

Specification

Type	Protection Circuit Module
Part No.	1S-YH10A
Prepared by	Jia Funpeng
Approved by	Li Guoqiang
Signature	
Version	1.0

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Contents

1. Outline

This specification is suitable for 1-cell Lithium-ion battery protection circuit designed by Keppower Technology Co., Limited.

2. Application

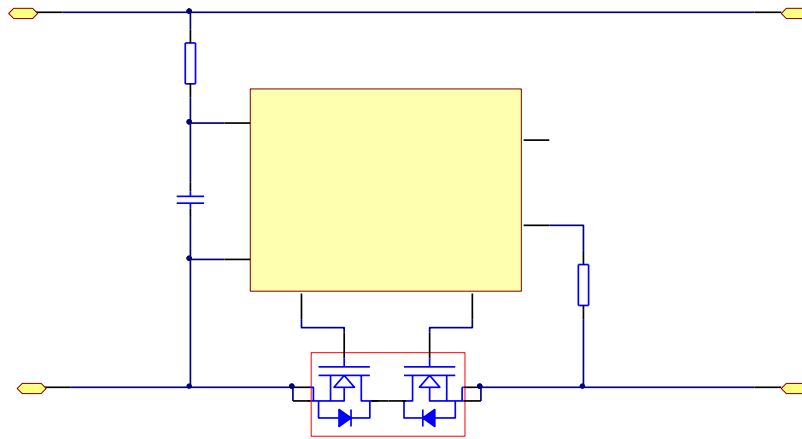
- (1) Lithium-ion rechargeable battery packs
- (2) Lithium-ion polymer battery packs

3. Electrical Characteristics

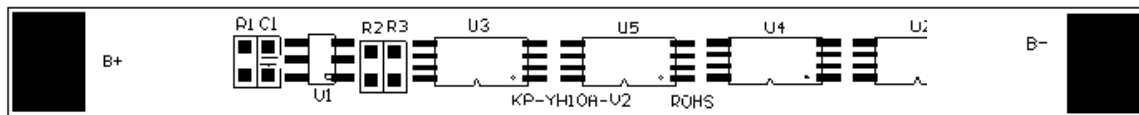
$T_{opt}=25^{\circ}\text{C}$

Item	Symbol	Description	Criterion
Over Charge Protection	V_{DET1}	Over Charge Detection Voltage	$4.25\pm0.025\text{V}$
	tV_{DET1}	Over Charge Detection Delay Time	$1000\pm300\text{ms}$
	V_{REL1}	Over Charge Release Voltage	$4.05\pm0.05\text{V}$
Over Discharge Protection	V_{DET2}	Over Discharge Detection Voltage	$2.5\pm0.063\text{V}$
	tV_{DET2}	Over Discharge Detection Delay Time	$20\pm6\text{ms}$
	V_{REL2}	Over Discharge Release Voltage	$3.0\pm0.075\text{V}$
Over Current Protection	V_{DET3}	Over Current Detection Voltage	$0.2\pm0.015\text{V}$
	I_{DP}	Over Current Detection Current	$6.5\text{-}10.0\text{A}$
	tV_{DET3}	Detection Delay Time	$0.5\text{-}1.7\text{ms}$
		Release Condition	Cut load
Short Circuit Protection		Detection Condition	Exterior Short Circuit
		Short Detection Delay Time	$230\text{-}500\mu\text{s}$
		Release Condition	Cut Short Circuit
Interior Resistance	R_{DS}	Main Loop Electrify Resistance	$V_C=3.8\text{V}; R_{DS}\leq 35\text{m}\Omega$
Current Consumption	I_{DD}	Current Consume in Normal Operation	$3\mu\text{A Typ, } 8\mu\text{A Max}$

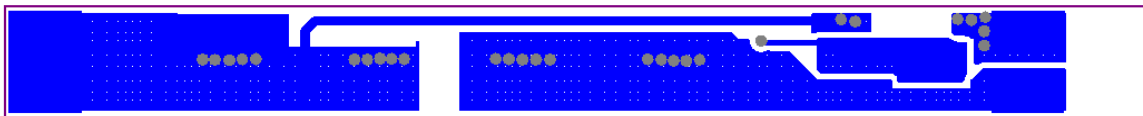
4. Circuit



5. Connection Capture



6. PCB Layout



BOTTOM LAYER



TOP LAYER

7. BOM List

Item	Part No.	Part Name	Q'ty	Specification	Remark
1	U1	Control IC	1	R5478N101CD	RICOH
2	U2, U3	MosFET	2	AO8814	AOS
3	R1	Resistance	1	330R	GUOJU
4	R2	Resistance	1	1K	GUOJU
5	C1	Capacitor	1	103 50V 20%	GUOJU

Item	Part No.	Part Name	Q'ty	Specification	Remark
6	R3	NTC	1	10K 1%B=3435	JOINSET
7	62.0*6.0*1.2mm	PCB	1	YH10A	MEIYADI

8. PCB Size

