



昌 勛 股 份 有 限 公 司

Dr . POWER CORPORATION

零 件 規 格 書/承 認 書

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

DESCRIPTION : _____ **Battery Pack** _____

MODEL : _____ **DR-302-GA** _____

CUSTOMER PART NO : _____

APPROVED SIGNATURES

--	--	--	--

Rev	Date	Description	Designed	Checked	Approved
A	2022/4/20	Release		Po Chen	

臺北市北投區吉利街 131 號 3 樓

3F, NO. 131, JILI ST., PEITOU, TAIPEI, TAIWAN, R.O.C.

TEL : 886-2-2820-7419 · FAX : 886-2-2827-0348

Contents(內容 / 內容)

1. Scope(用途 / 用途)	4
2. Name and Model(廠商與型號 / 厂商与型号)	4
3. Product Specification(產品規格 / 产品规格)	4
4. Protection Function of Protect IC(保護版規格 / 保护板规格)	4
5. Protection Function of Permanent Fail(永久性失效 / 永久性失效)	5
6. Connect Pin Define(連接器定義 / 连接器定义)	5
7. Schematic(線路圖 / 线路图)	6
8. Mechanism Drawing(機構圖 / 机构图)	7

OUR MODEL	DR-302-GA	Date	2022/4/20
OUR P/N	-	Rev.	1.0

1. Scope

This specification shall be applied to the lithium battery to be supplied by Japone. The battery pack is use for Tablet Products

2. Name and Model

Customer Model Name :
 Model Name : DR-302-GA
 Cell Type : NCR 18650GA
 Cell Configuration : 3S2P

3. Product Specification

No	Item	Rate performance	Remark
1	Typical capacity	6700 mAh	Discharge at 2A until cell voltage under 2.5V
2	Normal voltage	10.8 V	
3	Charge voltage	12.6 V	
4	End of voltage	12V	Suggest system cutoff voltage
5	Continuous charge current	3.35 A	
6	Continuous discharge current	8 A	
7	Max discharge current	< 10 A	
8	Operation temperature	Charge 0~45 °C	
		Discharge -20~60 °C	
9	Cycle life	300 cycle > 4690mAh	
10	Storage temperature	0~40 °C	Storage less than 3 months
11	Power consumption normal mode sleep mode shutdown mode	Average $\leq 800 \mu A$	If the battery need to storage in the long term, please charge the battery once time between half year, that can above the battery over discharge by itself, it will keep the battery more healthy.
		$\leq 300 \mu A$	
		$\leq 1 \mu A$	

4. Protection Function of Protect IC(Ta = 25 °C)

Function item	Control function and operation	Remark
Over charge detection voltage	4.25 ± 0.01 V	
Over charge delay time	1~3 Sec	
Over charge release voltage	4.1 ± 0.1 V	
Over discharge detection voltage	2.5 ± 0.1 V	
Over discharge delay time	2~4 Sec	
Over discharge release voltage	3 ± 0.1 V	
Over charge prohibition current	6 ± 1 A	
Over charge prohibition delay time	2~4 Sec	
Over discharge prohibition current 1 st	12 ± 1 A	
Over discharge prohibition 1 st delay time	3~5 Sec	
Over discharge prohibition current 2 nd	15 ± 1 A	
Over discharge prohibition 2 nd delay time	1~3 Sec	
Hardware discharge prohibition current	22 ± 1 A	
Over discharge prohibition 2 nd delay time	29~33 mSec	
Short protection delay time	122 ± 300 uSec	
Over temperature of charge	45 ± 3 °C	
Delay of charge over temperature	2~4 Sec	
Release temperature of charge	40 ± 3 °C	
Over temperature of discharge	60 ± 3 °C	

Delay of discharge over temperature	2~4 Sec	
Release temperature of discharge	55 ± 3 °C	
Under temperature of charge	0 ± 3 °C	
Delay of charge under temperature	2~4 Sec	
Release temperature of charge	5 ± 3 °C	
Under temperature of discharge	-20 ± 3 °C	
Delay of discharge under temperature	2~4 Sec	
Release temperature of discharge	-15 ± 3 °C	

5. Protection Function of Permanent Fail(Non-recoverable)

Function Item	Control Function and Operation	Remark
Over charge detection voltage	Anyone cell ≥ 4.4 V	5 Sec
Over Temperature Protect	Mosfet Temp ≥ 95°C	5 Sec
	Cell Temp ≥ 75°C	5 Sec
FET Failure	C-FET cut off & current > 100 mA	5 Sec
	D-FET cut off & current > -100 mA	

6. Connect Pin Define

Name	Function	Remark
1	P+	
2	SMBus Clock	
3	SMBus Data	
4	ID	510Ω connect to P-
5	P-	

7. Handling Warning

The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble heat above 60°C, Crush or puncture short circuit external contacts, or dispose in fire or water.

電池組在以下情況使用可能造成起火或是爆炸情況產生，禁止操作環境超過60度、輾壓、刺穿電池組、外部短路、丟入水中及火源。

8. Storage Condition

In case of long storage less than 1 month, store the battery at temperature range -20 ~ +50, low humidity(less than 70%RH).
儲存時間低於一個月，建議儲存溫度-20 ~ 50度，濕度< 70%。

In case of long storage less than 3 months, store the battery at temperature range 0 ~ +40, low humidity(less than 70%RH).
儲存時間低於三個月，建議儲存溫度0 ~ 40度，濕度< 70%。

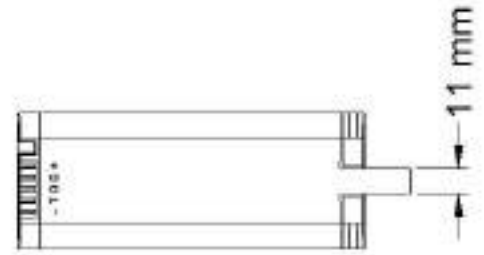
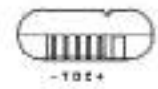
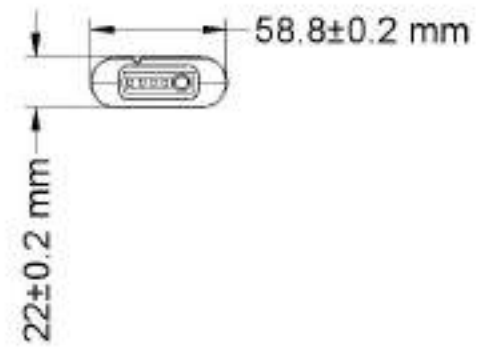
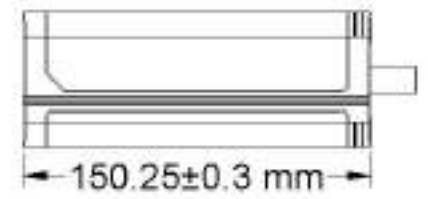
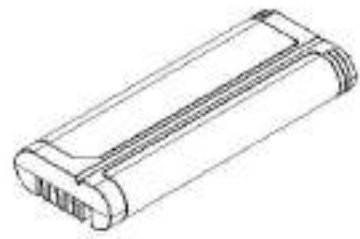
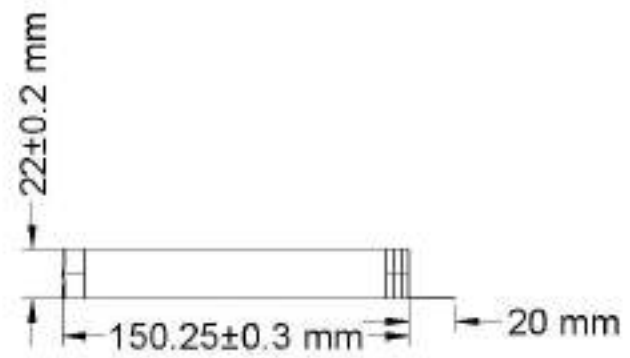
In case of long storage more than 3 months, store the battery at temperature range 0 ~ +20, low humidity(less than 70%RH).
儲存時間高於三個月，建議儲存溫度0 ~ 20度，濕度< 70%。

9. Disposal Consideration

Recommended methods for safe and environmentally preferred disposal : Product (waste from residues) Do not throw out a used battery cell. Recycle it through the recycling company. Contaminated packaging Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.

廢棄物建議的處理方式：不要隨意丟棄使用過的鋰電池，應交由專業的回收公司處理。電池在正常使用情況下，電池並非是污染品，但是當電池有漏液、破損現象，請根據工業污染品規定報廢處理

A B C D E F G H I



DATE	REV.	DESCRIPTION	APPROVAL	DESIGNED	CHECKED	APPROVED	RANGE	TOLERANCE	MODEL NO.
20210801	1.0	New Design	Winyi				301 ABOVE	±0.30mm	DR-10
							101-200	±0.25mm	PART NAME:
							51-100	±0.20mm	Outline Drawing
							31-50	±0.15mm	PART NO.
							30 BELOW	±0.10mm	
							UNIT:MM		DRAWING NO.
									REV. 1.0

A B C D E F G H I