

Spec. No.	INR21700-50E	Version No.	V0.1
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1. Scope

This product specification has been prepared to specify the rechargeable lithium-ion cell ('Cells') to be supplied to the customer by Samsung SDI Co., Ltd. ("Samsung SDI")

2. Description and Model

2.1 Description	Cell (lithium-ion rechargeable cell)
2.2 Model	INR21700-50E (Ver. 2)
2.3 Site	Manufactured in Korea

3. Nominal Specifications (*1)

Item	Specification
3.1 Standard discharge Capacity	Min 4,900mAh - Charge : 0.5C(2,450mA), 4.2V, 0.02C(98mA) cutoff @ RT - Discharge : 0.2C(980mA), 2.5V cutoff @ RT * 1C = 4,900mA
3.2 Rated discharge Capacity	Min 4,753mAh - Charge : 0.5C(2,450mA), 4.2V, 0.02C(98mA) cutoff @ RT - Discharge : 1C(4,900mA), 2.5V cutoff @ RT
3.3 Charging Voltage	4.2V
3.4 Nominal Voltage	3.63V
3.5 Charging Method	CC-CV (constant voltage with limited current)
3.6 Charging Current	Standard charge : 2,450mA
3.7 Charging Time	Standard charge : 4hours
3.8 Max. Charge Current	4,900mA (not for cycle life)
3.9 Max. Discharge Current	9,800mA (for continuous discharge) 14,700mA (not for continuous discharge)
3.10 Discharge Cut-off Voltage	2.5V
3.11 Cycle life	Capacity \geq 3,802mAh @ after 500cycles (80% of the Rated Discharge Capacity @ RT) - Charge : 0.5C(2,450mA), 4.2V, CCCV 0.05C(245mA) cut-off @ RT - Discharge: 1C(4,900mA), 2.5V cut-off @ RT
3.13 Recovery characteristics	Capacity recovery (after the storage) \geq 4,410mAh (90% of the Standard discharge capacity @ RT) - Charge : 0.5C(2,450mA), 4.2V, 0.02C(98mA) cutoff @ RT - Storage : 20 days @ 60°C - Discharge : 0.2C(980mA) 2.50V cut-off @ RT
3.14 Cell Weight	69.5g max
3.15 Cell Dimension	Cell height : Max.70.80mm Top Diameter : Φ Max.21.25mm

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Item	Specification
3.16 Operating Temperature(*2) (Ambient)	Charge : 0 to 45°C Discharge : -20 to 60°C
3.17 Recovery 80% after storage(*3)	1 year : -20~23°C 3 months : -20~45°C 1 month : -20~60°C

Note (*1): Protection function of the battery pack should be set within the specified charge, discharge and temperature range in Cell Specification.

Note (*2): Discharge OTP(over temp. protection) should not be over 70°C of Cell surface temperature. Protection set should be based on the location of the cell surface with the highest temp increase part of the battery pack

Note (*3): If Cell is kept as ex-factory status (30% of charge), the capacity recovery rate shall be more than 80%.