



Lithium-ion
Rechargeable
Batteries

Technical Data Sheet PD3032-S (Tentative)

[*www.powercellkorea.com*](http://www.powercellkorea.com)

March, 2006
Korea PowerCell Inc.

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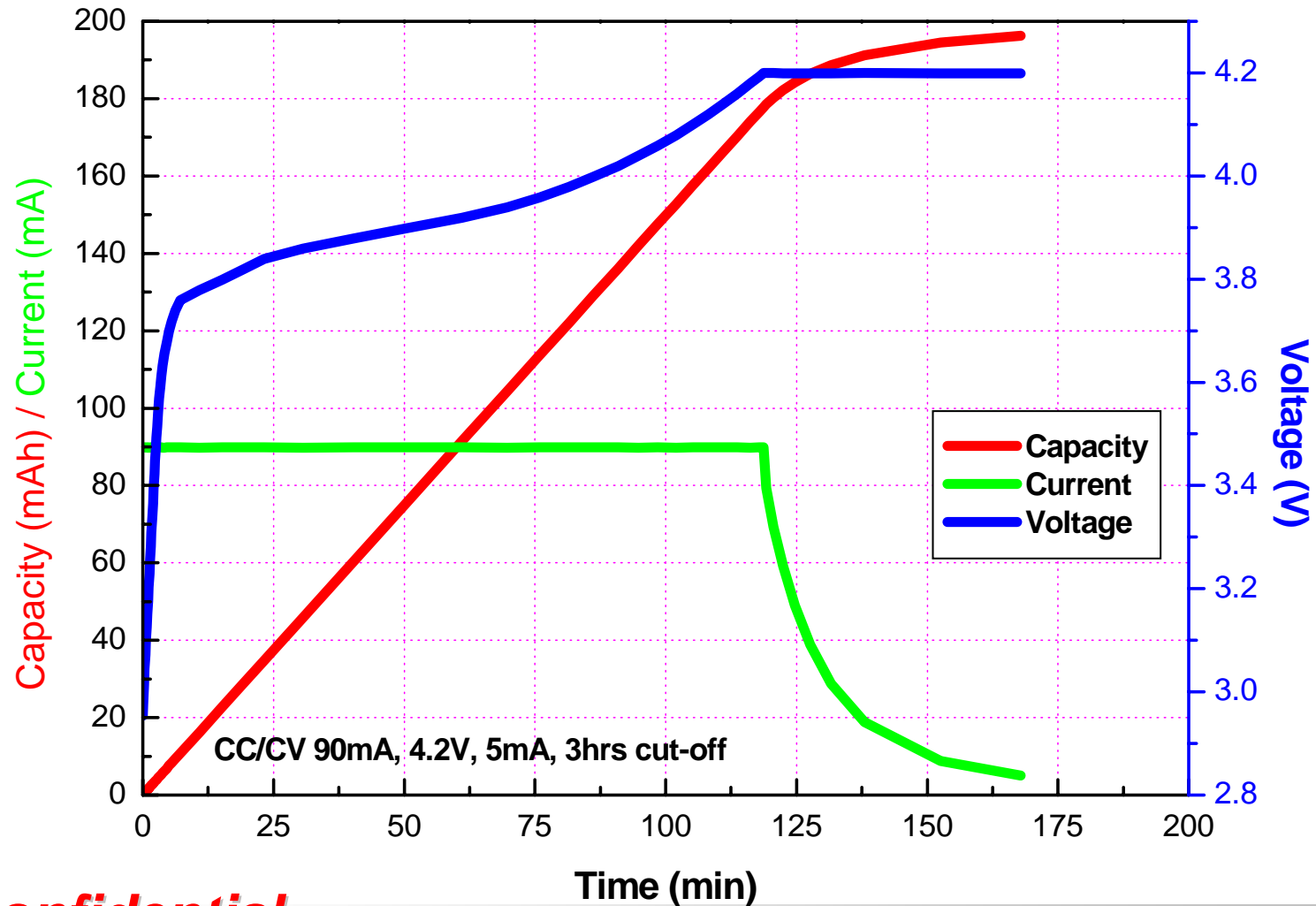
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1. Specification

Model		PD 3032-S
Nominal Capacity		180 mAh (0.2C, 3.0V Cut-off)
Nominal Voltage		3.7 V
Dimension	Thickness	3.3 ± 0.2 mm (center)
	Diameter	30.0 ± 0.2 mm
Charge Method		CC-CV
Charge Voltage		4.2 V
Charge Current		Standard 90 mA (End - Current : 9~30mA)
Discharge Current		Standard 90 mA, Max. 360mA
Discharge end voltage		3.0 V
Discharge Temperature		- 20 ~ + 60 deg C
Internal Impedance		Max. 300 mohm
Weight		approx 9g

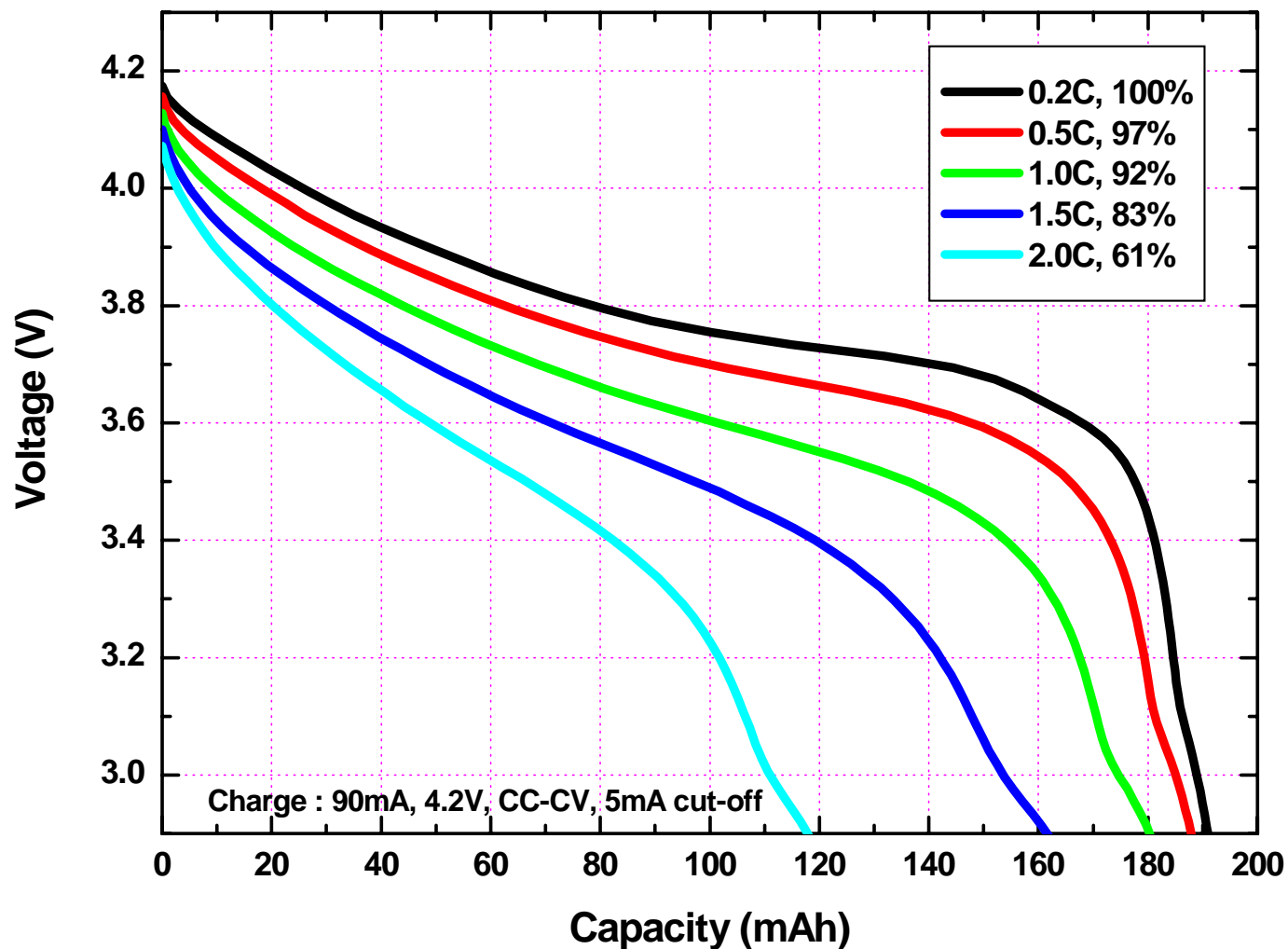
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2.1. Charge Characteristics – 0.5C at 25 deg C



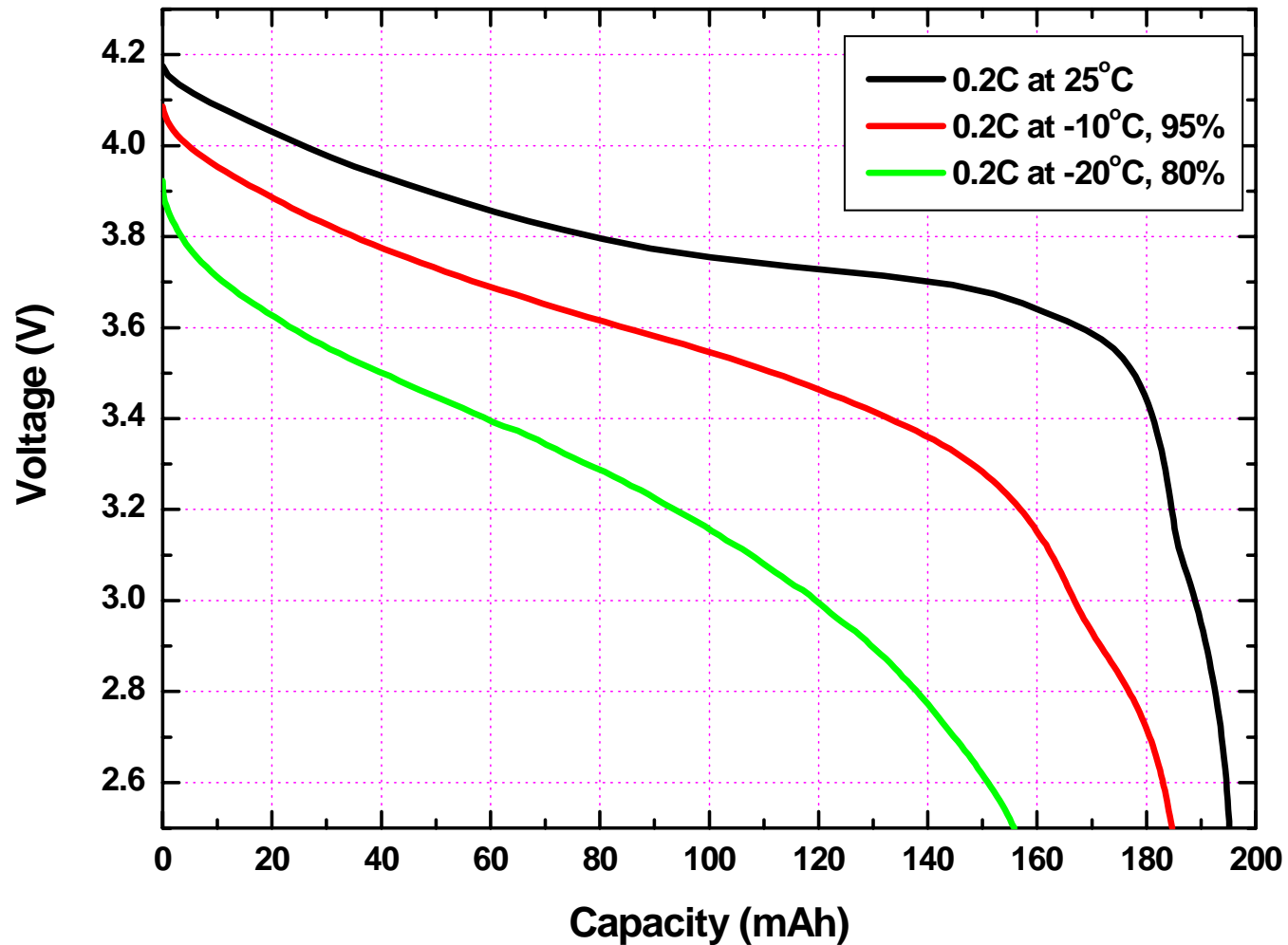
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2.2. Discharge Characteristics at 25 deg C



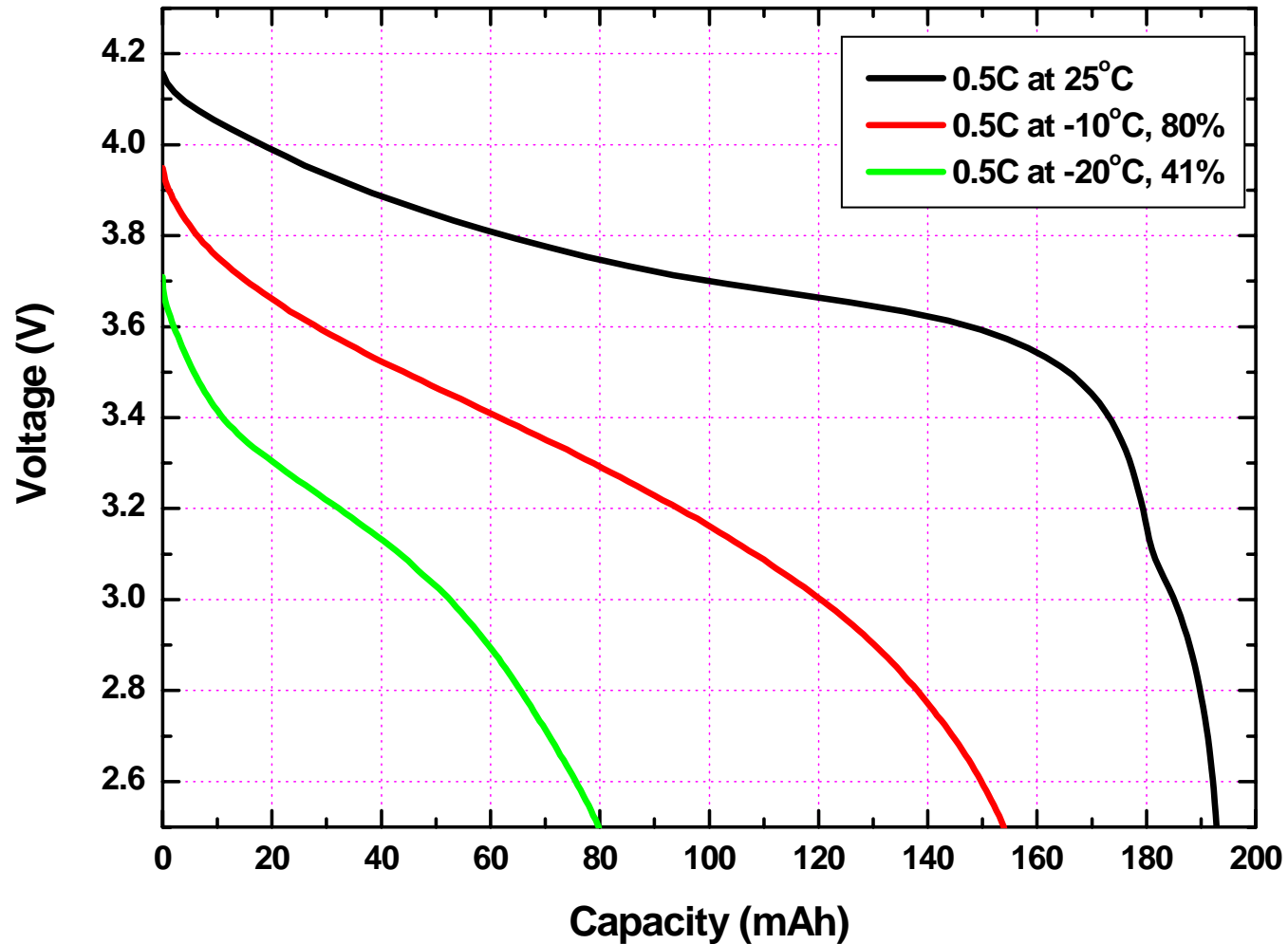
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2.3. 0.2C Discharge at low temperature



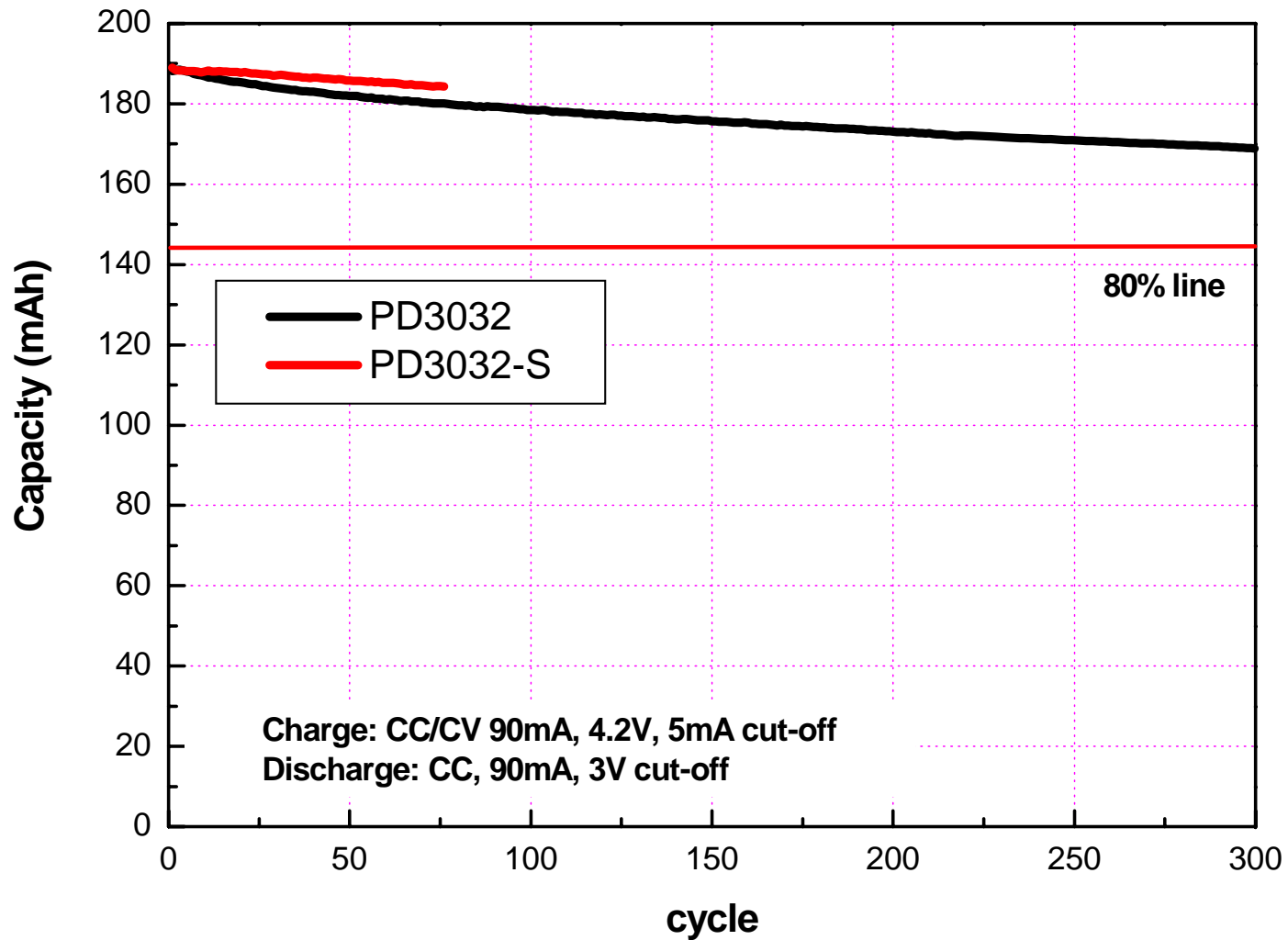
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2.4. 0.5C Discharge at low temperature



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2.5. Cycle life – 0.5C charge/ 0.5C discharge



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3.1. High temperature storage Test (90 deg C, 4hr)

** Average of 5 samples.*

	Before storage	After storage	Δ
Voltage, V	4.151	4.124	0.027v
Impedance, mohm	105	149	42%
Thickness, mm (at 90 deg C)	3.482	3.571	2.6%
Thickness, mm (at RT)	3.482	3.542	1.7%
Residual capacity, mAh	198	178	90%
Recovery capacity, mAh	198	189	95%

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3.2. Humidity test (60 deg C, 90% RH, 1week)

** Average of 5 samples.*

	Before storage	After storage	Δ
Voltage, V	4.171	4.102	0.068v
Impedance, mohm	104	164	57%
Thickness, mm (at RT)	3.446	3.494	1.39%
Residual capacity, mAh	198	171	87%
Recovery capacity, mAh	198	187	95%

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4. Safety test

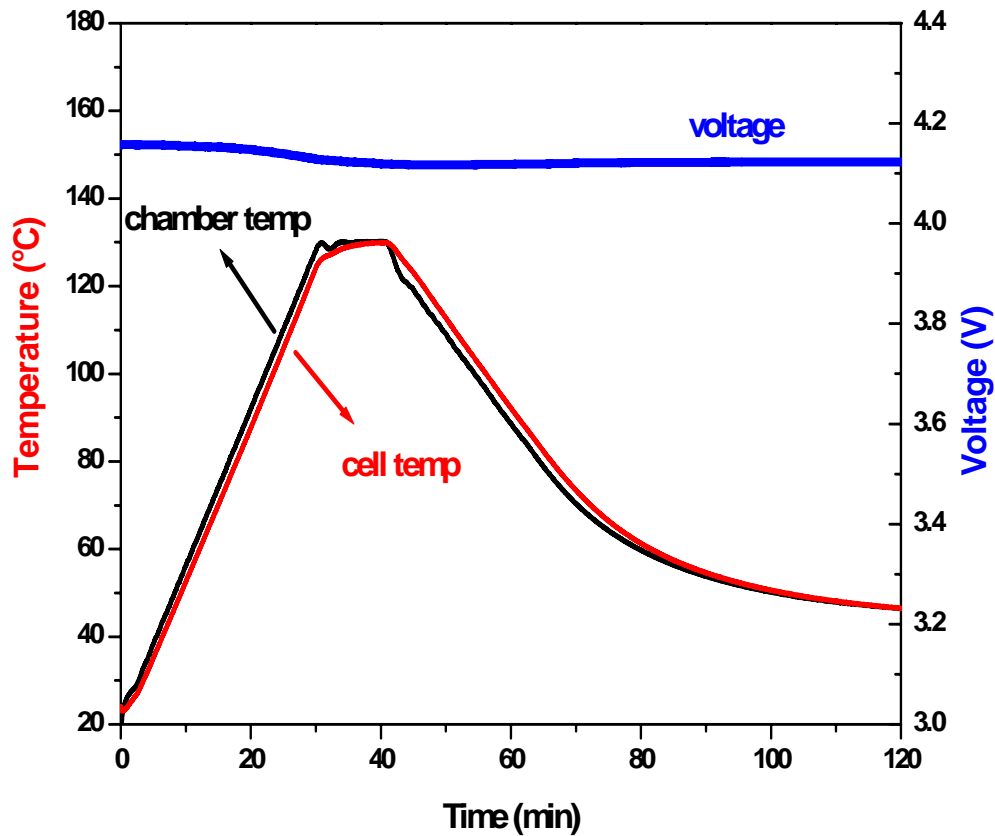
Test	comment
Hot box test (130oC, 10min)	NF, NE, NV
Nail test (2.5mm nail)	NF, NE, NV
Short circuit test at RT	NF, NE, NV
Short circuit test at 55 deg C	NF, NE, NV
Overcharge test (1.5C, 250% charge)	NF, NE, NV

** NF= no fire, NE= no explosion, NV=no vent*

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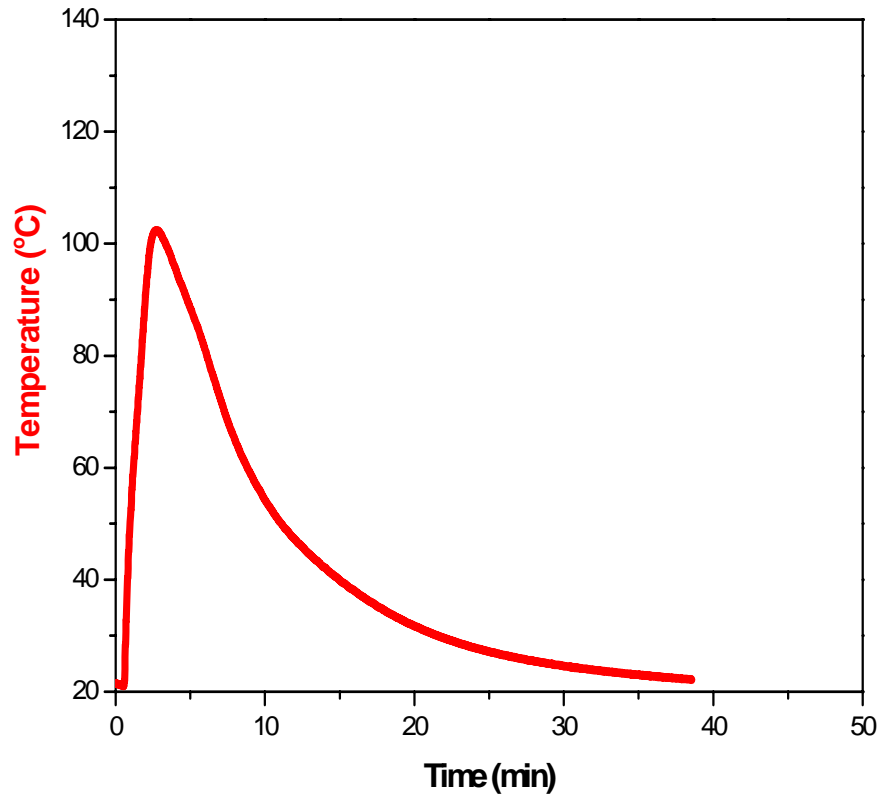
4.1. Hot-Box Test (130 deg C, 10min)



<after test>

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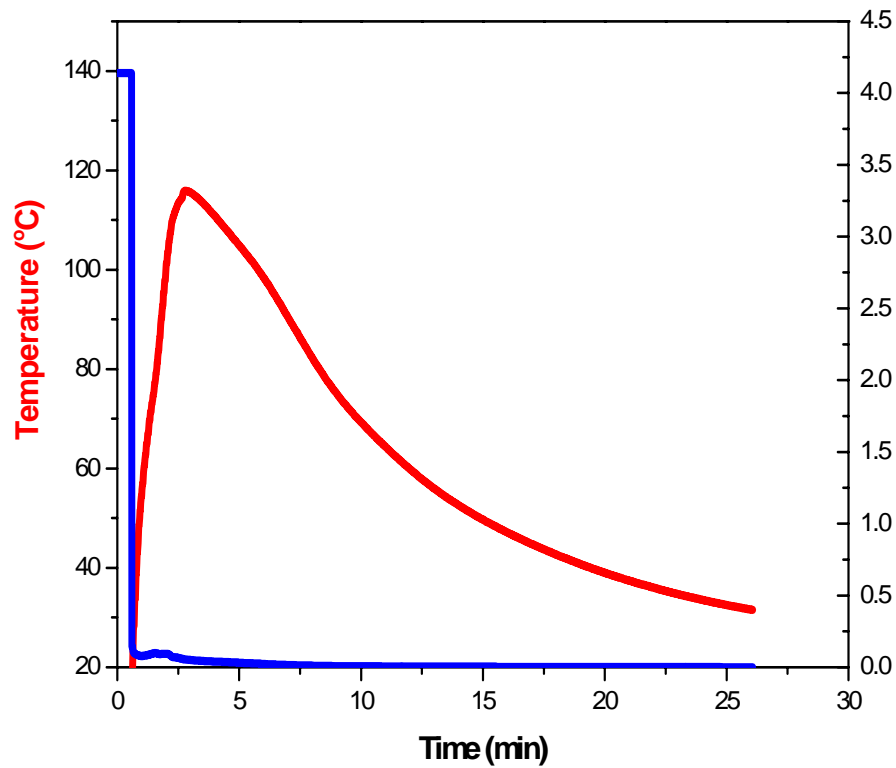
4.2. Nail Penetration Test



<after test>

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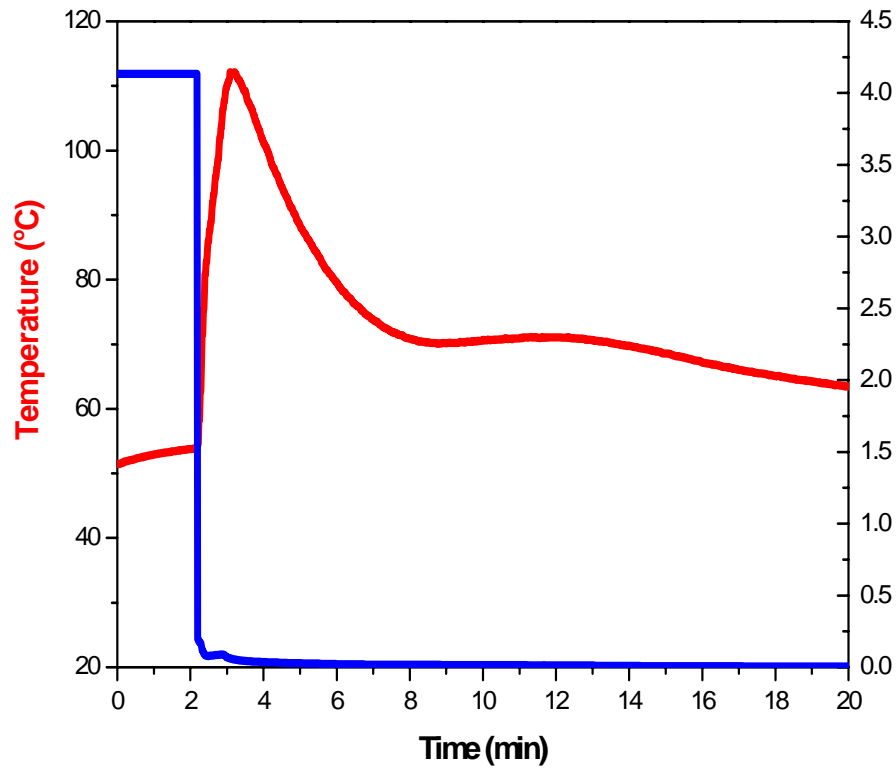
4.3. Short circuit Test at RT



<after test>

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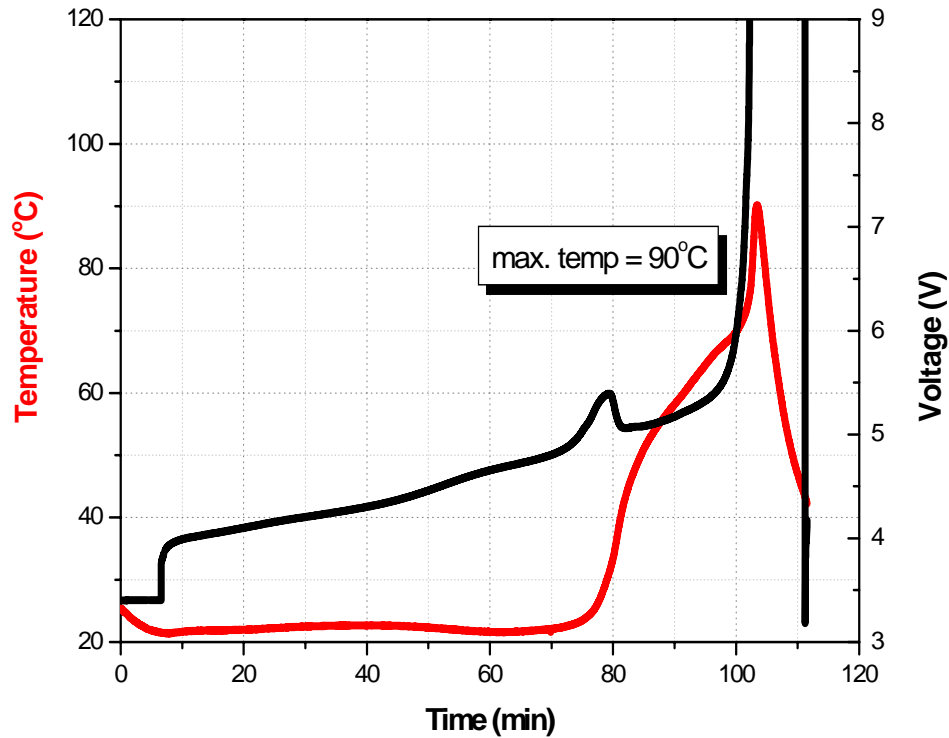
4.4. Short circuit Test at 55 deg C



<after test>

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4.5. Overcharge test (1.5C, 250%)

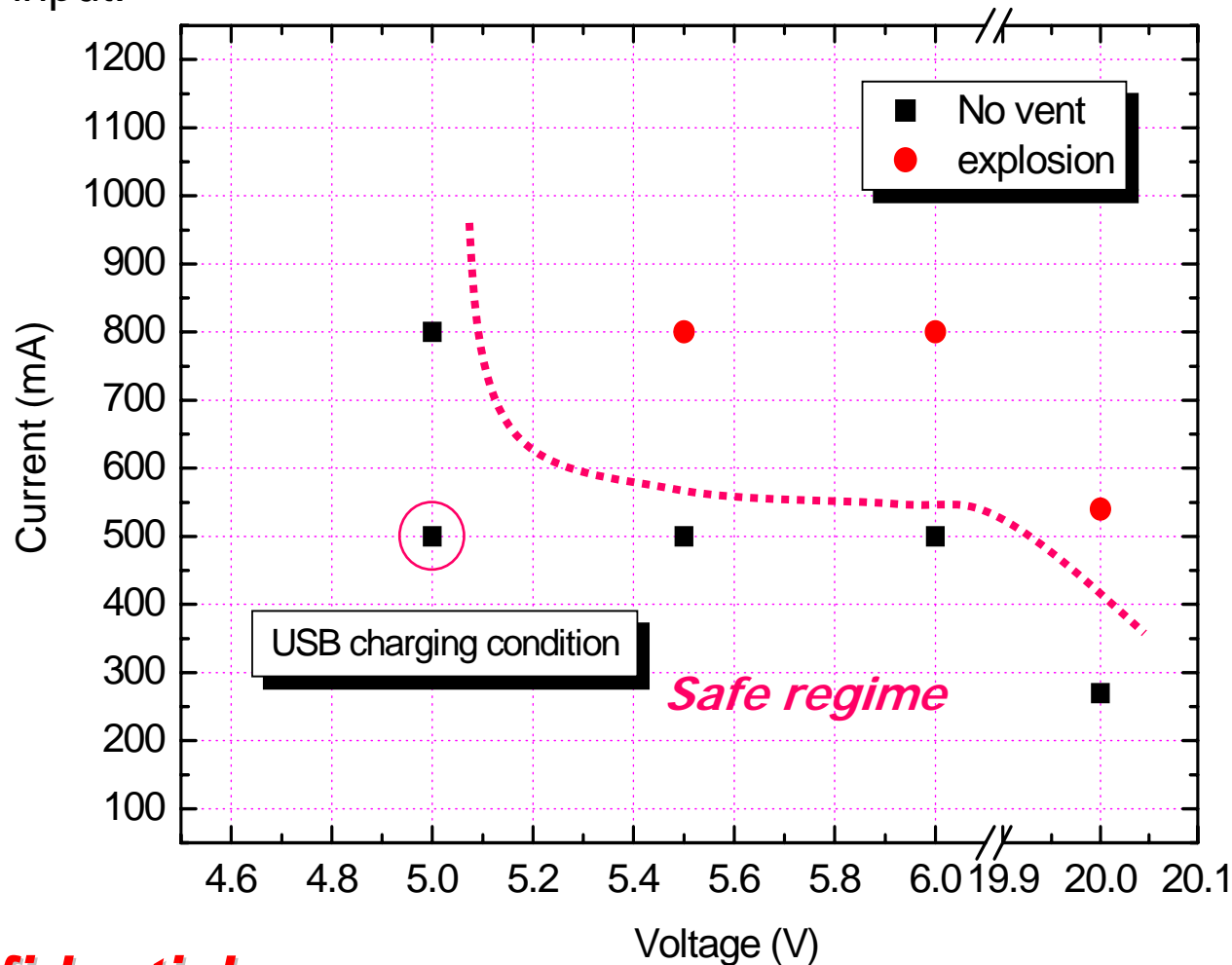


<after test>

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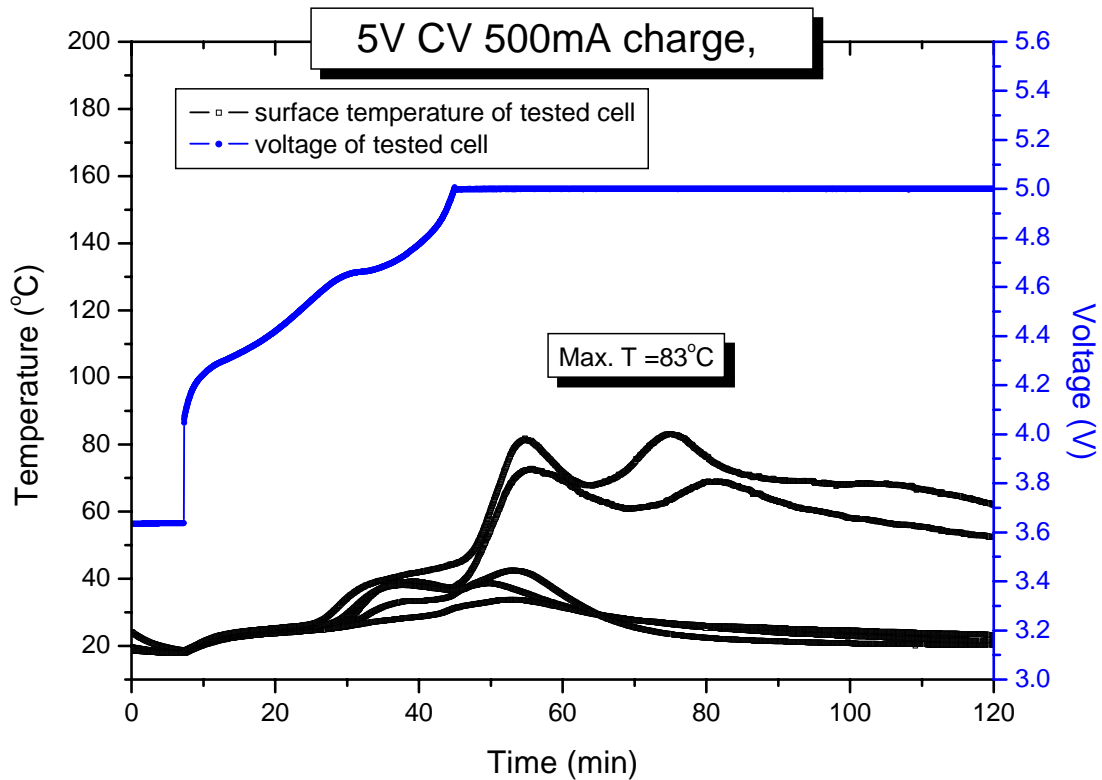
Overcharge safety map Bare cell PD3032-S with no protection

Even with no PCM and failed charging electronics, no safety problem under USB input.



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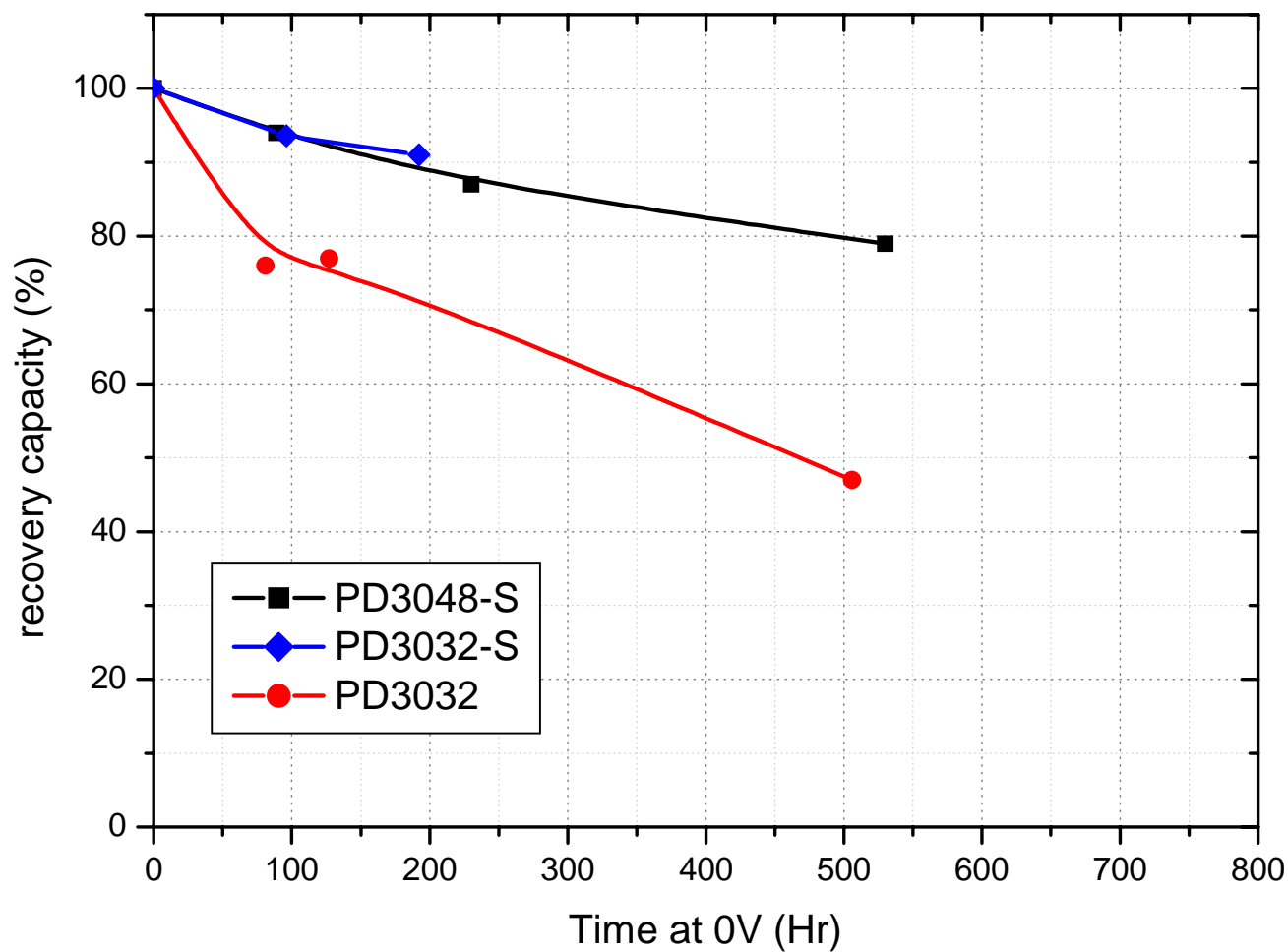
USB charging condition 5 V 500mA CV charge



<after test>

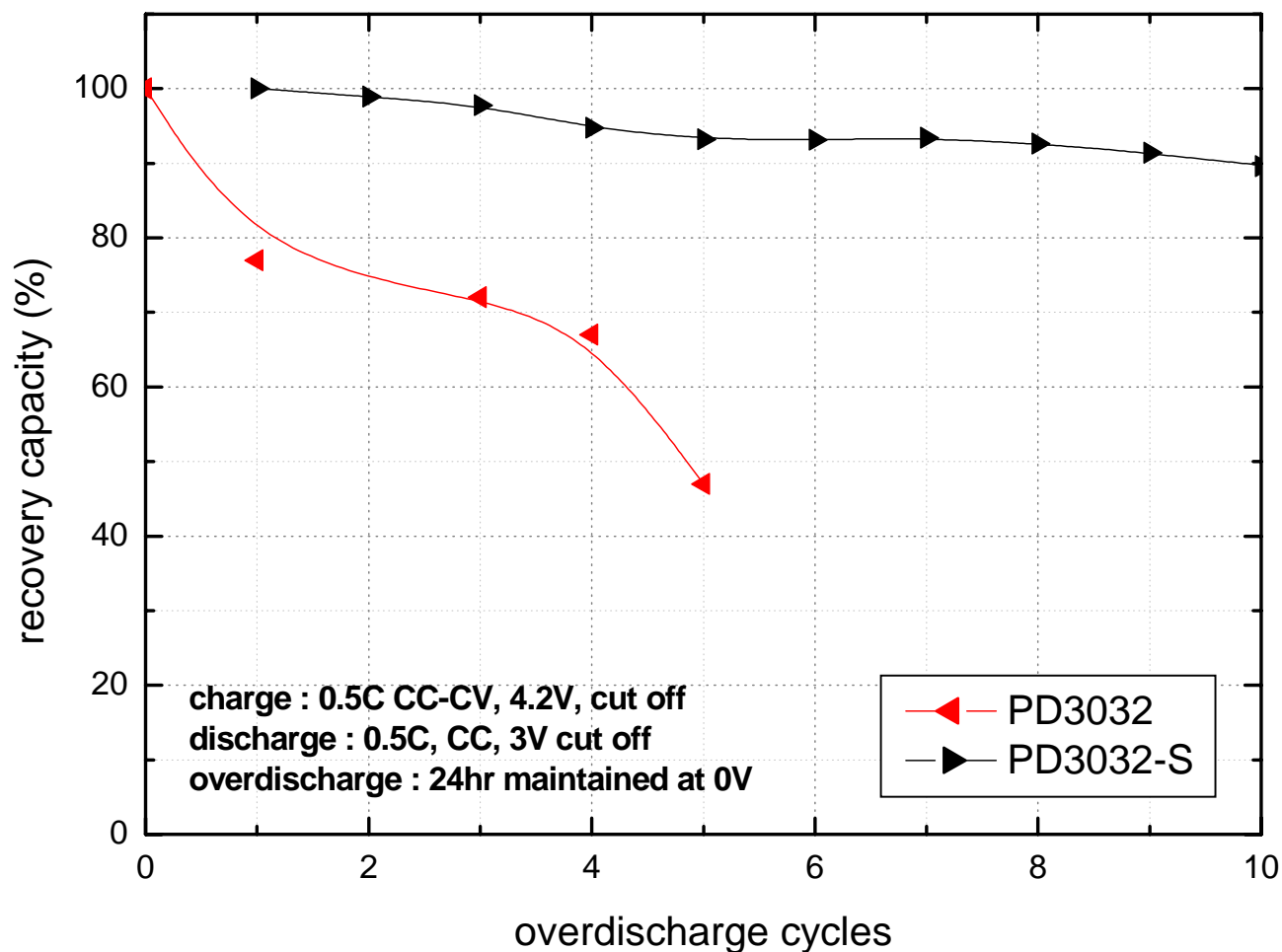
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Appendix 1. Performance after over discharge storage



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Appendix 2. Performance after over discharge cycle



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