1. Scope

This product specification shall be applied to rechargeable lithium-ion battery pack.

2. Descriptions and Model Number

(1) Descriptions Rechargeable lithium-ion battery pack

(2) Battery Cell Configuration 1S1P

(3) Model Number MAP-JMS003

3. Composition

Li-ion cells, a protection circuit module, insulators and nickel plates.

4. Product Specification :

Cell model	Sanyo,UF103450P,1880mAh
Battery pack capacity	1880mAh
Battery pack Nominal Voltage	3.7V
End voltage	2.75V
Optimum charge current(Std.)	≦1.88A
Max charge voltage	4.20V±0.03V
Max discharge current(at -20~60℃)	≦2.39A
Internal impedance	≦160mΩ
Charging method	CC/CV (Constant current/ voltage)
Operation temperature	Charge：0 ~ +40℃
	Discharge：-20 ~ +60℃
Storage Temperature (Percentage of recoverable capacity 80%)	-20 ~ +60℃ (Less then 1 month)
	-20 ~ +40℃ (Less then 3 month)
	-20 ~ +20℃ (Less then 1 year)
Weight	≤65g
Battery pack to be ROHS compatible	
Battery pack shall be shipped in a 30~50% charged state.	

5. Battery pack protection function

**Over charge and over discharge detection voltage per cell.*

5.1	
Battery pack overcharge detection voltage	4.280V±0.025V
Battery pack overcharge release voltage	4.08V±0.050V
Battery pack overcharge delay time	0.96sec~1.4sec
5.2	
Battery pack overdischarge detection voltage	2.30V±0.050V
Battery pack overdischarge release voltage	2.30V±0.050V
Battery pack overdischarge delay time	115msec~173msec
5.3	
Battery pack Discharge overcurrent detection current	2.39A~6.30A
Battery pack overcurrent release	Load release or Pack recharged
Battery pack overcurrent delay time	7.2msec~11msec
5.4	
PCM current consumption	Less 8.0uA
5.5	
Short circuit detection delay time	220~380usec

7. Terminal Definitions

7.1 Descriptions

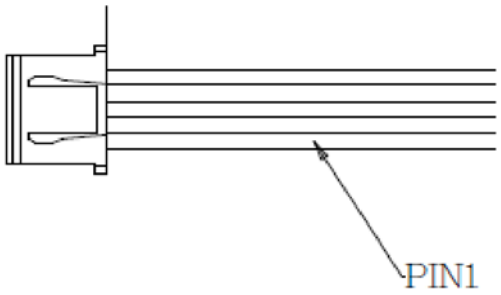
Pack+ (P+) : Charge ＋／ Output ＋

TH (TH) Thermal Pin

Pack− (P−) : Charge −／ Output −

7.2 Diagrams

PIN3	P-	BLACK
PIN2	TH	GREEN
PIN1	P+	RED



8. Handling Warning

8.1 Do not immerse the battery in water or seawater, and keep the battery in a cool dry surrounding if it stands by.

8.2 Do not use or leave the battery near a heat source as fire or heater

8.3 When recharging, use the battery charger specifically for that purpose

8.4 Do not reverse the position (+) and negative (-) terminals

8.5 Do not connect the battery to an electrical outlet

8.6 Do not discard the battery in fire or heat it

8.7 Do not short-circuit the battery by directly connecting the positive (+) and negative (-) terminal with metal objects such as wire.

8.8 Do not transport or store the battery together with metal objects such as necklaces, hairpins etc.

8.9 Do not strike or throw the battery

8.10 Do not directly solder the battery and pierce the battery with a nail or other sharp object

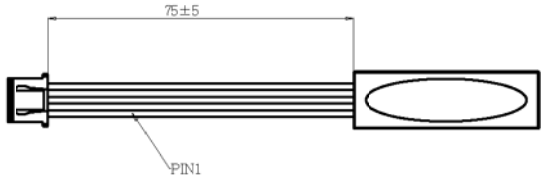
8.11 If the battery is stored over 3 monthes, it should be checked again about the remaining capacity and charge the battery.

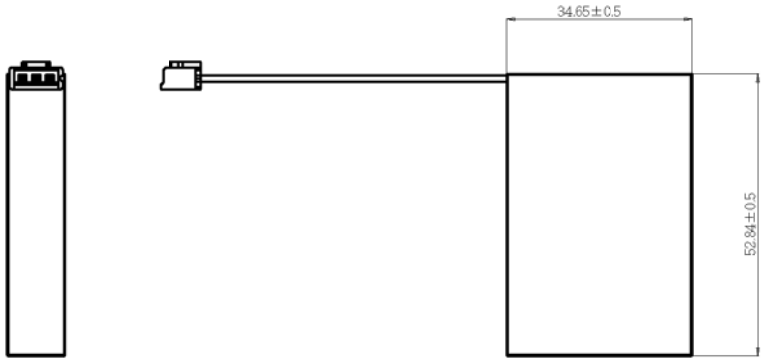
8.12 We suggest that the voltage of battery should not be lower than 3V/cell when working and storing, or it may cause unrecoverable decay in its capacity.

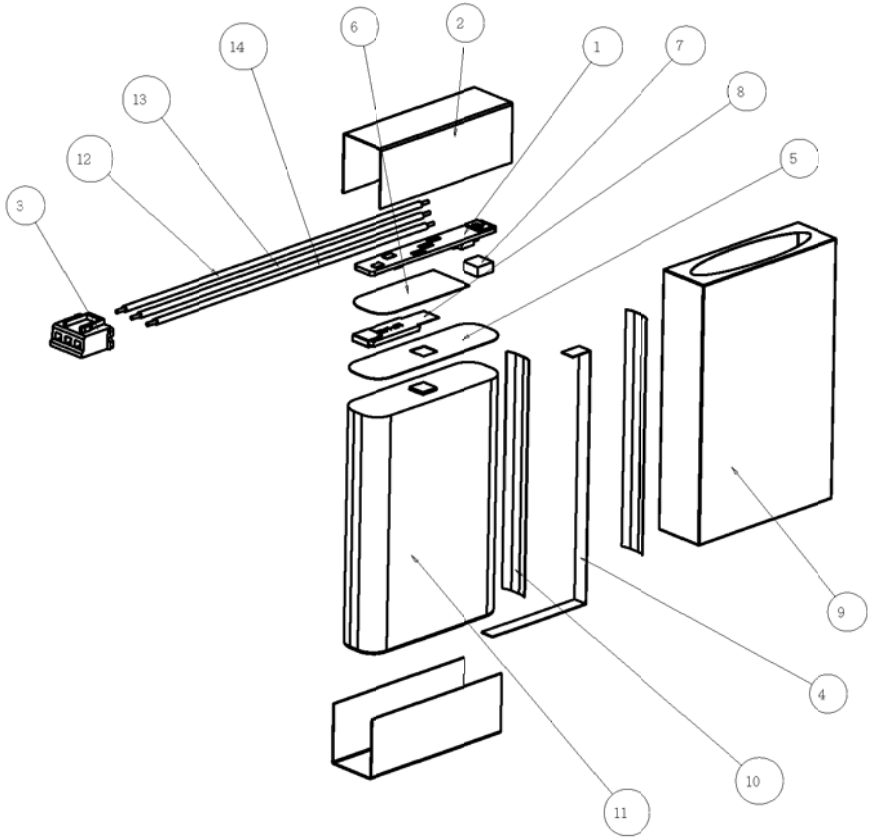
NOTES: (UNLESS OTHERWISE SPECIFIED)
1. UNSPECIFIED RADIUS R=0.3mm.
2. GATE TRIM NOT TO EXCEED 0.2mm.
3. THE MATERIALS AND MANUFACTURING METHODS USED IN THE FABRICATION OF THIS PART OR ASSEMBLY MUST COMFLY WITH JMS ENVIRONMENTAL (RoHS) SPECIFICATION.
4. PART OR ASSEMBLY SHALL CONFORM TO PROJECT COSMETIC SPEC.
5. PART OR ASSEMBLY SHALL BE CLEAN AND FREE FROM FOREIGN MATERIAL. DIRT, OIL, GREASE, OR OTHER CONTAMINANTS ARE NOT ALLOWED.
6. CRITICAL TO FUNCTION DIMENSION:CONFORM TO PICTURE REQUIRMENT.
7. COINED-EDGES SHALL CONFORM TO ELECTRONIC DATABASE OR SHOWN AND SPECIFIED ON DRAWING.
8. BURR SIDE OR PUNCH DIRECTION AS INDICATED.

Rev.	DESCRIPTION	DATE
00	NEW DESIGN	Apr-14-16

PIN3	P-	BLACK
PIN2	TH	GREEN
PIN1	P+	RED







ITEM	TYPE	ASM PART	PART NO	QTY
1	ASSEMBLY	JMS-CP-QST		1
2	PART	AC402		2
3	PART	JST-XHP-3		1
4	PART	NI-P-01		1
5	PART	NOMEX-01		1
6	PART	NOMEX-02		1
7	PART	PORON		1
8	PART	PPTC-MF-LR260		1
9	PART	PVC-TUBE		1
10	PART	R12-NS		2
11	PART	UF103450P		1
12	PART	UL1061-24AWG-BLACK		1
13	PART	UL1061-24AWG-GREEN		1
14	PART	UL1061-24AWG-RED		1

RANGE	COMMON TOLERANCE (MM)			
	A	B	C	D
0.5 ~ 3	±0.05	±0.1	±0.2	±0.4
3 ~ 25	±0.08	±0.15	±0.3	±0.6
25 ~ 80	±0.12	±0.25	±0.5	±1.0
80 ~ 250	±0.25	±0.4	±0.8	±1.5
250 ~ 800	±0.5	±0.8	±1.5	±3.0
800 ~ 2500	±1.0	±1.5	±3.0	±6.0
ANGULAR	±0.15°	±0.5°	±0.5°	±0.8°

APPROVED	Ted		MAP Electronics co., ltd.	MAP Electronics Co., Ltd.	
CHECKED	Ted				
DESIGN	Jacky		Doc NO		
MATERIAL			NAME	MAP-JMS003	
REVISION	00		Part No		
UNIT MM	SCALE	1.000	DATE	Apr-14-16	SHEET 1/1

For reference only

QS-2-40092-V1.0