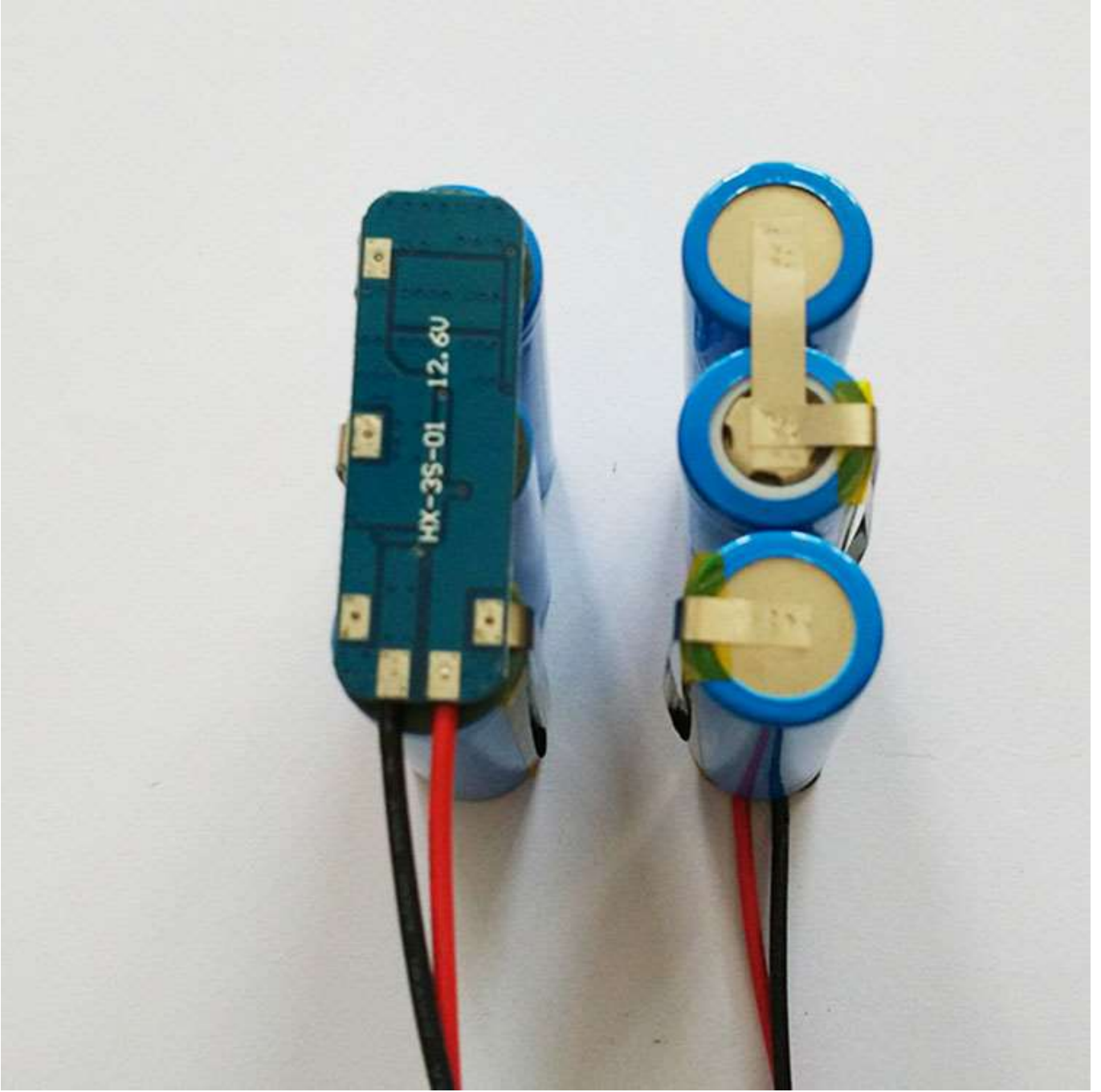


直销产品 3串11.1V 12.6V锂电保护板

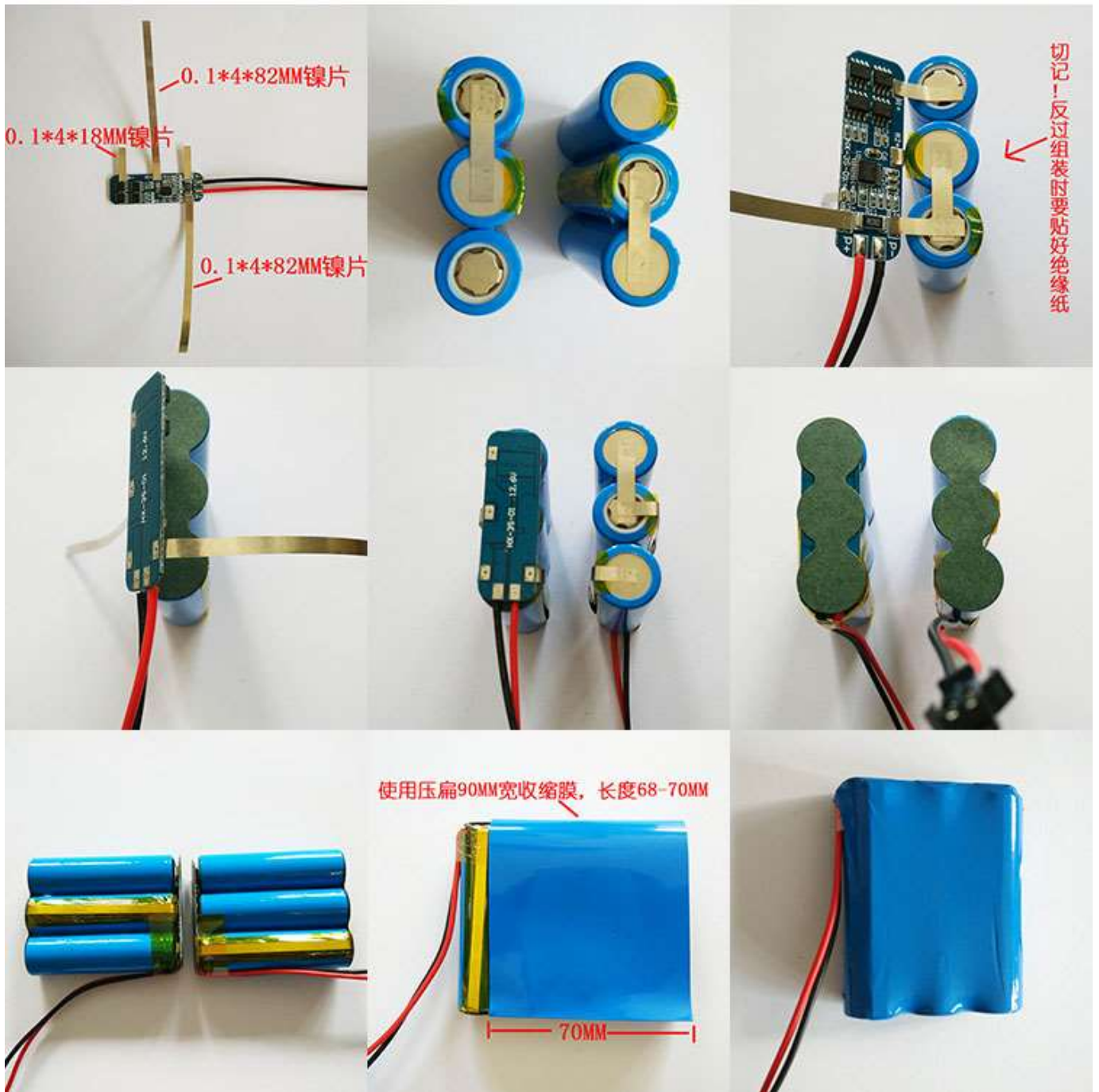


切记! 反过组装时要贴好绝缘纸

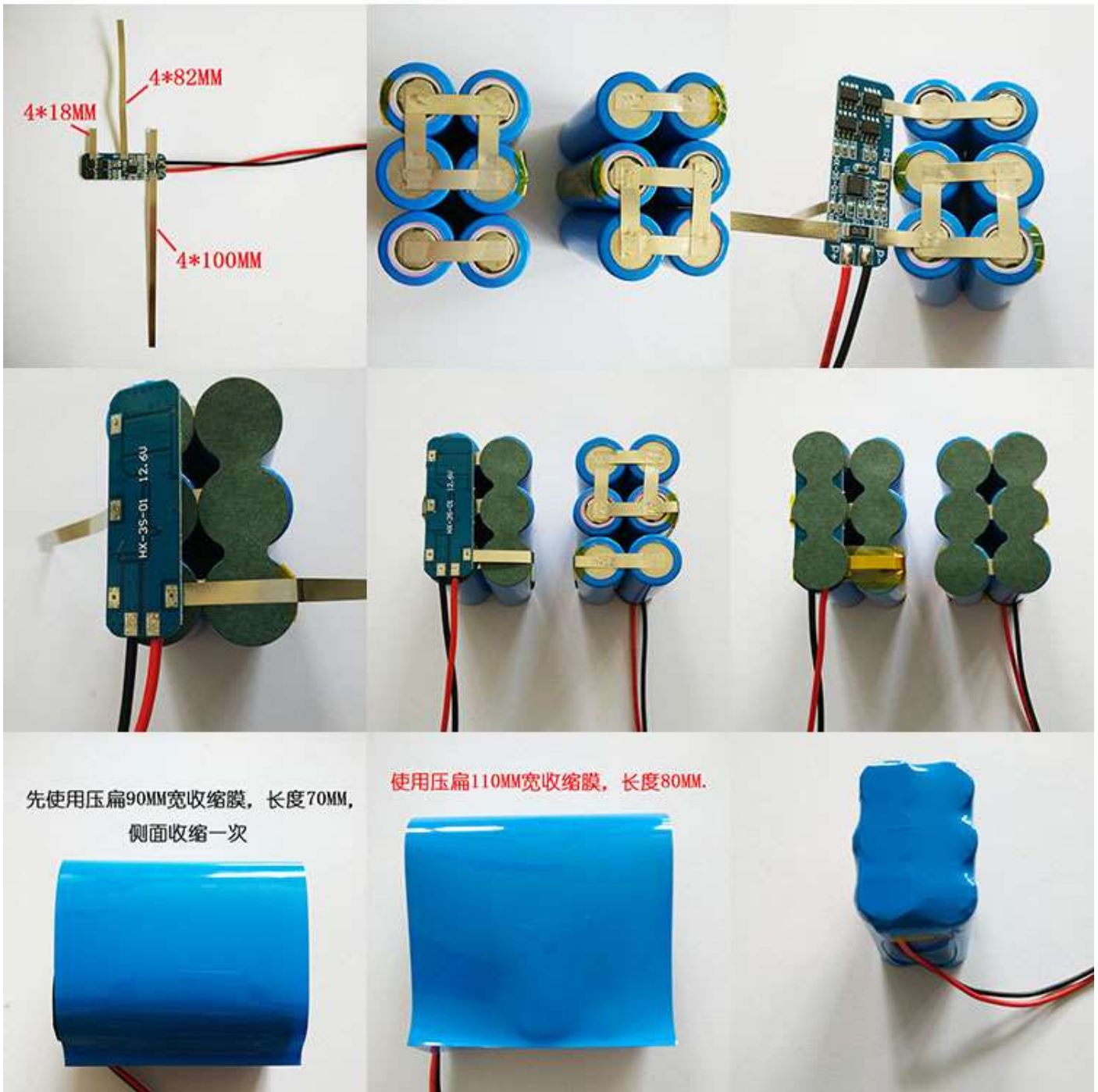




一、3串组合展示 (电池组所用电子辅料本店均有售)



二、2并3串组合展示



一.规格说明:

1.使用范围: 此规格书仅适用于3串锂电池保护板:HX-3S-01

2.功能特性: A. 过充保护; B. 过放保护; C. 过流保护; D. 短路保护

二、物料清单:

元件名称	规格描述	封装描述	位置	用量	品牌
线路板	FR-4	50*16*1MM	PCB	1	-
集成电路	8254AA	TSSOP-16	U1	1	精工
场效应管	4435A	SOP-8	Q1-Q4	4	FDS
贴片电阻	1K	0603	R1-R6	6	厚声
	5.1K	0603	R7 R8	2	厚声
	1M	0603	R9	1	厚声
	5.1R	0805	R10	1	厚声
	R010	2512	R11	1	厚声
贴片电容	100nf	0603	C1-C5	5	三星
	2.2uf	0805	C6	1	三星
铁片	2.5*4MM	2.5*4MM	1-4	4	-

三、电气参数标准:

参数	测试条件	符号	最小值	典型值	最大值	单位
常态自耗	10.0-30.0	ICC	20.2	22.3	24.5	uA
过充保护电压	4.35-4.10	VOCP	4.15	4.23	4.27	V
过充恢复电压	4.20-4.00	VOCR	4.10	4.15	4.20	V
过放保护电压	2.80-2.3	VODP	2.35	2.50	2.75	V
过放恢复电压	3.30-2.80	VODR	2.80	3.2	3.3	V
开通内阻	60.0-10.0	RDS (ON)	10.0	33.2	39.3	mΩ
过流保护电流	10.0-6.0	COIP(V011)	6.50	8.00	9.50	A

一.规格说明:

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2.功能特性: A. 过充保护; B. 过放保护; C. 过流保护; D. 短路保护

二、物料清单:

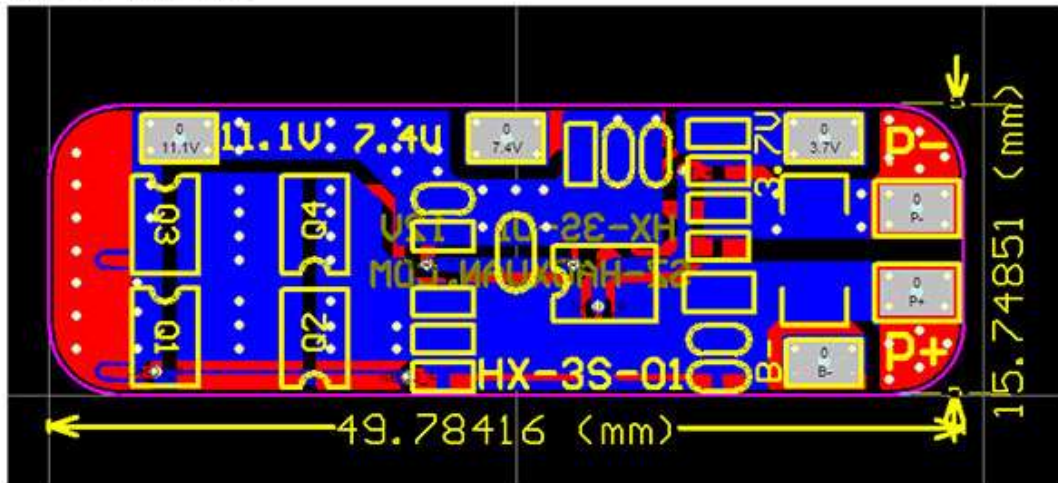
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集成电路	8254AA	TSSOP-16	U1	1	精工
场效应管	4435A	SOP-8	Q1-Q4	4	FDS
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	5.1K	0603	R7 R8	2	厚声
	1M	0603	R9	1	厚声
	5.1R	0805	R10	1	厚声
	R010	2512	R11	1	厚声
贴片电容	100nf	0603	C1-C5	5	三星
	2.2uf	0805	C6	1	三星
铁片	2.5*4MM	2.5*4MM	1-4	4	-

三、电气参数标准:

参数	测试条件	符号	最小值	典型值	最大值	单位
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过充保护电压	4.35-4.10	VOCP	4.15	4.23	4.27	V
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过放保护电压	2.80-2.3	VODP	2.35	2.50	2.75	V
过放恢复电压	3.30-2.80	VODR	2.80	3.2	3.3	V
开通内阻	60.0-10.0	RDS (ON)	10.0	33.2	39.3	mΩ
过流保护电流	10.0-6.0	COIP(V011)	6.50	8.00	9.50	A

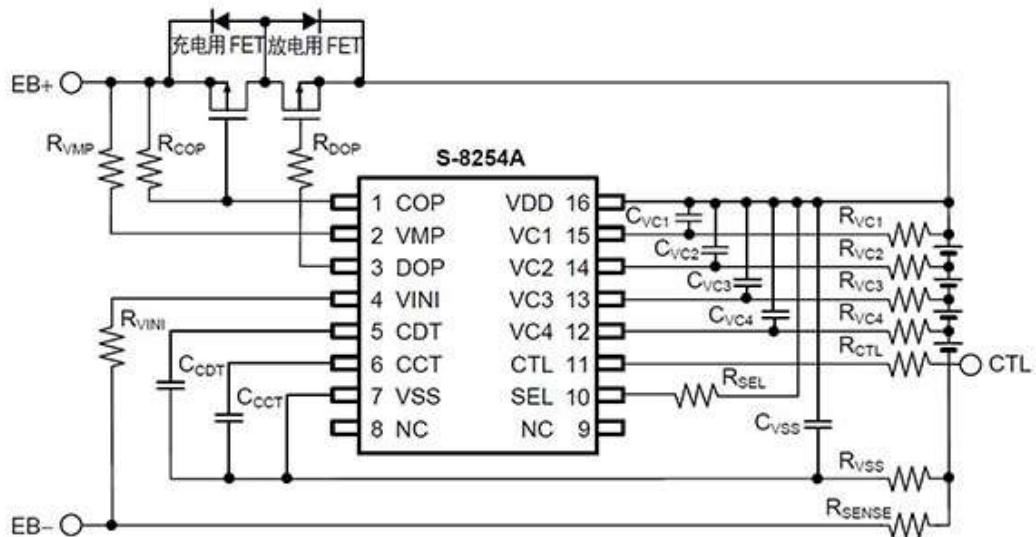
过充延时	2000	TOC				ms
过放延时时间	VCC=	TOD				ms
过流延时 (1)	VCC=	TOI1				ms
过流延时 (2)	VCC=	TOI2				us

四、PCB 板尺寸图:



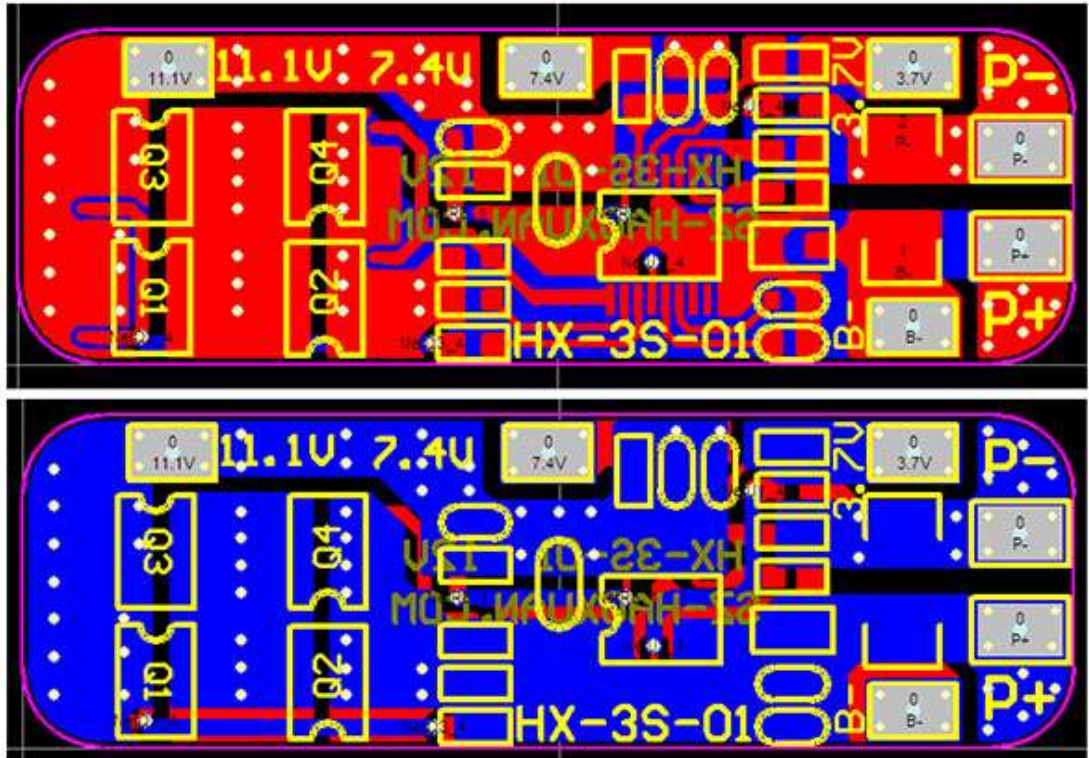
公差: 整数±0.5, 小数±0.1, 单位 mm

五、原理图:



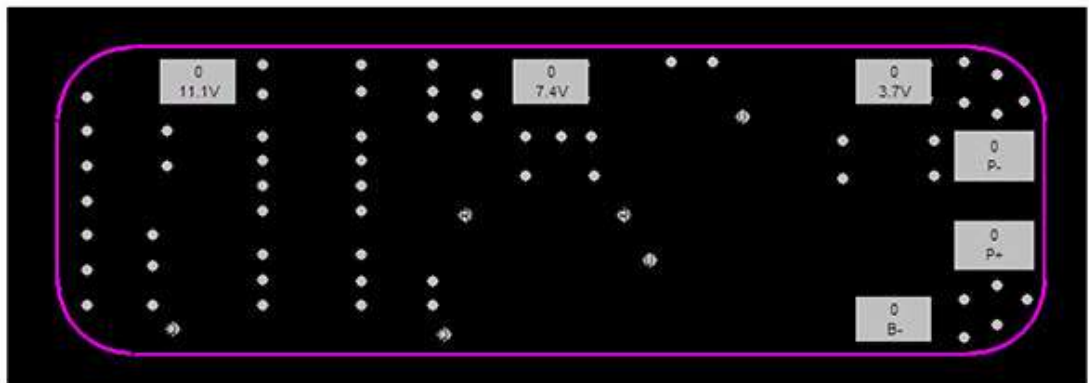
六、PCB 布板图:

1. 布线图:



七、接线图:

1. 连接图:



2. 焊盘描述:

端口编号	符号	描述
1	P+	充电输入正极保护板输出正极
2	P-	充电输入负极保护板输出负极
3	B-	电池 3 负极
4	3.7V	电池 3 正极电池 2 负极
5	7.4V	电池 2 正极电池 1 负极
6	11.1V(B+)	电池 1 正极