Protected Li-Ion 6S1P Battery Pack
20AWG open ended

SPEC. ID:	Samsung 6S1P-INR18650-35E-01	Issue Date:	9/25/17	PAGE 1 OF 6
Description	Lithium-Ion Battery	REV:	A	

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6S1P Battery Pack 3500mAh (PCB: 5A) – Samsung 35E

1 Abstract

A 21.6V Li- Ion battery containing six cells and a protection circuit module.
The battery pack in its final assembled form is designed to power different types of devices.

2 Specification

2.1 Cell

Type of Cell	Sealed Lithium-ion cylindrical Rechargeable battery
Cell Brand	Samsung
Cell Model	INR18650-35E
Cell Size	18650
Cell Typical capacity	3400 mAh (12.24Wh)
Cell Minimum capacity	3350 mAh (12.06Wh)
Number of cell used	6pcs
Cell UL Number	

2.2 Pack

Rated voltage	21.6V
Typical capacity	3400 mAh (73.44Wh)
Minimum capacity	3350 mAh (72.36Wh)
Standard charge	1700mA x 4hrs to 25.2V
Rapid charge	2.000mA x 3hrs to 25.2V
Maximum charge current	2.000mA
Maximum discharge current	5000mA (continuous mode)
Discharge end voltage	15.9V
Battery Pack Color	Blue / Black
Connector	Open ended
Operating temperature	0 – 45℃ (charge) -20 - 60℃ (discharge)
Storage temperature	-20 - 50℃ (1 week) -20 - 35℃ (6 months)

3 Test Conditions

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

Ambient temperature : 20 +/- 5℃.

Relative humidity : 65 +/- 20%.

4 Performance

Item	Criteria	Test conditions
Capacity	Above 3400mAh	Standard charge and standard discharge
Internal impedance	Less than 150mohm	Measure AC impedance at 1kHz
Cycle life **	Above 3000mAh	300 cycles charging/discharging is repeated in the below condition. • Charging: 1020mA to 25.2V • Rest time: 20min • Discharging: 3000mA up to 15.9V • Temperature: 20±2℃
Leakage resistance	No leakage	Visually inspect battery pack after standard charge and storage at 25℃ for 14 days.
Drop test	No fire, No explosion, No leakage (max. weight loss 0.1%)	Drop battery pack after standard charged onto a Bakelite floor from a height of 1 m for 6 times.
Vibration test	No fire, No explosion, No leakage (max. weight loss 0.1%)	The battery pack is vibrated in tri-axial direction with 4 mm amplitude of frequency 30 Hz for 1 minute in each direction.
Short circuit test	No fire, No explosion, cell temperature shall not exceed 150 ℃	External short circuit
Dimensions	58 x 24 x 13.7mm	Measured by calipers
Battery weight	Approx. 310g	Measured by balance
Appearance	No crack, no leakage, no deformation	Visual inspection

Notes:

** **Data provided under "Cycle Life" in this document is our best estimate based on the technical data supplied by battery cell manufacturer in the Product Specification Form.**

5 Casing

Casing will be provided by a shrink wrap.

6 Warranty

One year limited warranty against workmanship and material defects.
Manufacturer reserves the right to alter, amend the design, model and specification without prior notice.

7 Charge state of cell before shipment

Charge from 10% to 50% according to delivery.

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8 Safety precaution

Please follow the safety precaution carefully as improper handling of Polymer lithium-ion batteries may result in injury or damage from electrolyte leakage, heating ignition or explosion.

To ensure safety, consult us, regarding the charge and discharge specifications, Equipment structure, warning labels, using our product in designs and other important details.

- *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" the battery.*
- *Never discharge a battery to below 3.0V per cell.*
- *Never allow the battery to get wet or be immersed in water.*
- *For long period of storage, temperature should be below 45 ℃.*
- *After long period of storage, the battery may require some cycling to recover capacity.*

9 Safety Device and Abuse Requirement

Circuitry protection as described below has been presented inside the battery pack, to insure safety in case of misuse.

Overcharge Voltage Protection

At a charge voltage greater than 8.7±0.1V, the overcharge protection should engage interrupting the charge current.

Over Discharge Protection

When a voltage less than 5.0V±0.25V is reached upon discharging, the over discharge protection device should engage.

The resulting discharge current should be below 1μA.

Over Discharge/Short Circuit Protection

When discharge current exceeds 7.0A, the over discharge current protection should engage interrupting the discharge current.