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**Descriptions** : Rechargeable lithium-ion battery pack

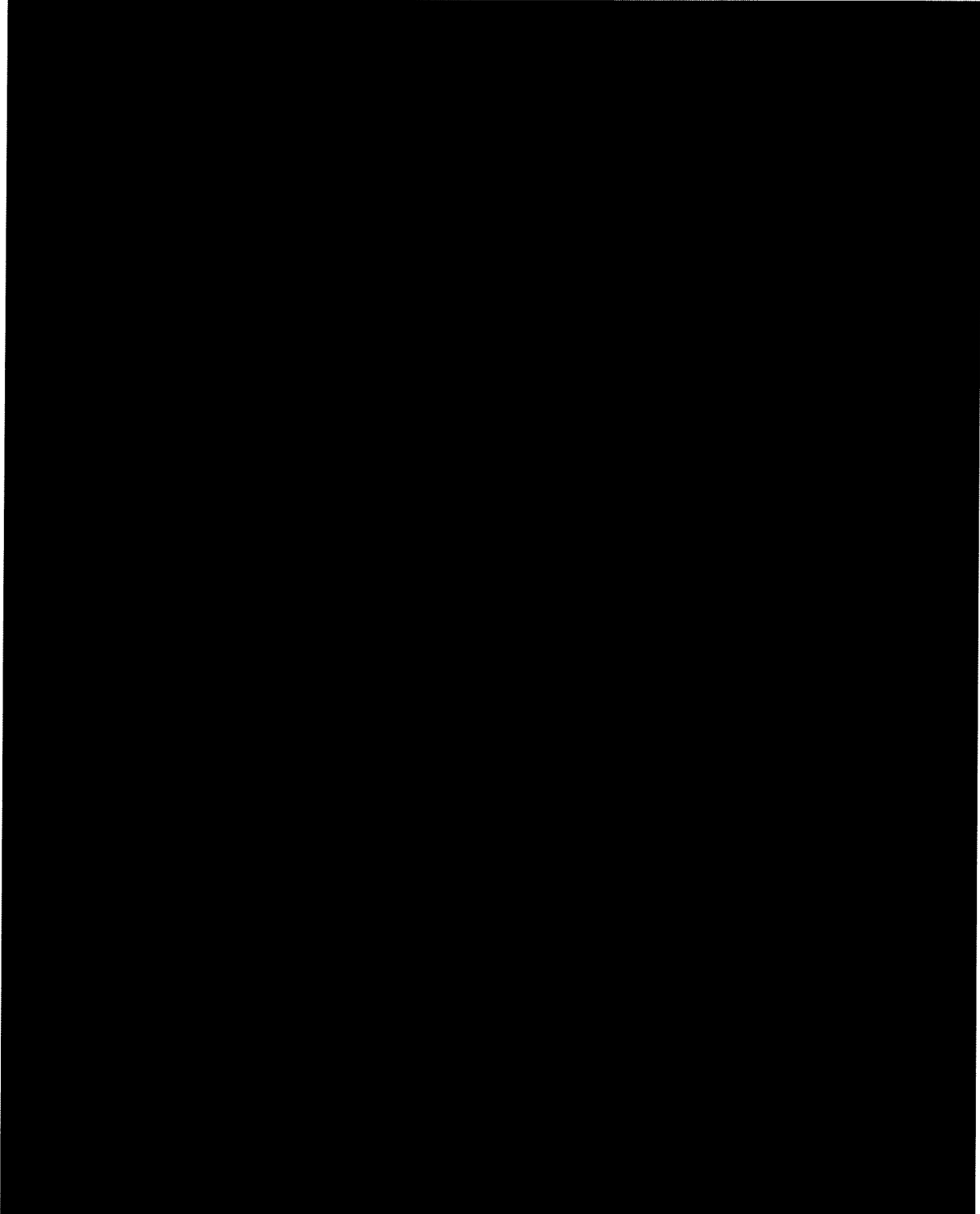
**Customer P/N** : TBD

[REDACTED]

**Date** : 2019/04/24

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## 5. Battery pack protection function

*\*Over charge and over discharge detection voltage per cell. (at 25°C)*

### 5.1

Battery pack over-charge detection voltage      4.225±0.020 V

Battery pack over-charge release voltage      4.075±0.030 V

Battery pack over-charge delay time      0.8~1.2 sec

### 5.2

Battery pack over-discharge detection voltage      2.400±0.050 V

Battery pack over-discharge release voltage      2.900±0.100 V

Battery pack over-discharge delay time      102.4~153.6msec

### 5.3

Battery pack charge over-current detection current      2.1~3.2A

Battery pack charge over-current release      Reset by charger release

Battery pack charge over-current delay      6.4~9.6 msec

### 5.4

Battery pack discharge over-current detection  
current      2.3~3.0A

Battery pack discharge over-current release      Reset by load release

Battery pack discharge over-current delay time      6.4~9.6 msec

### 5.5

Short circuit detection delay time      224~336 μsec

### 5.6

PCM current consumption      ≤8.0 μA

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### 6. Battery 2D drawing

NOTES UNLESS OTHERWISE SPECIFIED:  
 1. UNLESS NOTED OTHERWISE.  
 2. DIMENSIONS SHALL BE IN MILLIMETERS.  
 3. THE MATERIALS AND MANUFACTURING METHODS USED IN THE FABRICATION OF THIS PART OR ASSEMBLY MUST COMPLY WITH THE APPLICABLE MILITARY SPECIFICATIONS.  
 4. PART OR ASSEMBLY SHALL CONFORM TO PRODUCT COSMETIC SPEC.  
 5. PART OR ASSEMBLY SHALL BE CLEAN AND FREE FROM FOREIGN MATERIAL.  
 6. CRITICAL TO FUNCTION DIMENSIONS, THEIR DIMENSIONS SHALL BE USED FOR DETERMINATION AND REQUALIFICATION OF PROCESS CAPABILITY OF THE PART.  
 7. DIMENSIONS SHALL CONFORM TO ELECTRONIC DATABASES, UNLESS OTHERWISE SPECIFIED.  
 8. DIMENSIONS SHALL BE SHOWN AND SPECIFIED ON DRAWING.  
 9. HOLE SIZE OR HATCH COEFFICIENT AS INDICATED.

Connector: Molex-51191-0300  
 PIN1 P+ RED  
 PIN2 TH GREEN  
 PIN3 P- BLACK

Dimensions: 38.2±0.5, 20±0.2, 19±0.5, 70.5±0.5, 37.8±0.5, 14, 19.2±0.8

Labels: PIN1, Ribbon-Nylon

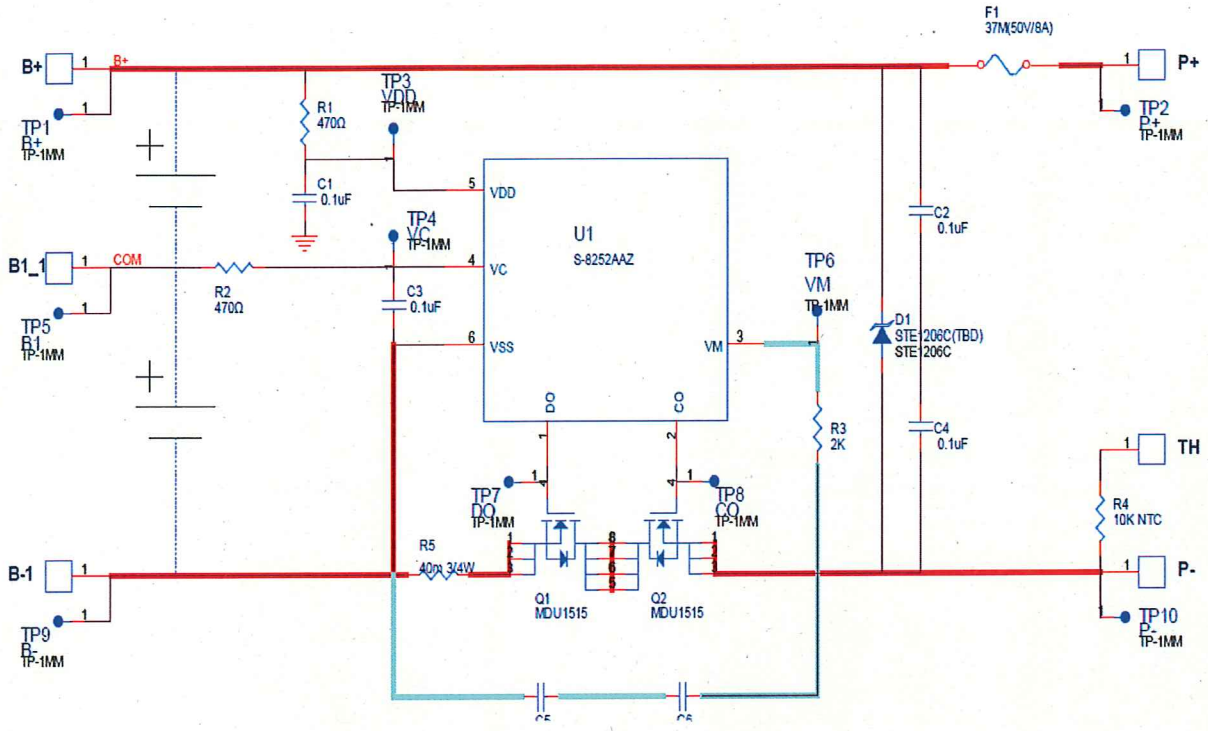
REV.	DESCRIPTION	DATE
00	NEW CREATION	20100108
01	According to sample changed the insulation. Update tolerance.	20100209
02	According to customer request. Changed the rack design.	20100404

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REV.	DESCRIPTION	DATE
00	NEW CREATION	20100108
01	According to sample changed the insulation. Update tolerance.	20100209
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REV.	DESCRIPTION	DATE
1	IM-251130V	1
2	18000A	1
3	20000A	1
4	CR005	1
5	MXL-51191-0300	1
6	N.F.P.01	1
7	N.F.P.02	1
8	N.F.P.03	1
9	NEMEX-05	1
10	NEMEX-02	1
11	P006-1	1
12	P006-2	1
13	PST-1	1
14	PST-022	1
15	PST-201	1
16	PVC-TR002	1
17	RJL-001	1
18	RIKON-NYL-01	1
19	VT-130-01	1

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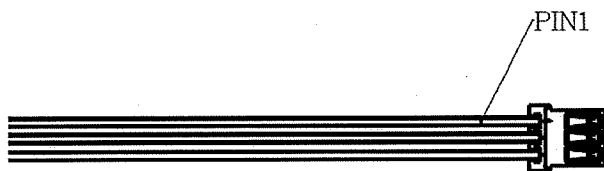
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**7. Terminal Definitions**

7.1 Descriptions

- Pack+ (P+ ) : Charge + / Discharge +
- TH : Thermistor (10KΩ±1%)
- Pack- (P- ) : Charge - / Discharge -

7.2 Diagrams



Connector: Molex-51191-0300

- PIN1 P+ RED
- PIN2 TH GREEN
- PIN3 P- BLACK

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**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 months, 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 3.0V/cell when working and storing, or it may cause unrecoverable decay in its capacity.

**9 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.