Revision History

Revision	**Date**	**Initiator**	Reason for Change
0	13th Oct, 2015	Andy Chan	Revised Document Number to SZGP format

Prepared By	**Approved By**
Andy Chan Date: 13th Oct, 2015	David Zheng Date: 13th Oct, 2015

1. APPLICABILITY

The specification is applicable to GP lithium ion rechargeable Batteries.

GP Model	:	GP18650CH
Cell Size	:	Diameter = 18.3mm Max and Height = 65.4mm Max
Certifications	:	Batteries & Accumulators Directive
	:	UN38.3
	:	IEC62133
	:	UL1642

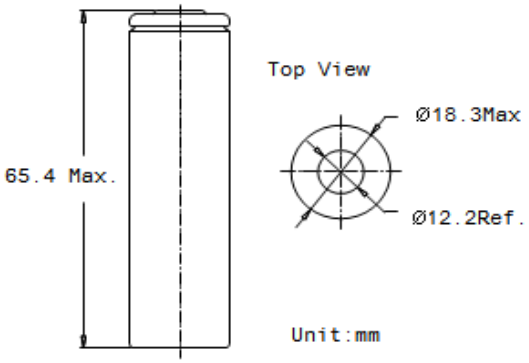
2. RATINGS

2.1	Rated voltage	:	3.6V
2.2	Capacity #	:	2200mAh (typical) 2150mAh (minimum)
2.3	Standard charge *	:	Constant current at 440mA with max voltage not to exceed 4.2V, cut-off current at 44mA
2.4	Standard discharge *	:	Constant current at 440mA to 2.75V
2.5	Maximum charge current *	:	2200mA
2.6	Maximum discharge current *	:	6600mA
2.7	Internal impedance *	:	≤ 50mohm
2.8	Cell weight	:	≤ 45g
2.9	Operating temperature	:	0°C – 45°C (charge) -20°C – 60°C (discharge)
2.10	Storage temperature	:	0°C – 45°C (1 month) 0°C – 40°C (6 months) 0°C – 35°C (12 months)

Based on standard charge/discharge
* Temperature @ 23 ± 5°C

3. CONFIGURATION AND DIMENSIONS

Please refer to the drawing.



TYPICAL CHARACTERISTICS

4. TYPICAL CHARACTERISTICS

STANDARD TEST CONDITIONS

Unless otherwise specified, all tests should be conducted within one month of delivery under the following conditions:

Ambient Temperature : 23 ± 5°C
Relative Humidity : 65 ± 20%

Item	Criteria		Test Conditions
Capacity	≥ 2150mAh		Standard charge and standard discharge described at section 2.3 and 2.4, respectively
Internal Impedance	≤ 50mohm		Measure AC impedance at 1kHz within 1 hour after standard charge as described at section 2.3
Discharge capacity at different temperatures	-10°C	50%	Standard charge cell as described at section 2.3. Place cell in the temperature to be tested for 2 hours and then discharge cell using standard discharge as described at section 2.4 and at specified temperature.
	0°C	80%	
	25°C	100%	
	45°C	100%	
	60°C	95%	

Cycle Life	≥ 80%	Measure discharged capacity after conducting 500 cycles of standard charge and standard discharge described at section 2.3 and 2.4, respectively.
Charge Retention	≥ 80% (retention) ≥ 90% (recovery)	Measure standard discharge capacity of cells after standard charge to 100% SOC and stored at 23 ± 5°C for 28 days.

5. WARRANTY

One year limited warranty against workmanship and material defects. For application use on this cell please contact your nearest GP Sales and Marketing office or Distributors.

6. CHARGE STATE OF CELL BEFORE SHIPMENT

30% to 50% SOC prior to delivery. The cell should be shipped in 3.50V ~ 3.65V charging voltage range.

7. SAFETY PRECAUTION

Please follow the safety precaution carefully as improper handling of lithium ion batteries may result in injury or damage from electrolyte leakage, heating ignition or explosion. To ensure safety, consult with GP regarding the charge and discharge specifications, equipment structure, warning labels and other important details when designing equipment to use GP rechargeable lithium ion batteries.

Never charge the battery above 4.25V.
Never reverse charge the battery.
Never heat or incinerate the battery.
Never pierce, crush or cause mechanical damage to the battery.
Never charge a battery at high temperature condition, such as at or near a fire.
Never short circuit the battery.
Never discharge a battery to below 2.75V per cell.
Never allow the battery to get wet or be immersed in water.
After 3 months storage, battery may require some cycling to recover capacity.
GP Batteries will not be liable to accidents caused by improper use.

Protection Circuit Module (PCM)

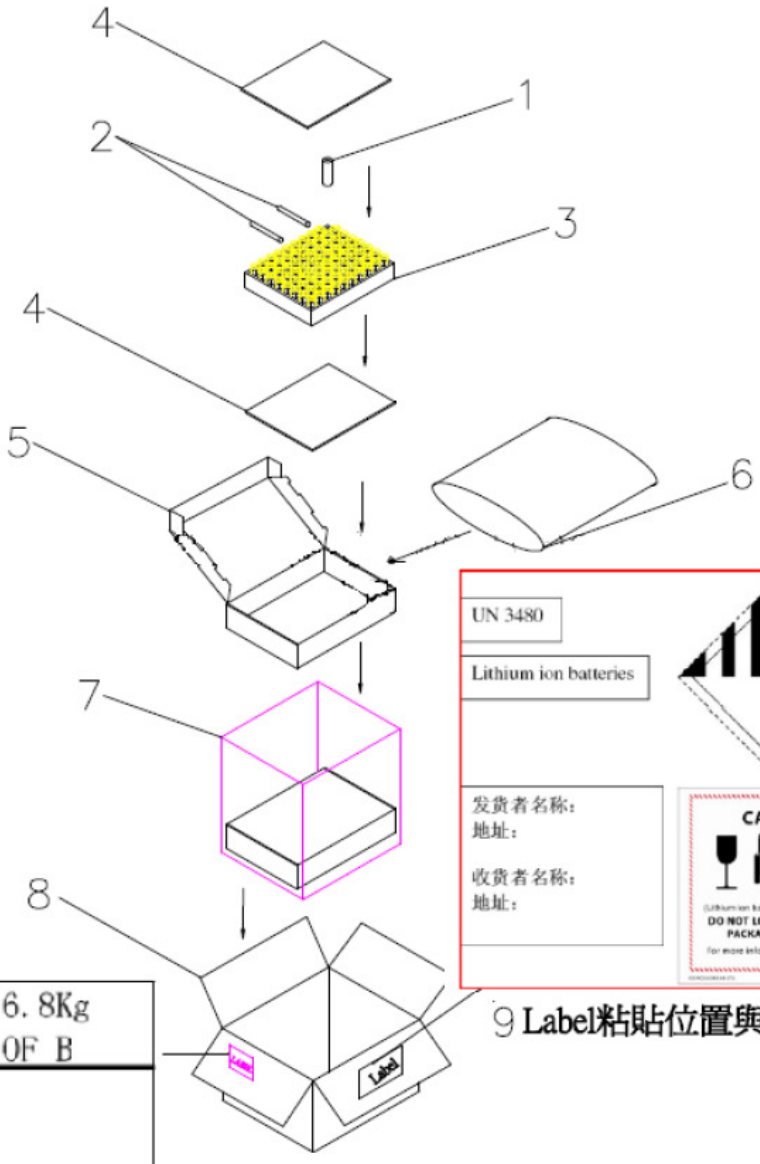
The Cell(s) / Battery Pack shall be used with a PCM which can protect Cell(s) / Battery Pack properly. The PCM shall have functions of (a) overcharging protection;(b) over-discharging protection and (c) over current protection, to maintain safety and significant deterioration of cell performance. The over current can occur by external short circuit.

a. Overcharging protection
   - Overcharging protection function shall work if any cells or batteries reach 4.20V at which charging should be stopped.

b. Overdischarge protection
   - Overdischarging protection function shall work if any cells or batteries reach 2.50V at which discharging should be stopped.

c. Overcurrent protection
   - Overcurrent protection should be used. The level should be specific to application. Please consult GP for details.

8. PACKING



9 Label粘貼位置與內容

GW:	Kg	NW:	6.8Kg
No: B			OF B
Model:			
GpII Ref:	**GP18650CH**		
So.NO:			
Qty:	160EA		
Lot No:	-		
BIN No:			