1. Scope:

This product specification shall be applied to Lithium-ion Rechargeable Battery.

2. Descriptions and Model Number:

(1) Descriptions Lithium-ion Rechargeable Battery

(2) Battery Cell Configuration 1S1P

(3) Customer P/N 7018S11C330A

(4) Joules Miles Project name MAP004

3. Composition:

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

4. Product Specification:

Cell model(Minimum,25℃)	Panasonic Li-ion NCR18650GA 3350 mAh	
Battery pack capacity	3350mAh (0.5C/1.675A charge until the voltage reaches 4.20V; 0.2C/0.67A discharge Continuously to 2.5V . at 25℃)	
Battery pack Nominal Voltage	3.6V	
End voltage	2.5V	
Maximum Charge Current	0~10℃ / 1.675A ; 10~60℃ / 3.35A	
Max charge voltage	4.15 ± 0.02V (Ta = +25°C)	
Max continuous discharge current Normal	2A	
Peak discharge current	4A (<10sec , Ta = +20°C)	
Internal Resistance	< 130 mΩ	
Charging method	CC/CV (Constant current / voltage)	
Operation temperature	Charge：0 ~ 45℃	
	Discharge：-20 ~ 60℃	
Storage Characteristic (Percentage of recoverable capacity 80%)	less than 1 month	-20 ~ +50℃
Weight	<100g	
Battery pack to be ROHS compatible.		
Battery pack shall be shipped by Air in 25~30% charged state.		

5. Battery pack Function:

5.1 Protection Function:

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

Protection IC : S-8200AAY-M6T1U Ta=+25℃

Item	Minimum	Typical	Maximum	Unit
Charge Over Voltage detection	4.13	4.150	4.170	V
Charge Over Voltage delay time	0.8	1.00	1.2	sec
Discharge Over Voltage detection	2.465	2.500	2.535	V
Discharge Over Voltage delay time	51.2	64	76.8	msec
Charge Over Current	3.373	5.376	7.467	A
Charge Over Current delay time	6.4	8	9.6	ms
Discharge Over Current	4.285	6.779	8.5	A
Discharge Over Current delay time	6.4	8	9.6	ms
Short Circuit detection	15.873	26.881	38.961	A
Short circuit delay time	200	250	300	us

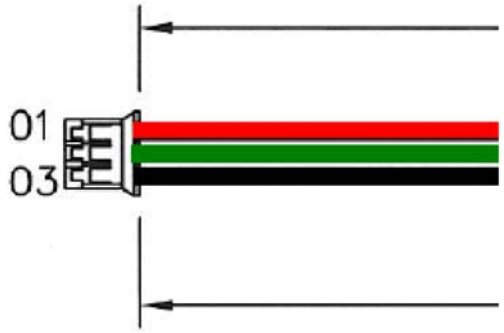
5.2 Normal Function:

Item	Minimum	Typical	Maximum	Unit
Current consumption in normal mode	2.0	3.8	6.0	uA

8. Terminal Definitions:

8.1 Descriptions:

Pack+(P+)	:	Pin1, Red wire AWG24
TH	:	Pin2, Green wire AWG24
Pack- (P-)	:	Pin3, Black wire AWG24



Housing : JST PHR-3
Pin : JST SPH-002T-P0.5S

9. Handling Warning:

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

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

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

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

9.5 Do not connect the battery to an electrical outlet

9.6 Do not discard the battery in fire or heat it

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

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

9.9 Do not strike or throw the battery

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

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

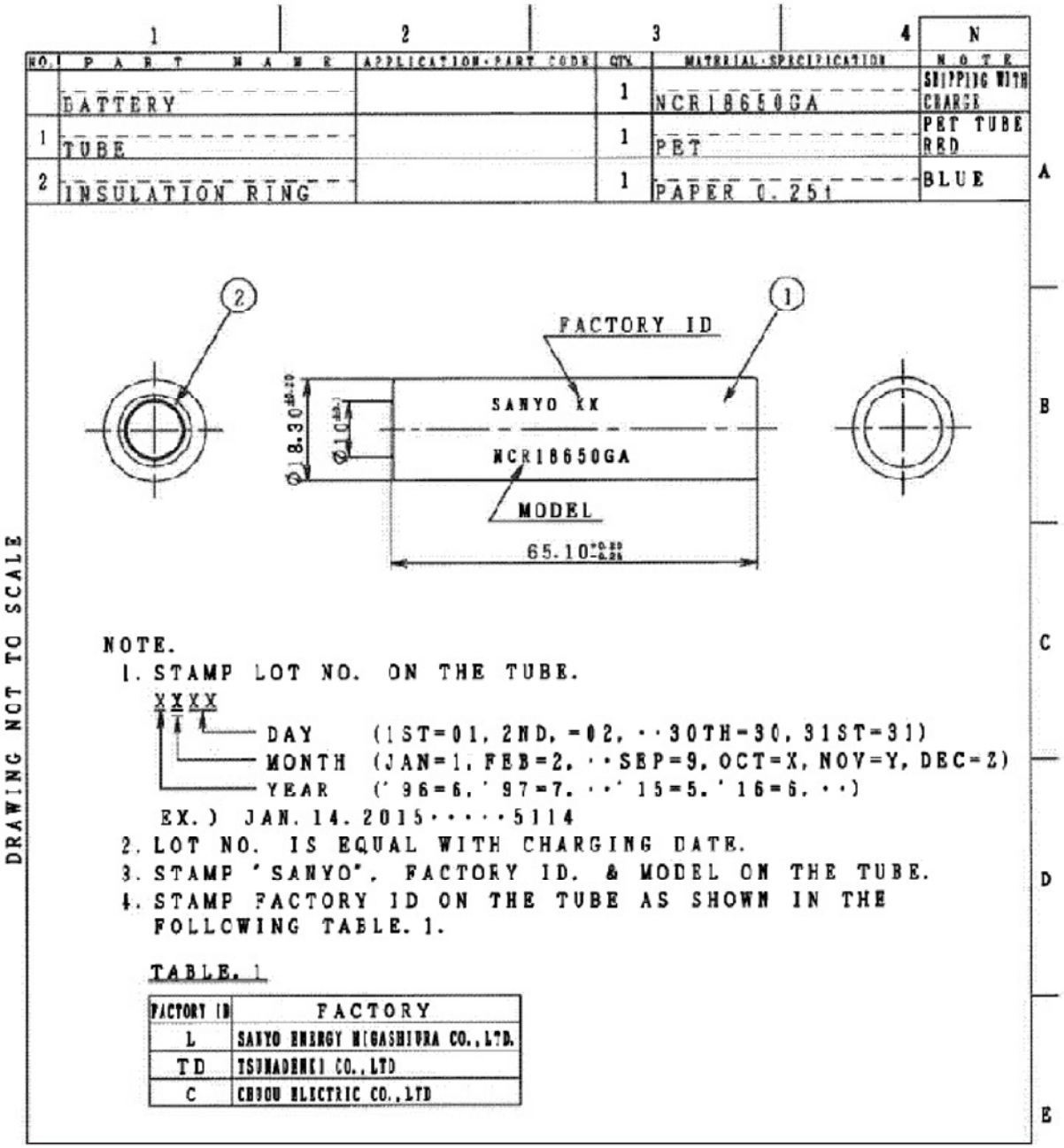
9.12 We suggest that the voltage of battery should not be lower than 2.0V/cell when working and storing, or it may cause unrecoverable decay in its capacity.

10. Warranty:

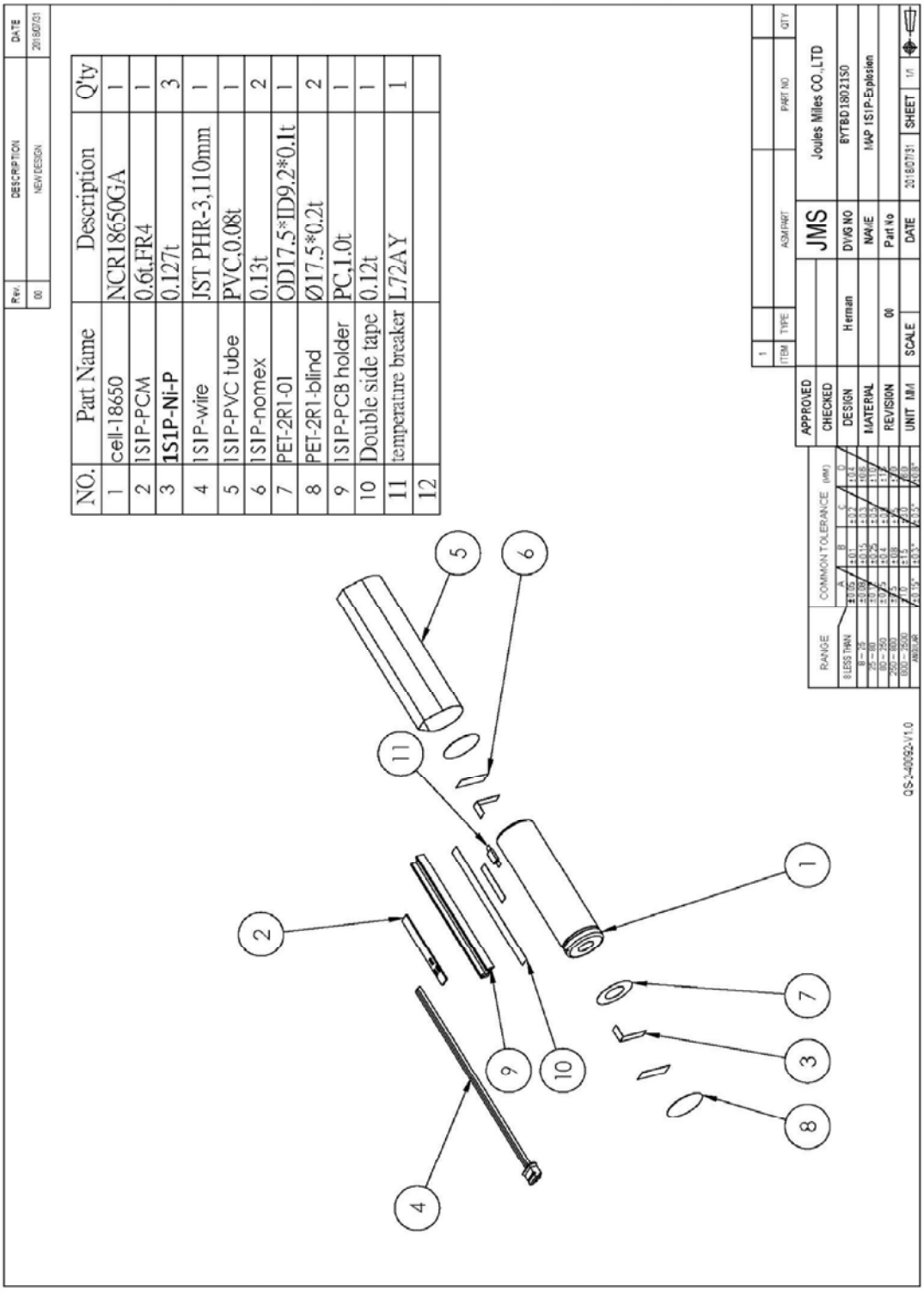
The product is warranted against defects in materials and workmanship for a period of one (1) year from the date of shipment ("warranty period") This warranty does not cover any damages caused by abuse or misuse, including but not limited to the failure to use the product for its normal purposes and operations or in accordance with this Technical Specification and /or Handling Warning.

11. Mechanical Drawing:

11.1 Battery Dimension Drawing:



11.2 Explosion Drawing :



11.3 Profile Drawing :