

Nova Micro Pouch Cell 401225P (90 mAh)

Test Results

PT/BI-EST4

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Electrical and Safety Tests - Overview

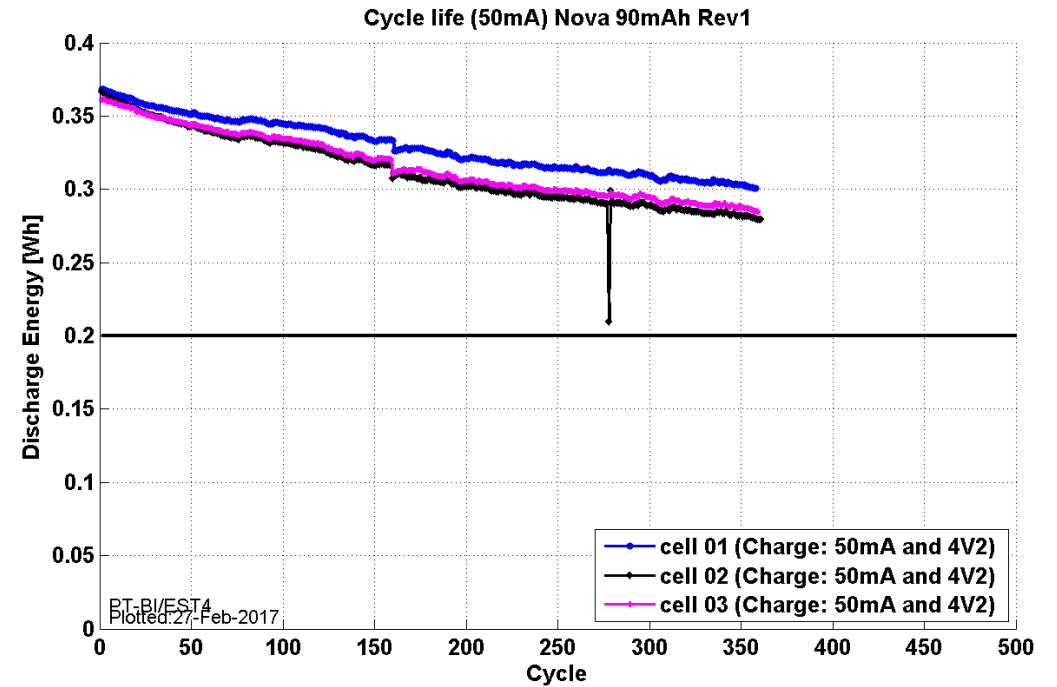
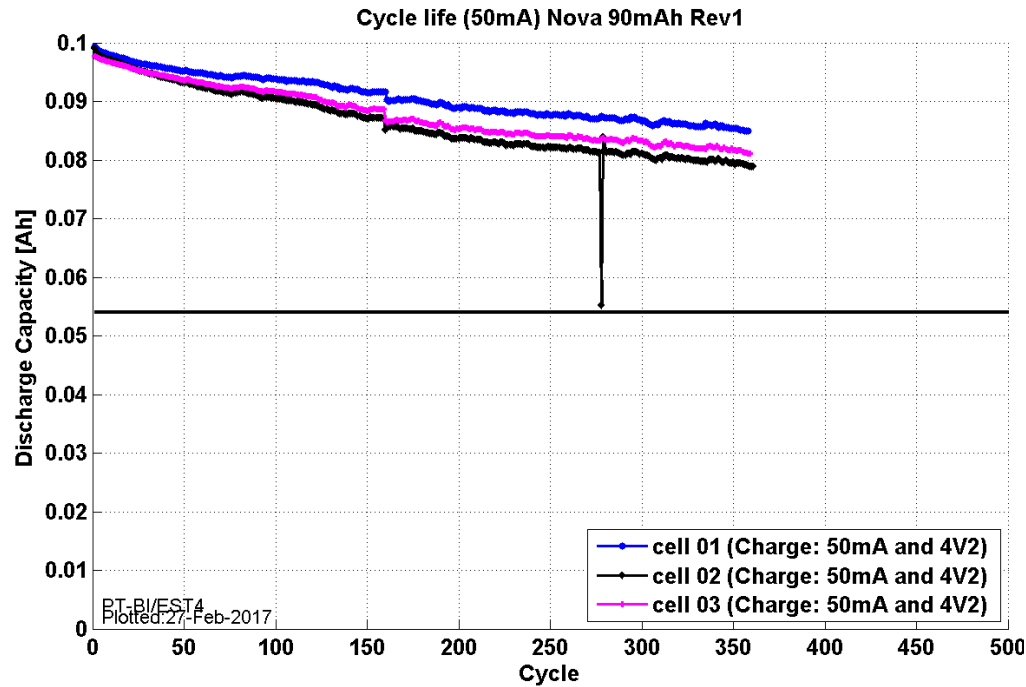
1	Electrical tests		
1.1	Reference cycle 50mA-DCH	EST4	done
1.2	Reference cycle 0,2C-DCH	EST4	done
1.3	Low temperature performance capacity	EST4	done
1.4	Internal AC impedance	EST4	done
1.5	Cycle life with constant current	EST4	running
1.6	Calendar life test	EST4	running

2	Safety testing without PCM (bare cell)		
2.1a	Safety test during short circuit 10mOhm (SOC100)	EST4	done
2.3	Safety test during overcharging 10V, 250mA	EST4	done
2.4	Hot oven test (thermal runaway test) 130°C, 10min., 5K/min	EST4	done

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Cycle Life (constant current)

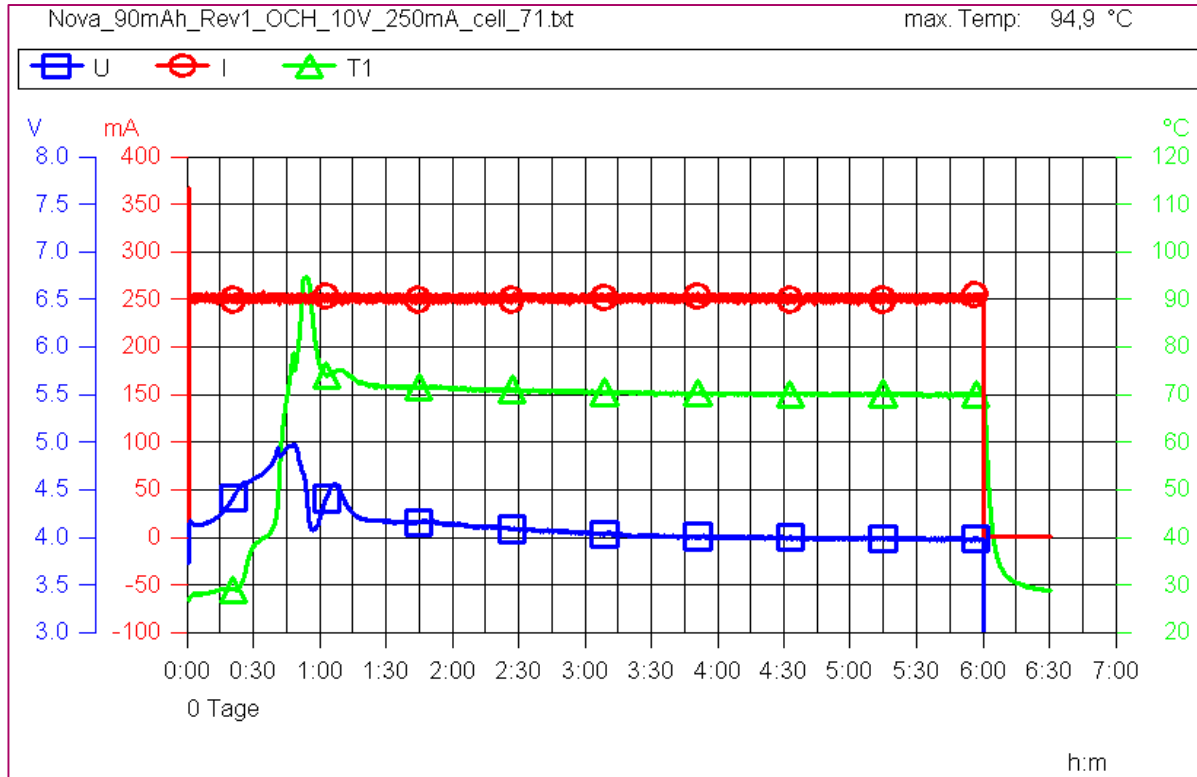
- Charge: 50mA (CC-CV)
- Discharge: 50mA (~0.5C until 2.35V)



➤ Test still on-going

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Overcharge

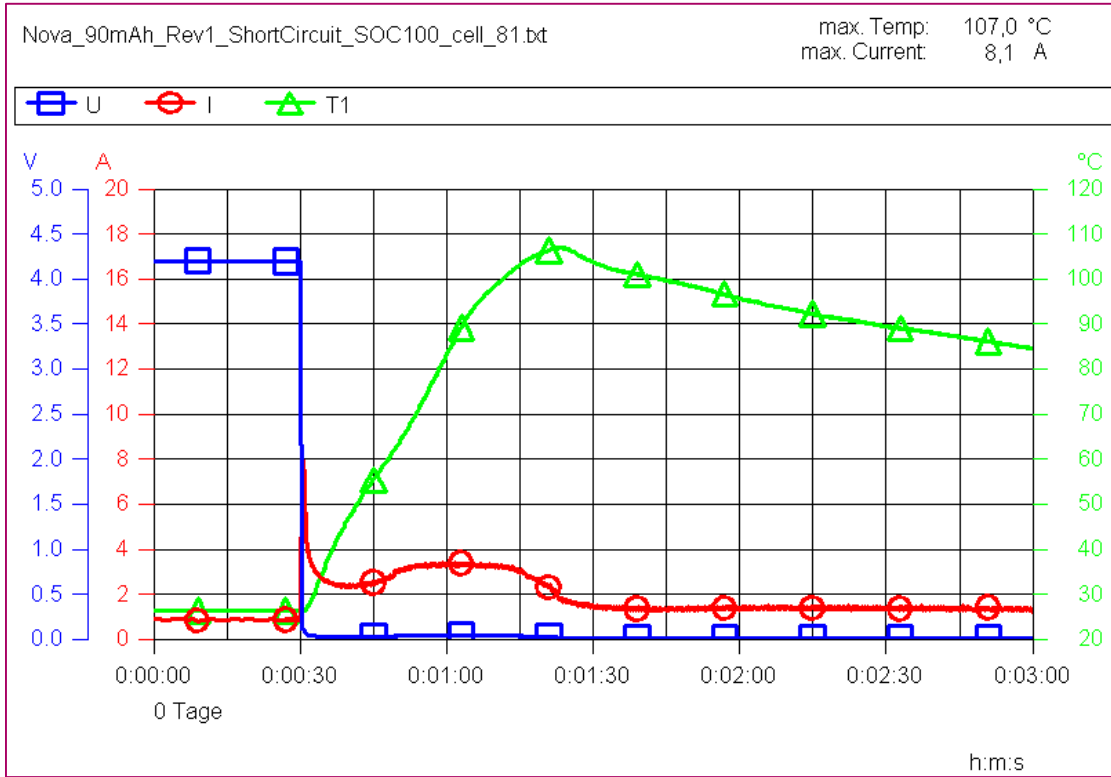


- Overcharging for 6h: 250 mA / 10 V
- 1.5 Ah “charged”
- $T_{\max} = 95 \text{ °C}$
- $U_{\max} = 4.98 \text{ V}$

- Swelling of the cells
- no leakage, no rupture, no fire, no explosion

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Short-Circuit



- $R = 10 \text{ m}\Omega$
- $I_{\text{max}} = 16 \text{ A}$
- $T_{\text{max}} = 107 \text{ }^\circ\text{C}$

- Swelling of the cells
- Electrolyte leakage, no rupture, no fire, no explosion

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Summary

- Very good cycle performance
- All safety tests passed (no rupture, no fire, no explosion)

- Cell swelling upon 60°C at SOC100
- No swelling upon 60°C storage at SOC50 and cycling