

Specification

Type	Protection Circuit Module
Part No.	4S-EBD02-AB
Prepared by	Jia Funpeng
Approved by	Li Guoqiang
Signature	
Version	1.0

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Contents

1. Outline

This specification is suitable for 4-cell Lithium-ion battery protection circuit designed by Keppower Technology Co., Limited.

2. Application

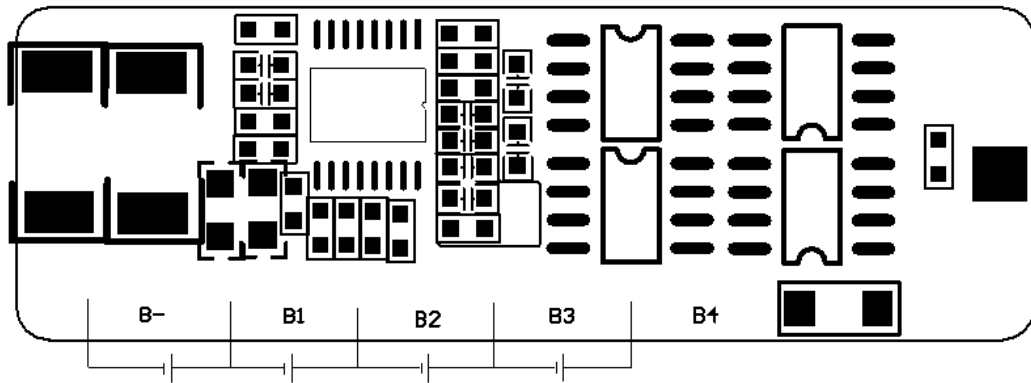
- (1) Lithium-ion rechargeable battery packs
- (2) Lithium-ion polymer battery packs

3. Electrical Characteristics

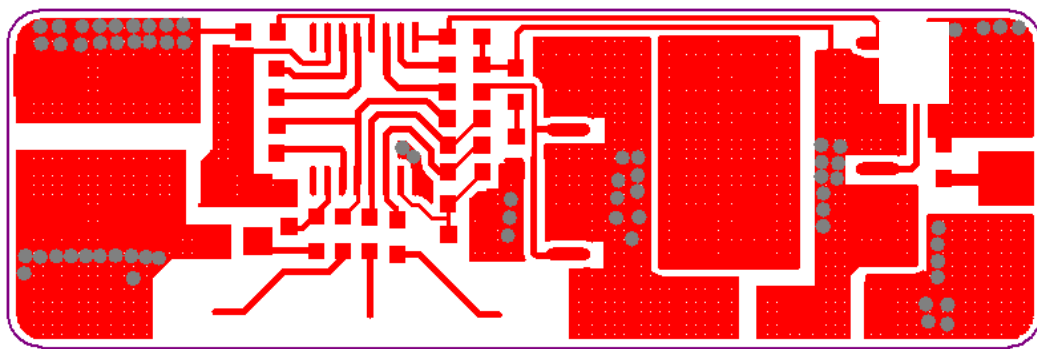
T_{opt}=25°C

Item	Symbol	Description	Criterion
Over Charge Protection	V _{DET1}	Over Charge Detection Voltage	4.275±0.025V
	tV _{DET1}	Over Charge Detection Delay Time	1±0.5s
	V _{REL1}	Over Charge Release Voltage	4.075±0.05V
Over Discharge Protection	V _{DET2}	Over Discharge Detection Voltage	2.3±0.08V
	tV _{DET2}	Over Discharge Detection Delay Time	100±50ms
	V _{REL2}	Over Discharge Release Voltage	2.7±0.1V
Over Current Protection	V _{DET3}	Over Current Detection Voltage	0.13±0.025V
	I _{DP}	Over Current Detection Current	26±2A
	tV _{DET3}	Detection Delay Time	10±5ms
		Release Condition	Cut load
Short Circuit Protection		Detection Condition	Exterior Short Circuit
		Short Detection Delay Time	300±250uS
		Release Condition	Cut Short Circuit
Interior Resistance	R _{DS}	Main Loop Electrify Resistance	V _C =4V, R _{DS} ≤45mΩ
Current Consumption	I _{DD}	Current Consume in Normal Operation	60μA Typ, 100μA Max

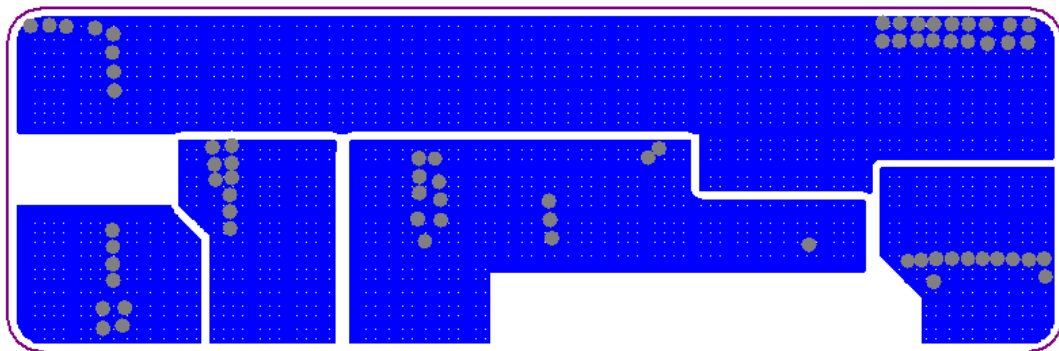
4. Connection Capture



5. PCB Layout



BOTTOM LAYER



TOP LAYER

6. BOM List

Item	Part No.	Part Name	Q'ty	Specification	Remark
1	U1	Control IC	1	I-S8254AAG-TSSOP16	SEIKO
2	U2,U3,U4,U5	MosFET	4	AO4407	AOS
3	R4,R5,R6,R7,R9	Resistance	5	RP-1K-0603-5%	GUOJU
4	R1,R3,R8	Resistance	3	1 RP-5.1K-0603-5%	GUOJU

Item	Part No.	Part Name	Q'ty	Specification	Remark
5	C1,C2,C3,C4,C5,C6,C8,C9,C10	Capacitor	9	CP-104-0603-20%50V	GUOJU
6	C7	Capacitor	1	CP-105-0603-20%25V	GUOJU
7	R13	Resistance	1	RP-51R-0805-5%	GUOJU
8	R2	Resistance	1	RP-1M-0603-5%	GUOJU
9	R14,R15	Resistance	2	RP-0.01R-2512-1%	GUOJU
10	RT	NTC	1	10K 1%B=3435	JOINSET
11	F1	Nickel Strip	1	4.0*2.0*0.3mm	-
12	46.0*15.0*1.0mm	PCB	1	EBD02	MEIYADI

7. PCB Size

