

# Protection Circuit Module

## PCM / BMS / PCB

For 40.7V 11S Li-ion/Li-Polymer Battery Packs

Item		Contents	Criteria(Adjustable)
1	Model	HCX-D727LI11S20A-10/028XY-AAA11	11S-20A working current
2	Voltage	Charging voltage	46.2V
3	Current	Maximal continuous charging current	5A (Charge Over Current $\geq$ 10A)
		Maximal continuous discharging current	20A
		Current consumption	$\leq$ 50 $\mu$ A
4	Overcharge Protection	Over charge detection voltage	4.25V $\pm$ 0.025V
		Over charge detection delay time	0.5S-1.5S
		Over charge release voltage	4.15V $\pm$ 0.05V
5	Over Discharge Protection	Over discharge detection voltage	2.7V $\pm$ 0.05V
		Over discharge detection delay time	0.5S-1.5S
		Over discharge release voltage	3.0V $\pm$ 0.1V
6	Over Current Protection (1st Protection)	Over current detection current	40A $\pm$ 5A / 0.10 $\pm$ 0.01V
		Detection delay time	235mS-705mS
		Release condition	Cut load / charge to recover
7	Over Current Protection (2nd Protection)	Over current detection current	80A $\pm$ 10A / 0.20 $\pm$ 0.02V
		Detection delay time	23.5mS-70.5mS
		Release condition	Cut load / charge to recover
8	Short Circuit Protection	Short circuit detection current	300A-550A (external resistance $\leq$ 0.1 $\Omega$ )
		Detection delay time	<280 $\mu$ S (fixed)
		Release condition	Cut load / charge to recover
9	Balance	Balance voltage for single cell	/
		Balance current for single cell	/
10	Temperature Protection	Temperature Switch	90 $^{\circ}$ C
		NTC (10KNTC B=3435)	YES
11	Resistance	Inner resistance	$\leq$ 20m $\Omega$
12	Temperature	Operating temperature range	0 ~ +85 $^{\circ}$ C
		Storage temperature range	0 ~ +85 $^{\circ}$ C
13	Size (L*W*H)	L60mm*W32mm*H11mm	

Note: Characteristics subject to change without notice

LiTech Power Co., Ltd

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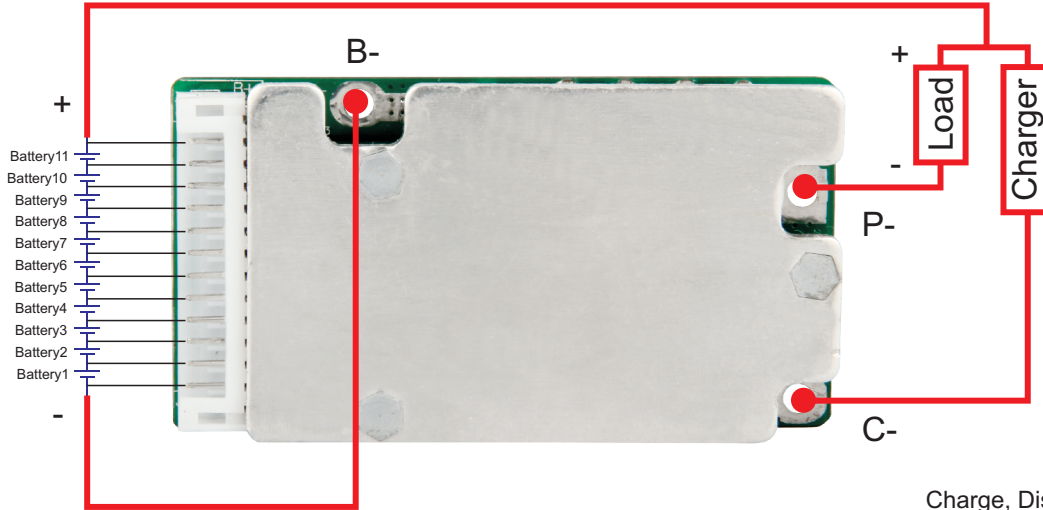
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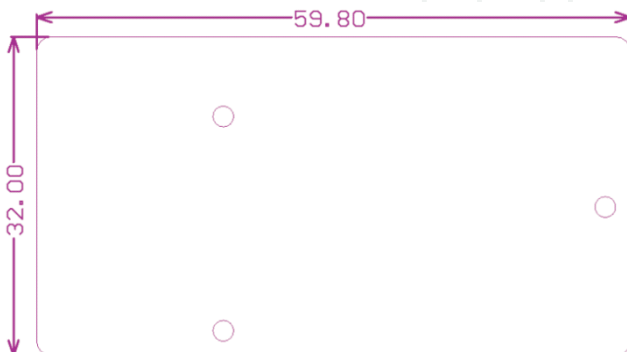
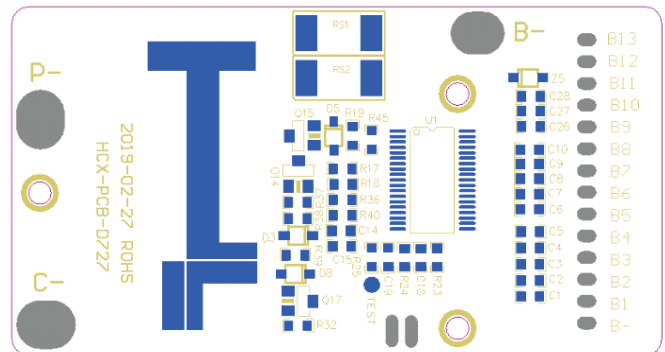
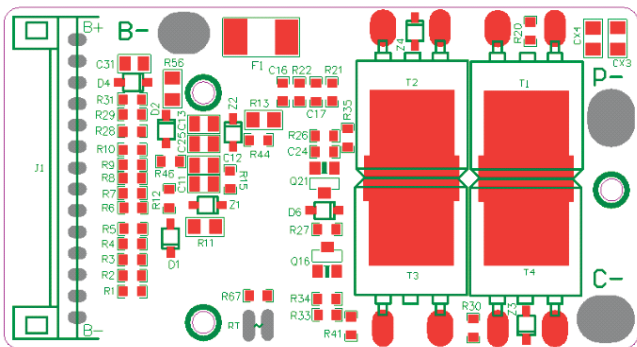
Connection Diagram:



Remarks:

Charge, Discharge at different Port  
 P+=B+/Charge+/Discharge+  
 Ch-=Charge-  
 P-= Discharge-

PCB Layout:



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