7號電池的AIC電源控制管理IC

CHARGER/Buck 料號	規格
AIC1790	Complete Linear Charger for 1 Cell Lithium-Ion Battery Up to 1A Charge Current Status Outputs for LED or System Interface Indicates Charge and Fault Conditions Available in Tiny Thermally Enhanced DFN 3x3-10 Package
AIC2262	Output Voltage 0.6V~Vin-0.2V Iout Max. 2000mA Ultra Low Quiescent Current: 17uA Available in DFN-8 (2x1.5x0.75)

BUCK

CHARGER

	AIC電源控制管理芯片規格與功能
規格	● 對電池充電快充1A，輸入電壓5V經由AIC1790 充電芯片對鋰電充4.2V。 ● 鋰電池電壓3.0~4.2V經由降壓芯片對鋰電池放電2A。 ● CC mode 充電時亮燈，充保電時不亮燈。
AIC1790 功能	● 反向漏電流保護。(-900uA) ● 具預充保護功能，此功能可分辨已過放的鋰電池不再對其充電，提供高鋰電安全性。(VBAT<2.95V) ● 具鋰電池過溫保護功能，可經由NTC 電阻設計不同的溫度保護。 ● 提供電池脫離保護功能(OVP> Voreg+1%)。 ● 具UVLO 功能 (Vcc rising 4.1V) ，UVLO Hystersis (100mV)。 ● 提供電池端短路保護功能 (VBAT<1.4V)。

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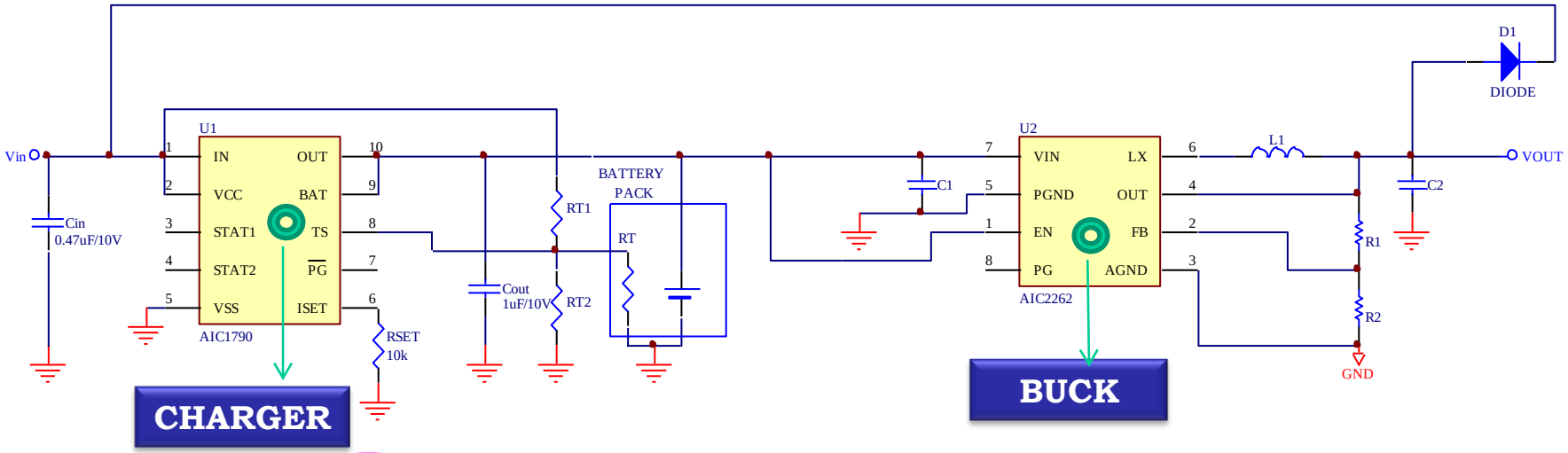
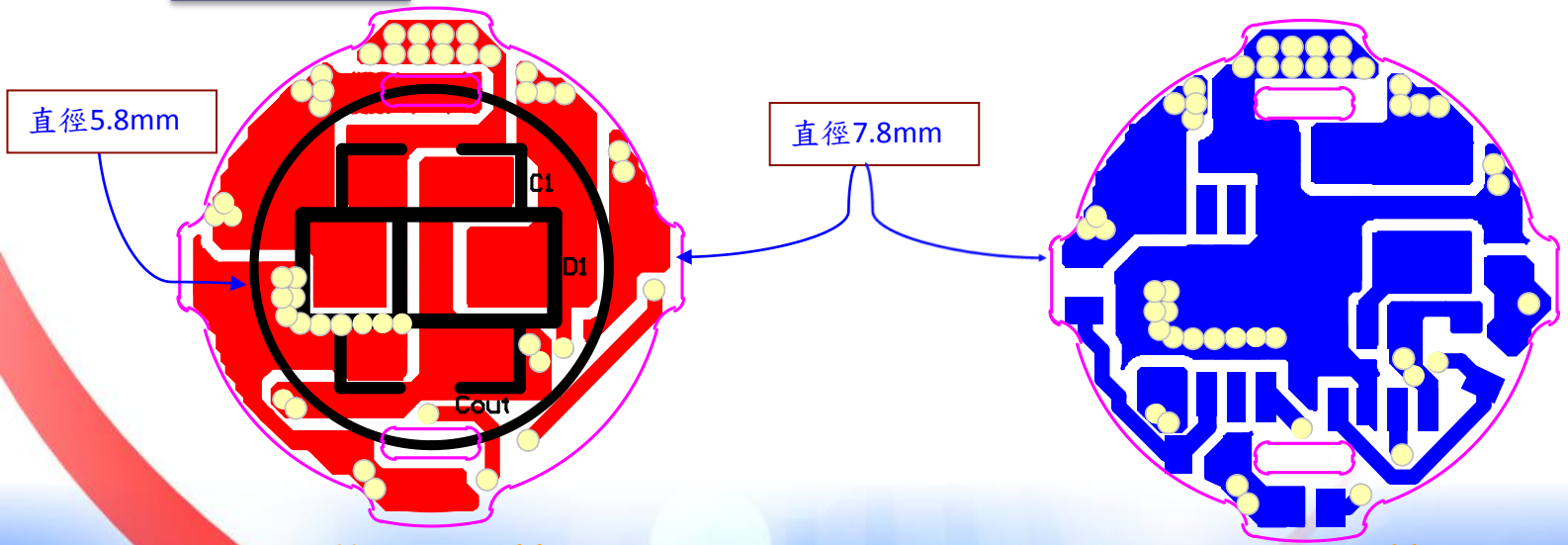
Battery Demo Board Design (AIC1790 + AIC2262)





Top Assembly

Bottom Assembly

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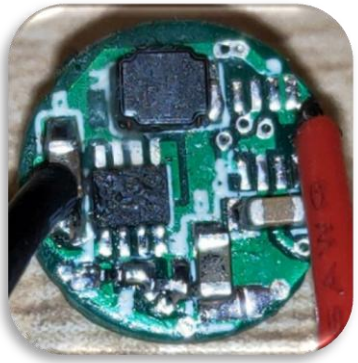
Bom

No.	Part Number	Part Type	Description
1	U1	AIC1790 (DFN3x3)	充電芯片
2	U2	AIC2262 (DFN 2x1.5)	降壓芯片
3	Cin	0.47uF/10V/0603	充電芯片輸入電容
4	Cout	1uF/10V/0603	充電芯片輸出電容
5	C1	10uF/6.3V/0603	降壓芯片輸入電容
6	C2	22uF/6.3V/0603	降壓芯片輸出電容
7	R3	1k/0402	LED指示燈電阻
8	REST	10k/0402	充電IC限流電阻
9	RT1	100k/0402	NTC電池過溫保護
10	RT2	100k/0402	
11	R1	200k/0402	降壓芯片分壓電阻
12	R2	100k/0402	
13	L1	2016 (2.2uH)	降壓用電感



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5號電池的AIC電源控制管理IC

CHARGER/Buck 料號	規格
AIC6510	Complete Switching Charger for 1 Cell Lithium-Ion Battery Up to 2A Charge Current Status Outputs for LED or System Interface Indicates Charge and Fault Conditions Available in Tiny Thermally Enhanced DFN 3x3-12 Package
AIC2262	Output Voltage 0.6V~Vin-0.2V Iout Max. 2000mA Ultra Low Quiescent Current: 17uA Available in DFN-8 (2x1.5x0.75)

BUCK

CHARGER

	AIC電源控制管理芯片規格與功能
規格	● 對電池充電快充2A，輸入電壓5V經由AIC6511充電芯片對鋰電充4.2V。 ● 鋰電池電壓3.0~4.2V經由降壓芯片對鋰電池放電2A。 ● CC mode 充電時亮燈，充保電時不亮燈。
AIC6510 功能	● 輸出對輸入電壓逆向保護。(Vin-Vbatt< 200mV) ● 具預充保護功能，此功能可分辨已過放的鋰電池不再對其充電，提供高鋰電安全性。(VBAT<2.95V) ● 具鋰電池過溫保護功能，可經由NTC電阻設計不同的溫度保護。 ● 提供電池脫離保護功能(OVP=4.34V)。 ● 具UVLO功能 (Vin rising 3.75V)，UVLO Hystersis (200mV)。 ● RDS(on)=130m/ 150m ● Oscillator Frequency=1.5Mhz ● 提供電池端短路保護功能 (VBAT<1.5V)。

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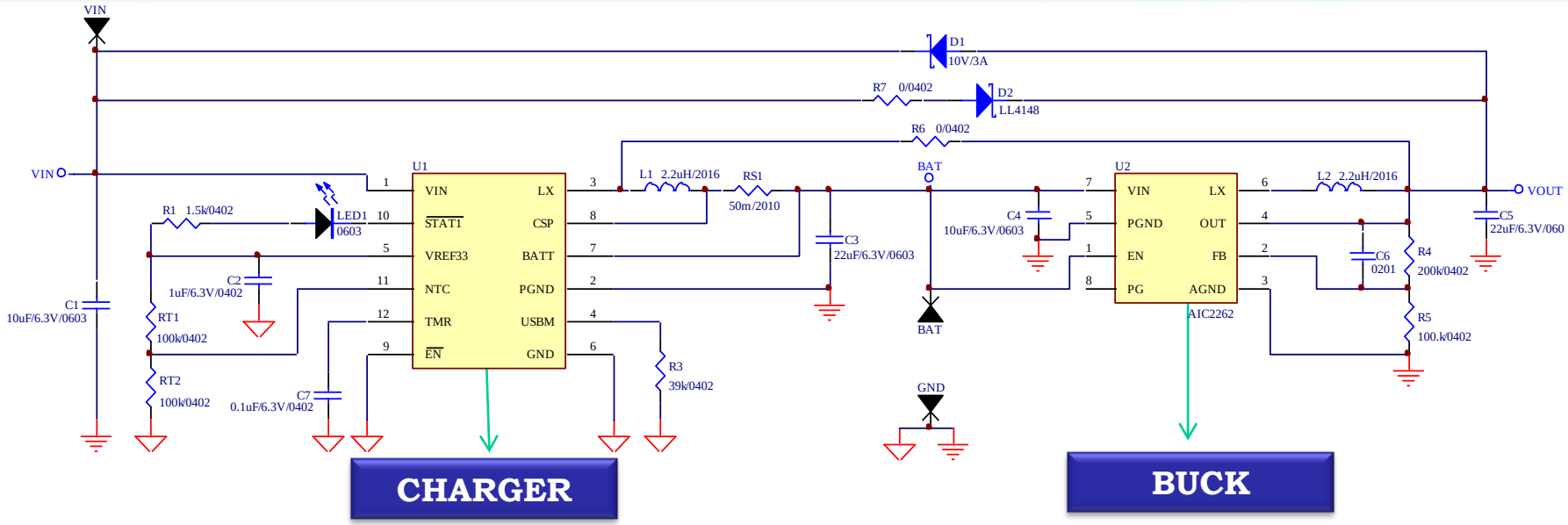
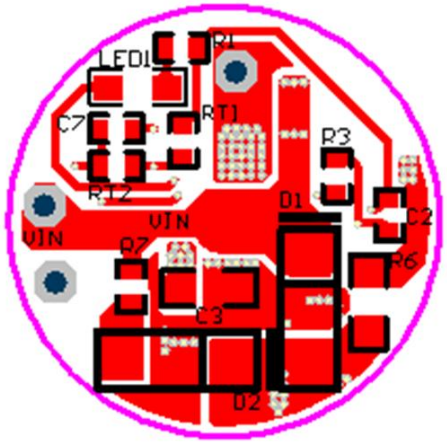
Battery Demo Board Design (AIC6510 + AIC2262)

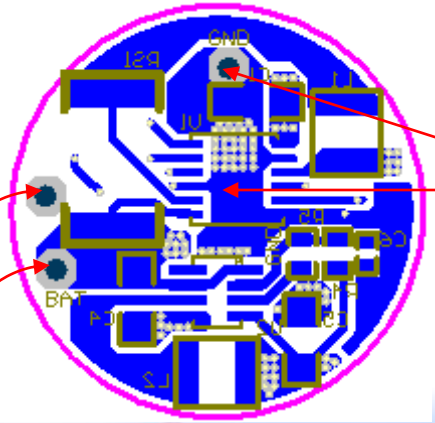




直徑12.5mm

VIN Pad

Battery (+) Pad



GND Pad

Top Assembly

Bottom Assembly

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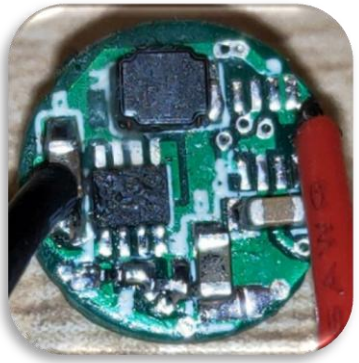
Bom

No.	Part Number	Part Type	Description
1	U1	AIC6510(DFN3x3-12)	充電芯片
2	U2	AIC2262(DFN 2x1.5)	降壓芯片
3	Cin	10uF/6.3V/0603	充電芯片輸入電容
4	C3	22uF/6.3V/0603	充電芯片輸出電容
5	C1	10uF/6.3V/0603	降壓芯片輸入電容
6	C5	22uF/6.3V/0603	降壓芯片輸出電容
7	C7	0.1uF/6.3V/0402	TMR 電容
8	R1	1.5k/0402	LED指示燈電阻
9	RS1	50m/2010	充電IC限流電阻
10	RT1	100k/0402	NTC電池過溫保護
11	RT2	100k/0402	
12	R3	39k/0402	接地電阻
13	R4	200k/0402	降壓芯片分壓電阻
13	R5	100k/0402	
14	L2	2016 (2.2uH)	降壓用電感
15	L1	2016 (2.2uH)	充電用電感
16	LED1	0603(red)	充電指示燈
17	D1	0402	



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