

## 1. SCOPE

This specification describes the electrical, mechanical and environmental parameters for this battery pack consisting of a Lithium Ion cell 3.7V/ 4800 mAh, with protection safety circuit.

## 2. Dimensions:

- Thickness = 0.82''
- Width = 1.56''
- Length = 2.82''

## 3. Weight: 0.235 lb

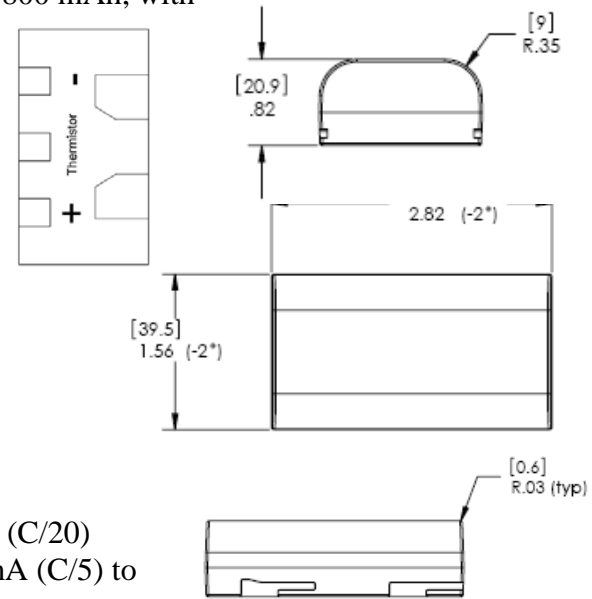
## 4. Cell specification: Lithium-Ion, 1S2P

4.1 Nominal voltage: 3.7V

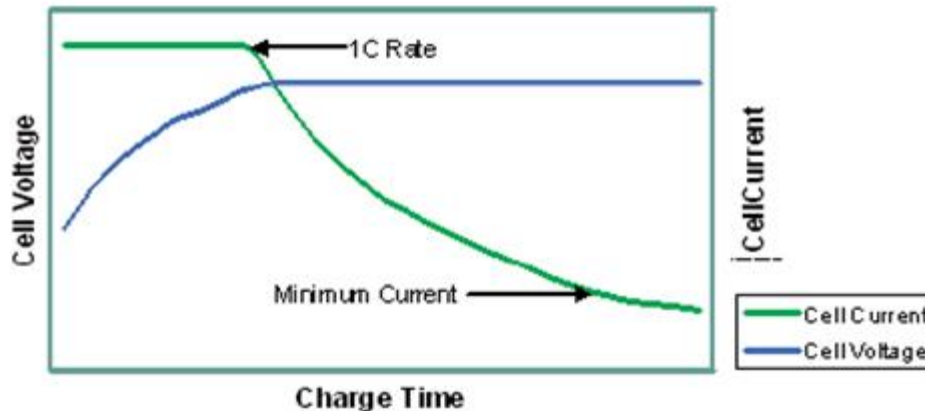
4.2 Capacity: Nominal 4800mAh at 25°C using:

- Charge profile of 4.2V
- Recommended charge current of 2500mA
- Charging time of 3 hrs or a taper current of 240mA (C/20)
- Discharge profile with a maximum current of 960mA (C/5) to 2.5V

4.3 Charging the Battery:



### Lithium Ion Charging Characteristics



4.3.1 Charging Condition:

- CV of 4.2V max
- CC of 1500mA max.

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4.3.2 To charge lithium-ion battery packs please follow the charging instruction stated below:

#### Charging instructions

- Charge Voltage: Limit the maximum charge voltage to 4.2V times the number of cells connected in series. This charging voltage is noted on the product specification sheet.
- Charge current: Packs should be charged at C rate for lithium-ion cells. C is the nominal capacity of the pack. (Example: for a 2400 mAh cell, charge at 2.4A).
- Pre-charge: If the cells are deeply depleted (less than 2.9V per cell), packs should be charged at 10% of their capacity (Example: for a 2400 mAh cell, charge at 240 mA) until reaching 3.0V per cell when charging can be continued as stated above.
- Charge temperature: Do not charge lithium ion cells at less than 0°C or more than 45°C.
- Reverse polarity: When connecting the cells to a charger, verify proper polarity.
- Charge method: Lithium ion cells should be charged using a constant current/constant voltage (CC/CV) method. Apply the charge current as stipulated above in step 2 until the pack reaches the voltage measured in step 1. Then, hold the voltage constant until the current tapers down to about 5% of nominal capacity (Example: for a 2400 mAh cell, charge until current is 120 mA).

#### 4.4 Discharge condition:

- Cutoff voltage of 3.0V
- Maximum discharge current of 1500mA.

4.5 Cycle life: 85% of initial minimum capacity after 300 cycles at 0.2C, 21°C

#### 4.6 Temperature:

- Charge 0~45°C
- Discharge -20~60°C
- Storage -20~60°C

4.7 Products shipped have 40% state of charge typical

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## 5. Protection Safety Circuit

- Main IC controller is Mitsumi MM3099EYRE or Ricoh R5426D106EA
- Overcharge cutoff voltage: 4.275V +/-25mV
- Overdischarge cutoff voltage: 2.30V +/- 58mV
- Overcurrent detection will not occur below 1.95A and will occur above 2.95A
- Thermistor 10k, 5%
- Gold-Plated Contacts

## 6. Additional component

- Polyester Label
- Polycarbonate ABS Plastic Tray
- Polycarbonate ABS Plastic Cover
- Nomex, Kapton Tape, PVC Heat Shrink, or similar insulators

## 7. Storage temperature and Humidity range

- -20~20°C,45-85%RH (within 1year)
- -20~45°C,45-85%RH (within 3 month)
- -20~60°C,45-85%RH (within 1 month)

## 8. Storage cautions

- Do not store packs in places of high temperature or under direct sunlight
- For long term storage, store packs in 30% charge state.
- Do not store packs in place which may expose them to rain, water or high humidity.

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