



Product Acknowledgment

Sample name: 3S protection board
Product Model: 42.8*25*1.0mm(S-8254AAN+AO4407*2)
Product No. : HuaruiXC-143
Sample date: 2020-5-8
Customer Name:
Material No.:

Prepared By	Engineering Audit	QA Audit	Approved By

Confirmed by	
Customer Approval	

Shenzhen Huarui Xinchuang Technology Co.,Ltd

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Protection board electrical performance parameters						
Electrical performance test parameters						
Symbol	Test items	Detection standard value		Test actual value	Conclusion	
VDET1	Overcharge protection voltage	4.25±0.025V		4.254V	PASS	
VDET2	Over discharge protection voltage	2.5±0.05V		2.513V	PASS	
IDP	Over-current protection current	5-7A		6.12A	PASS	
	Short circuit protection recovery conditions	Cut load		Cut load	PASS	
Istandy	Static self-consumption current	≤30uA		24.5uA	PASS	
RDS	PCB Internal resistance	R≤ 60 Milliohm		39 Milliohm	PASS	
S-8254AAN-FT-TB-GOvercharge delay time 0.5-1.5mS,Over discharge delay time 50-150ms						
Refer to the technical specifications of the corresponding components, Tested at room temperature 25° C, relative humidity ≤ 90%						
Test items		Min	Type	Max	Unit	
Input voltage(B+B-)			3.6		V	
Overcharge protection voltage		4.225	4.25	4.275	V	
Overcharge release voltage		4.10	4.15	4.20	V	
Overcharge protection delay time		0.5	1.0	1.5	S	
Over discharge protection voltage		2.45	2.5	2.55	V	
Over discharge release voltage		2.9	3.0	3.1	V	
Over discharge protection delay time		50	100	150	ms	
Over current protection		5	/	7	A	
Over current protection delay time		5	10	15	ms	
Static Current				30	uA	
Protection board internal resistance				60	m Ω	
Short circuit protection		Cut load				
Short circuit protection delay time		100	300	600	us	
Maximum operating temperature range			25		℃	
HUARUIXC-143			Shenzhen Huarui Xinchuang Technology			



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Model	Plate	Plate Thickness	Process	Solder Mask	Environmental Requirements	
HUARUIX C-143	FR-4	1.0	Lead-Free Soldering	Green Oil	HSF	
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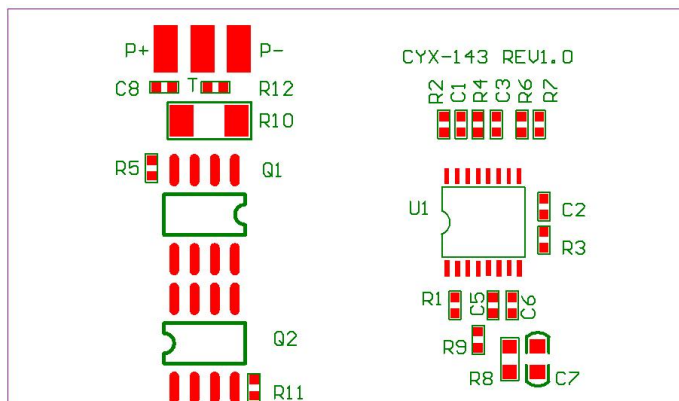
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PCB board Main components			
CYX-143 REV1.0HASL, green ink with white lettering, lead-free	1	pcs	
0.015Ω(R005) 2512 ±1%	2	pcs	R10
0.1UF 0402(104)50V(-20%/+80%)	5	pcs	C1 C2 C3 C5 C6
1KΩ(102) 0402 1/10W±5%	6	pcs	R2 R3 R4 R6 R7 R9
1MΩ(105) 0402 1/10W±5 %	1	pcs	R5
2.2UF 0603 50V(-20%/+80%)	1	pcs	C7
5.1KΩ(512) 0402 1/10W±5%	2	pcs	R1 R11
51Ω(510)06031/10W±5%	1	pcs	R8
10K 0402 1% NTC	1	pc	R12
S-8254AAN-FT-TB-G	1	pcs	U1
AO4407(SO-8)	2	pcs	Q1 Q2
5.0*3.0*0.3 Tape	4	pcs	B+/B- B1 B2

PCB Board SMD Diagram



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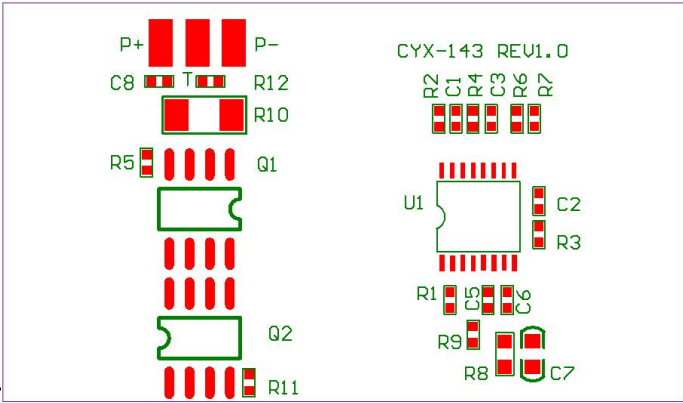
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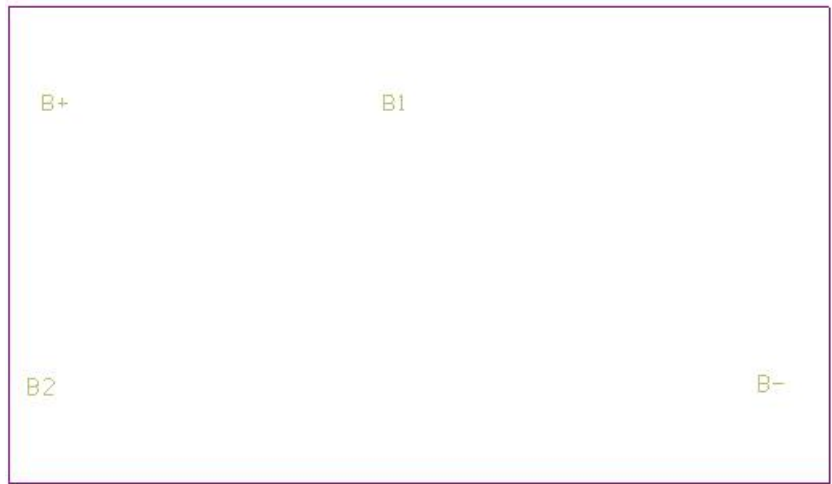
PCB LAYOUT Chart:

Top-level Layout



Bottom layer

layout:



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PCB Structure diagram

Note: The length tolerance is $\pm 0.1\text{mm}$, the width tolerance is $\pm 0.1\text{mm}$, and the thickness tolerance is $\pm 0.1\text{mm}$

PCB Schematic

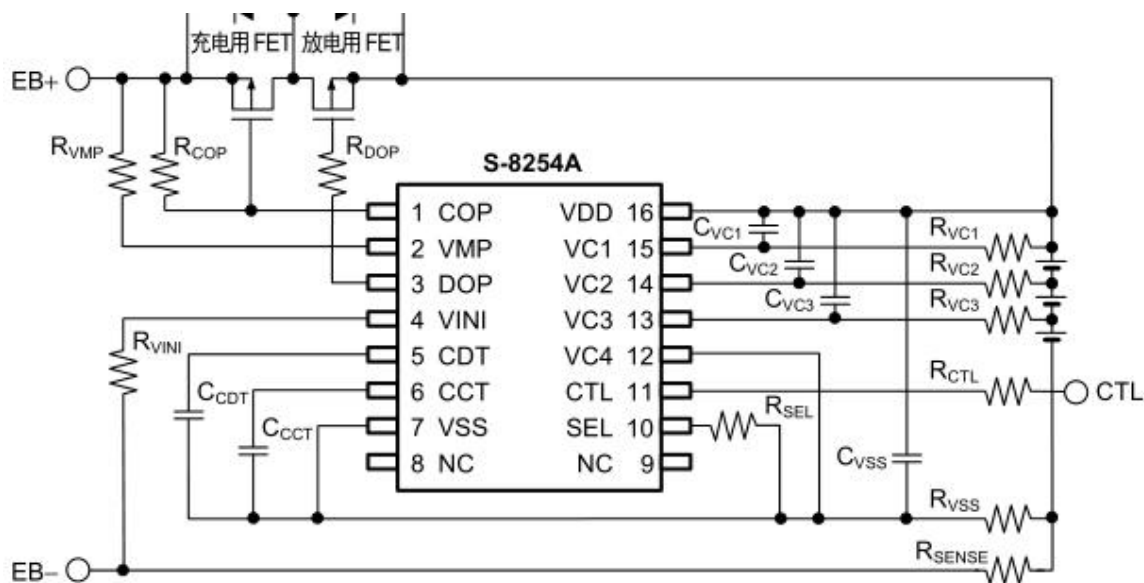


图 4.4

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Product appearance requirements

Serial number	project	Inspection methods and means	Inspection Standards
6.1	Product Appearance	Visual	The appearance of the protection board should meet the following requirements: No scratches on the pads. Pads and solder joints should be free from oxidation and discoloration. Text must be clear and legible. The surface of components and the PCB should be clean and free of No defects that could affect its commercial value.
6.2	Welding processes	Visually, with the aid of a magnifying glass	The solder joints should be smooth, firmly and reliably connected, with no cold solder joints, weak joints, or burrs.

Packaging and transportation methods

1. Packaging: Each box should contain a whole number of connected pieces, with any remainder packed separately.
2. Delivery: Use express shipping or arrange for a dedicated person to deliver the goods to the recipient's warehouse.

Note: During transportation, care should be taken to prevent moisture and dampness, and to avoid compression and collisions to prevent deformation of the protection boards.



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