Lithium elements

Product specification

2.2 Environmental request

☑ RoHS 2.0 ☐ HF 无卤素 ☐ REACH ☐ 其它

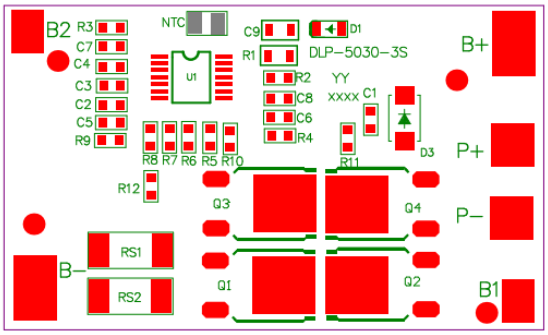
2.3 Functional description

1） Over-charge voltage protection
2） Over-discharge voltage protection
3） Over current protection
4） Short circuit protection

2.4 Mechanical characteristics

1） PCM size:：L 50(±0.15mm)×W30(±0.15mm)×T 6.0mm(MAX)
2） PCB MATERIA/PCB L：FR-4, 1.0 oz 1.0±0.1mm
3） LAYER：2Layers
4） Plating Method：HASL LF
5） PSR INK：Green
6) SILK INK：White

2.5 Connecting description

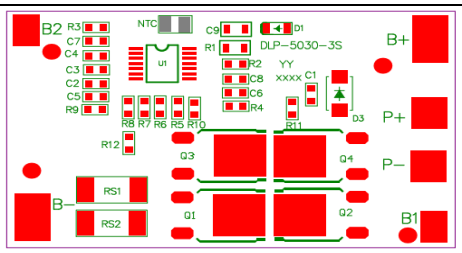


Symbol	Description	Symbol	Description
P+	Battery output/charging positive pole	B+	3Cell positive pole
P-	Battery output/charging negative pole	B2	2Cell positive pole
		B1	1Cell positive pole
		B-	1Cell negative pole

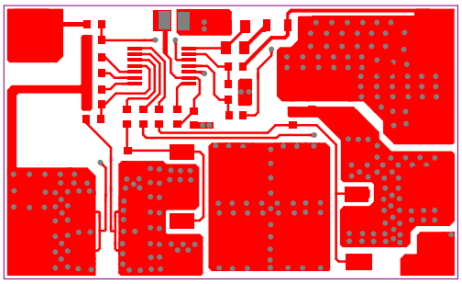
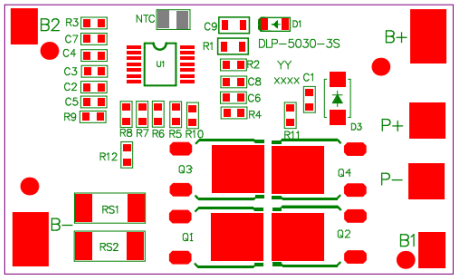
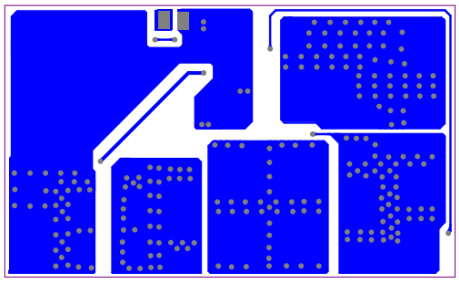
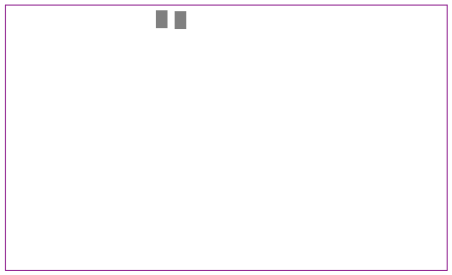
2.6 Electrical characteristic (Ta=25℃)

Contents	Min.	Type	Max.	Tolerance	Unit
Absolute Maximum Rating					
Input Charging Voltage		12.75			V
Input Charging Current			8		A
Output Discharging Voltage	8.10	11.1	12.85		V
Continuous Output Discharging Current			8		A
Ambient Condition					
Operating Temperature	-40		+85		℃
Humidity (No Water-Drop)	0%		80%		RH
PCM Storage Condition/PCM					
PCM Storage Temperature PCM	-55		+125		℃
Humidity (No Water-Drop)	45%		85%		RH
Protection Parameters					
Over-Charge Voltage Protection (OVP)	4215	4250	4285	±35	mV
Over-Charge Voltage Protection Release	4050	4100	4150	±50	mV
Over-Charge Voltage Protection Delay Time	700	1000	1300		mS
Over-Discharge Voltage Protection (UVP)	2620	2700	2780	±80	mV
Over-Discharge Voltage Protection Release	2920	3000	3080	±80	mV
Over-Discharge Voltage Protection Delay Time	700	1000	1300		mS
Over-Current Charge Protection Detection Voltage	-60	-50	-40	±10	mV
Over-Current Charge Protection (OCC)	6	10	14		A
Over-Current Charge Protection Delay Time	300	450	600		mS
Over-Current Discharge Protection Detection Voltage	90	100	110	±10	mV
Over-Current Discharge Protection （OCD）	30	40	50		A
Over-Current Discharge Protection Delay Time	50	100	150		ms
Short Circuit Protection Detection Voltage (SCP)	160	200	240		mV
Short Circuit Protection Delay Time	100	250	500		uS
Short Circuit Protection Release	Remove Load Or Connect Charger				
Normal Mode			40		uA
Charge high temp protection	45	50	55		℃
Discharge high temp protection	65	70	75		℃
Other Parameters					
Impedance （B-&P-）			68		mΩ
Impedance （B+&P+）			20		mΩ
ID Resistor ID	/	/	/		KΩ
NTC Resistor NTC	/	/	/		KΩ

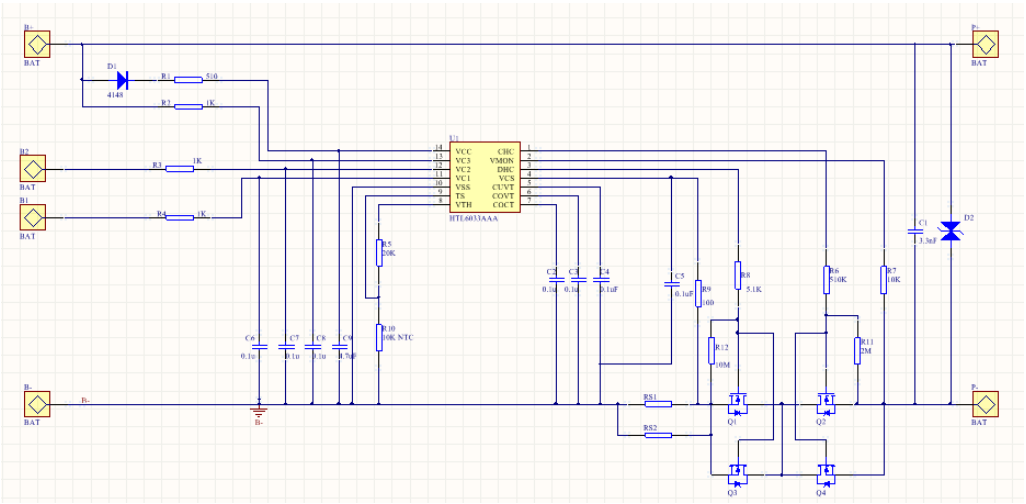
4. SMT Diagram

Top layer	

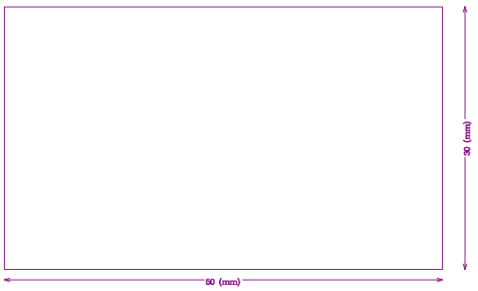
5.PCB Layout / PCB

Top layer	
Top over layer	
Bottom layer	
Bottom overlayer	

6. **Electrical Schematic**



7.PCB diagram / PCB



8.2 Storage

8.2.1 Storage Temperature ： 23±5℃

8.2.2 Storage Humidity ： 45±15% RH

8.2.3 Should pay attention to ESD

8.3 Transportation

8.3.1 Delivery to your storhouse by express or our deliveryman.

8.3.2 Should pay attention to moisture, moisture, avoid extrusion, impact, etc., to prevent damage to the PCM during transportation.

9. Attachment

9.1 Sample test data

NO.	Test Project	Test standard	Testing Value					Judgment
			1	2	3	4	5	
1	Overcharge protection voltage	4.250±0.035V	4.245	4.260	4.241	4.256	4.247	OK

2	Overdischarge protection voltage	2.7±0.08V	2.686	2.700	2.686	2.703	2.694	OK
3	Discharge overcurrent protection current	16-24A	20.45	20.15	19.56	19.72	20.41	OK
4	Static current	≤40uA	25.3	25.1	25.2	25.4	25.3	OK
5	Impedance （B-&P-）	≤68mΩ	27	27	30	31	28	OK

9.2 Environmental Requirements

The specification subjects to the EU Directive about RoHS 2.0, and the hazardous substance conforms to the following standard.

Hazardous substance	Standard（mg/KG）	Remarks
(Cd)	<100	
(Pb)	<1000	
(Hg)	<1000	
(Cr6+)	<1000	
(PBBs)	<1000	
(PBDEs)	<1000	
(DBP)	<1000	
（BBP）	<1000	
(DIBP)	<1000	
(DEHP)	<1000	

Declaration: the above standard is the requirements of EU RoHS 2.0 Directive, we will base on the customer’s requirements when it is stricter than the EU standard.