

Reliability Data

7 Sep. 2004

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2. Charge-Discharge Cycle Characteristics

2.1. Charge-Discharge Cycle Characteristics

2.2. Charge-Discharge Cycle Characteristics (DOD)

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4.2. 80deg-C

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5.2. 80deg-C

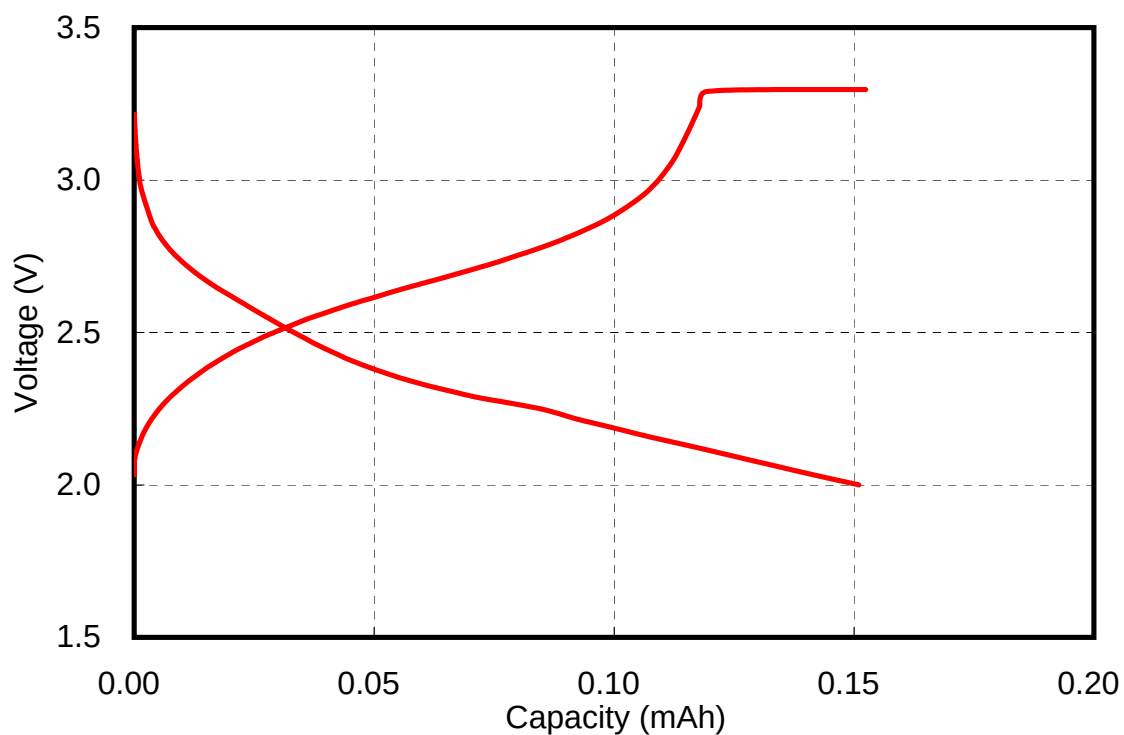
1. Charge-Discharge Characteristics

7 Sep. 2004

[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, max. 25uA, 30hr , RT
Discharge	Constant Current	5uA, cov.=2.0V

Charge-Discharge Characteristics After 2 Times Reflow



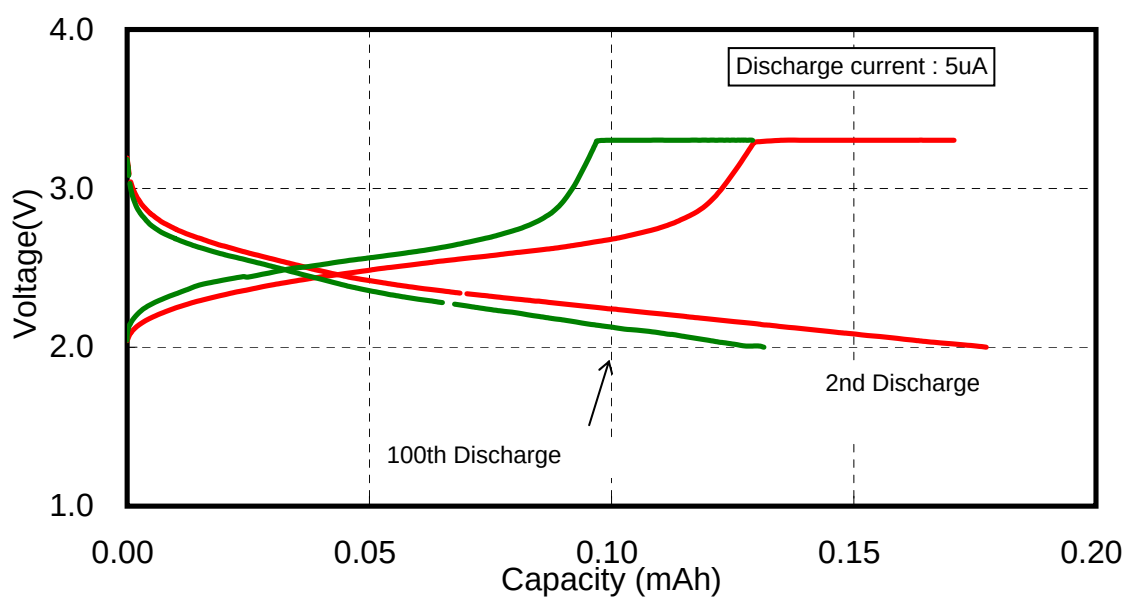
2.1. Charge-Discharge Cycle Characteristics

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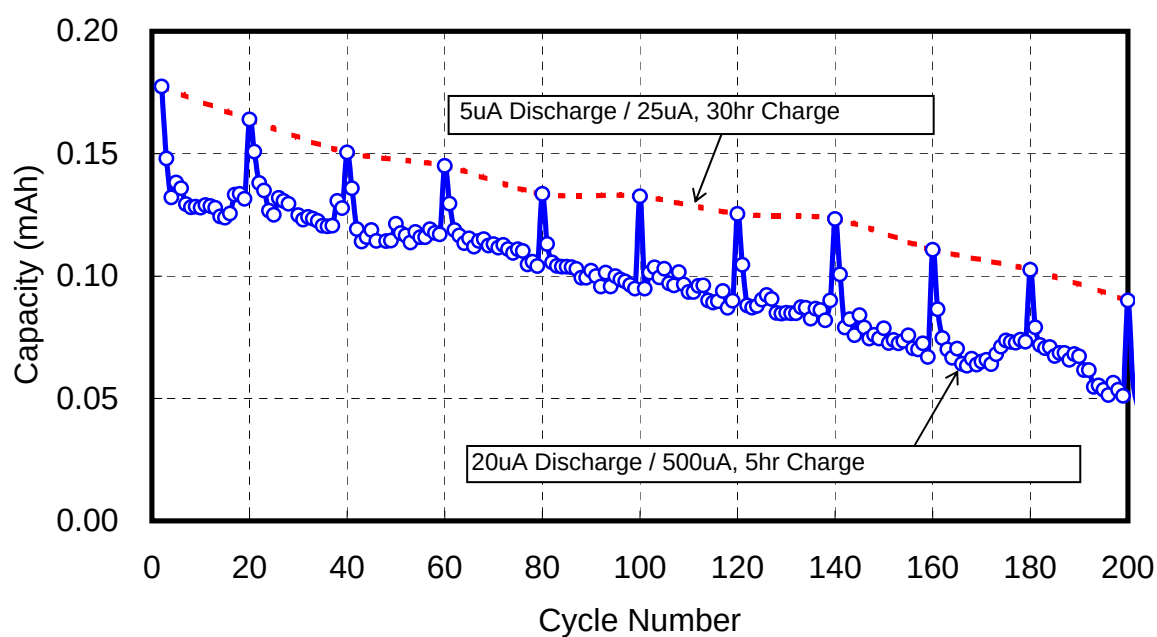
[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, max. 500uA, 5hr / 25uA, 30hr
Discharge	Constant Current	20uA and 5uA, cov.=2.0V

Charge-Discharge Characteristics



Charge-Discharge Cycle Characteristics



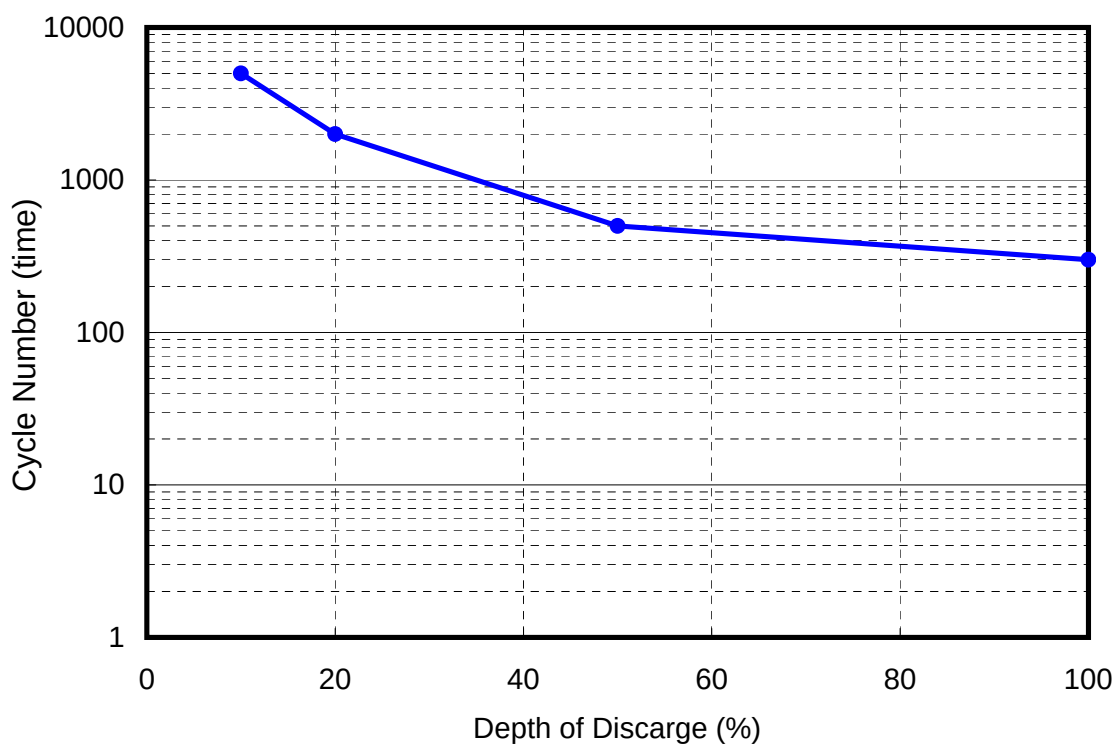
2.2. Charge-Discharge Cycle Characteristics(DOD)

7.Jan.2003

[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, 500uA max.
Discharge	Constant Current	20uA to each depth or 5uA, cov.=2.0V

Cycle Characteristics in Case of Changing Depth of Discharge



Cycle life is number of cycles when discharge capacity becomes 50% of capacity after certain charge/discharge cycles under above condition.

DOD:depth of discharge

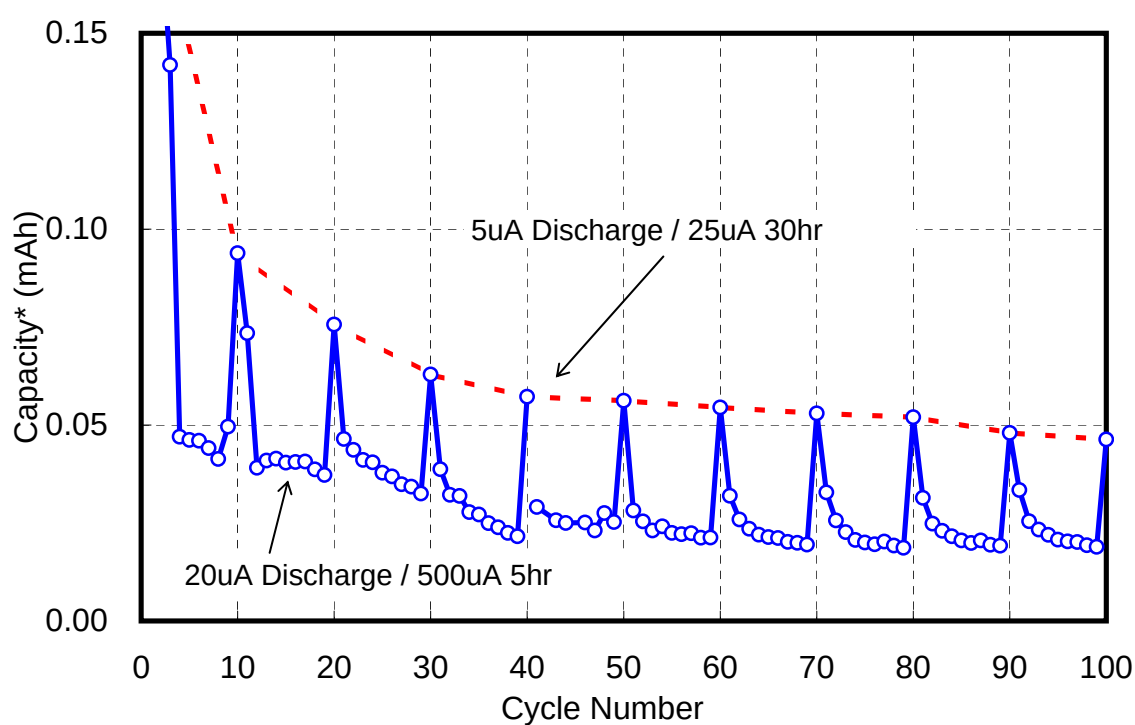
2.3 Over-Discharge Cycle Characteristics

7.Jan.2003

[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, max. 500uA, 5hr / 25uA, 30hr
Discharge	Constant Current	20uA, cov.=0V / 5uA, cov.=2.0V

Over Discharge Cycle Characteristics



*Discharge capacity measured at the range 3.3V to 2.0V

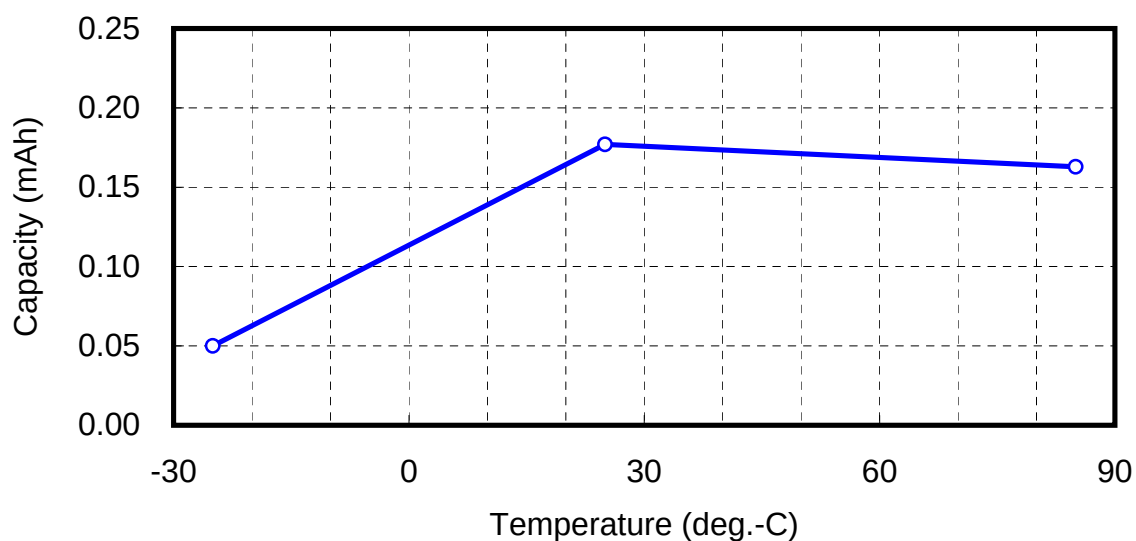
3. Temperature Characteristics

7.Jan.2003

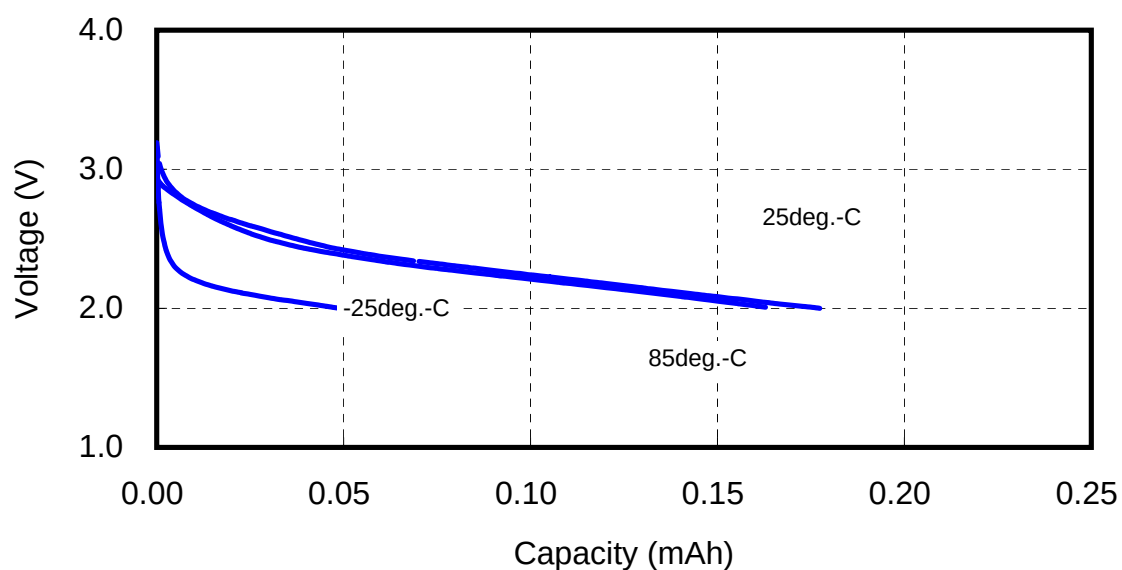
[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, max. 25uA, 30hr
Discharge	Constant Current	5uA, cov.=2.0V, at each temp.

Temperature vs. Discharge Capacity



Temperature vs. Discharge Characteristics



4.1 High Temperature Storage Characteristics(60deg.-C)

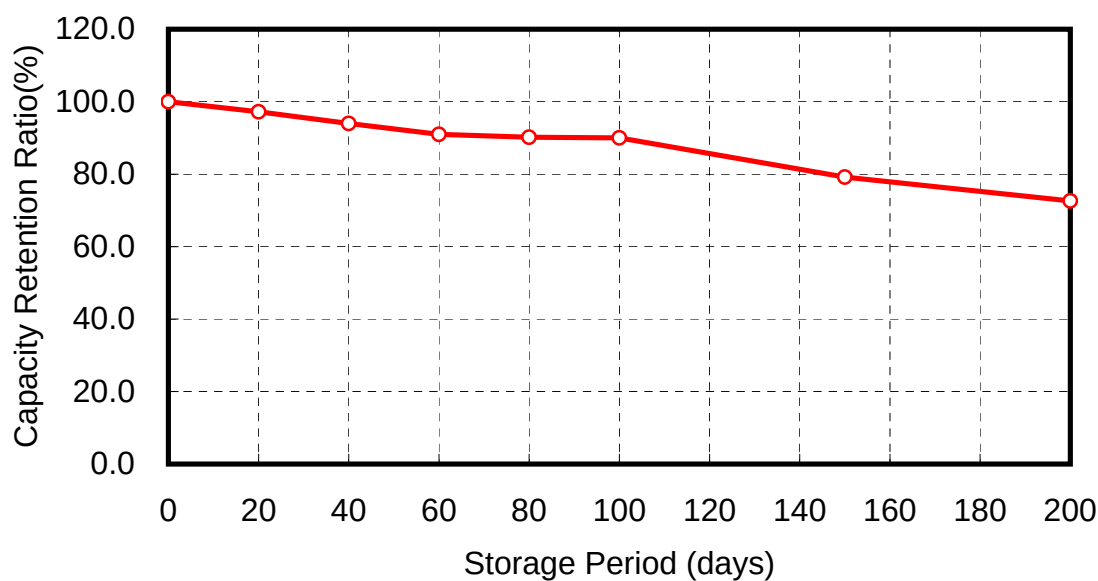
7.Jan.2003

[Storage Condition] 60deg.-C

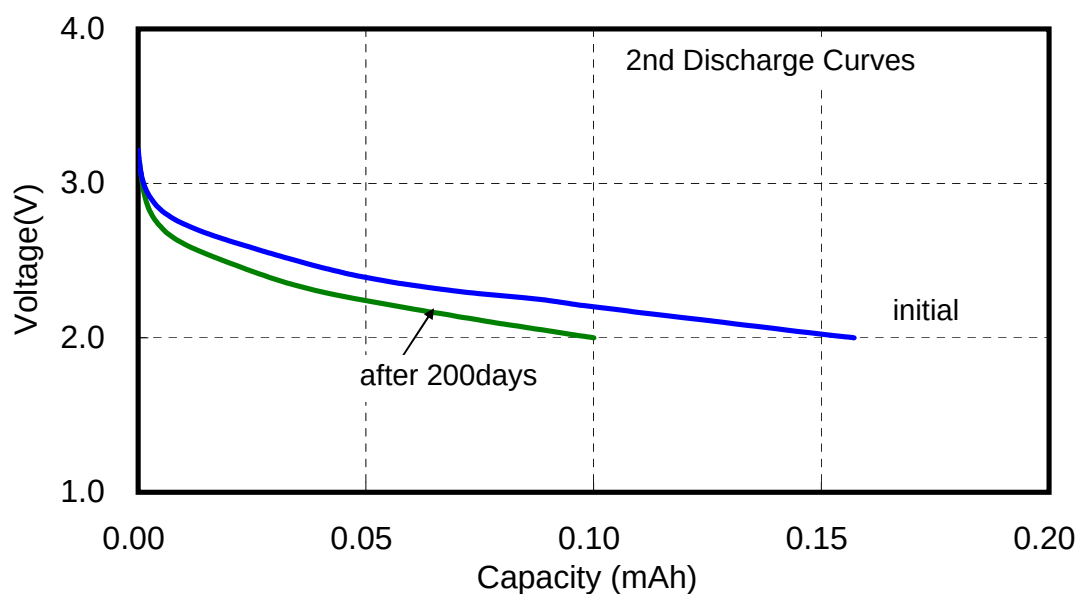
[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, max. 25uA, 30hr, RT
Discharge	Constant Current	5uA, cov.=2.0V

Capacity Retention Ratio after 60deg-C storage



Discharge Characteristics



4.2 High Temperature Storage Characteristics(80deg.-C)

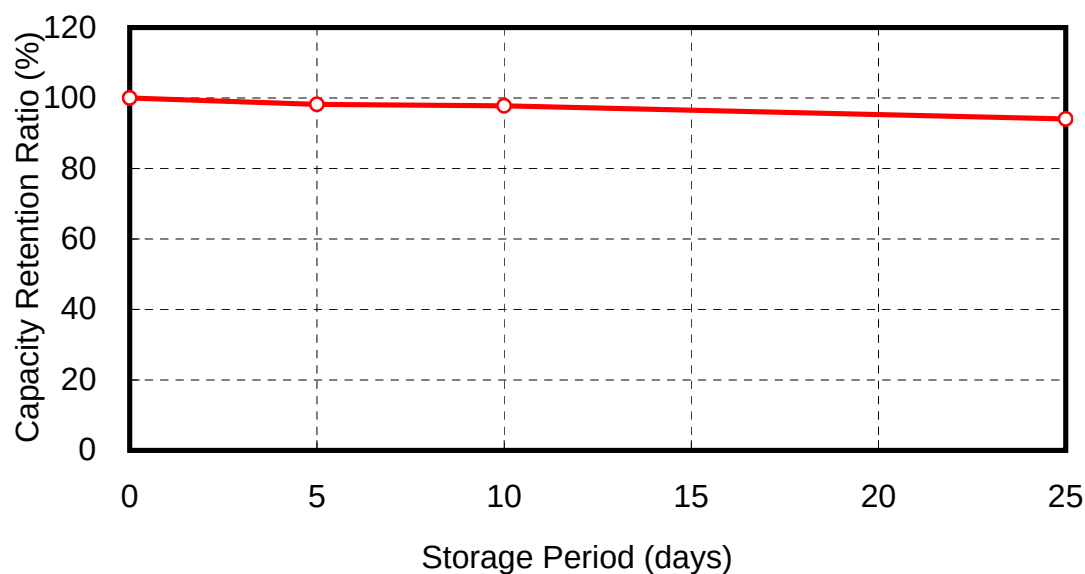
7.Jan.2003

[Storage Condition] 80deg.-C

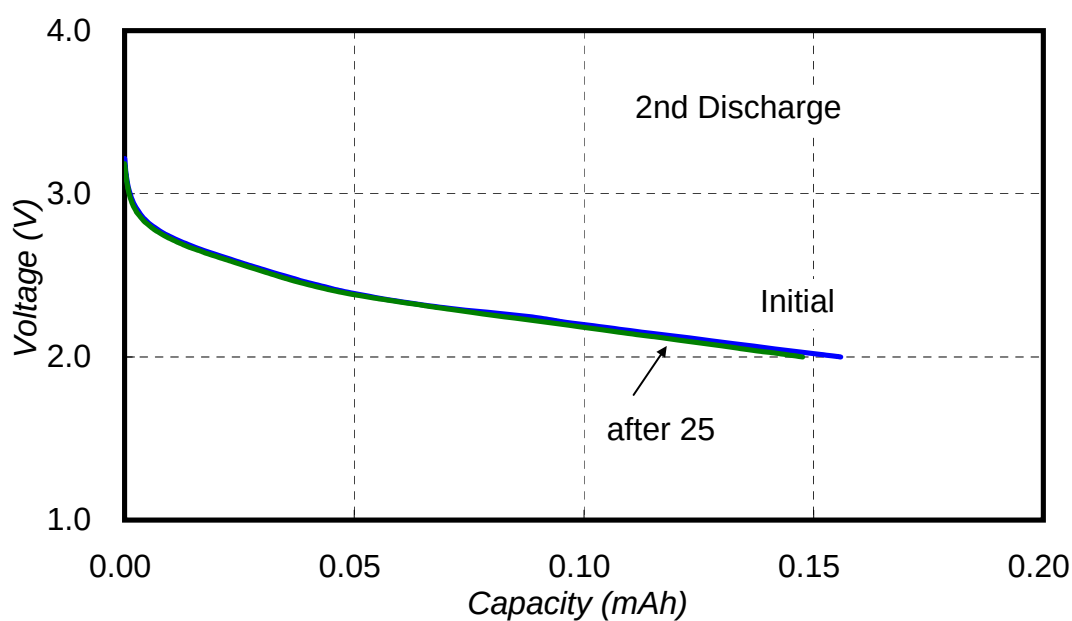
[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, max. 25uA, 30hr, RT
Discharge	Constant Current	5uA, cov.=2.0V

Capacity Retention Ratio after 80deg-C storage



Discharge Characteristics



5.1 Over-Charge Characteristics(60deg.-C)

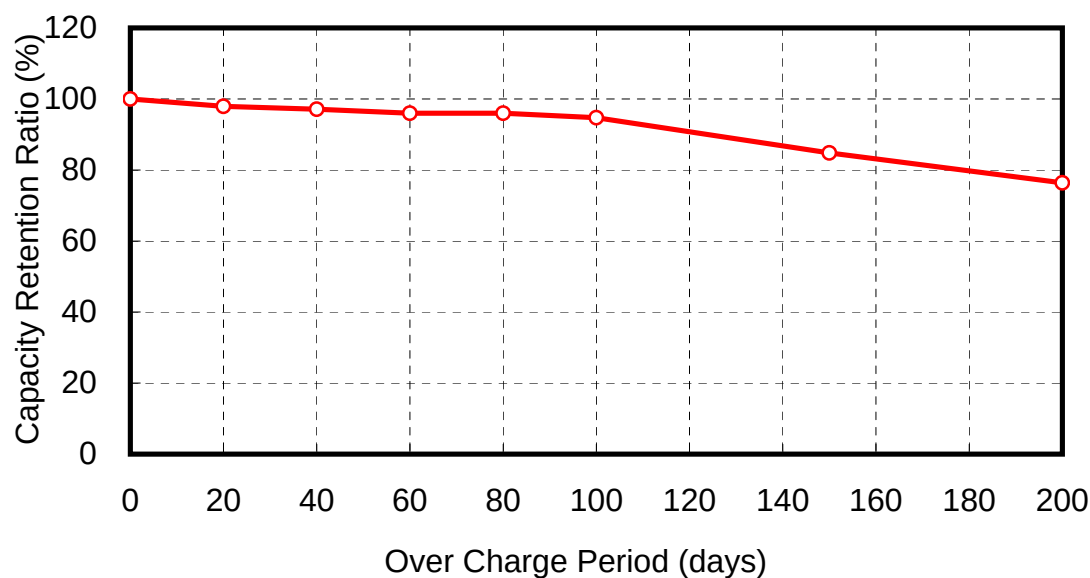
7.Jan.2003

[Over Charge Condition] 60deg.-C-3.3V Impressed

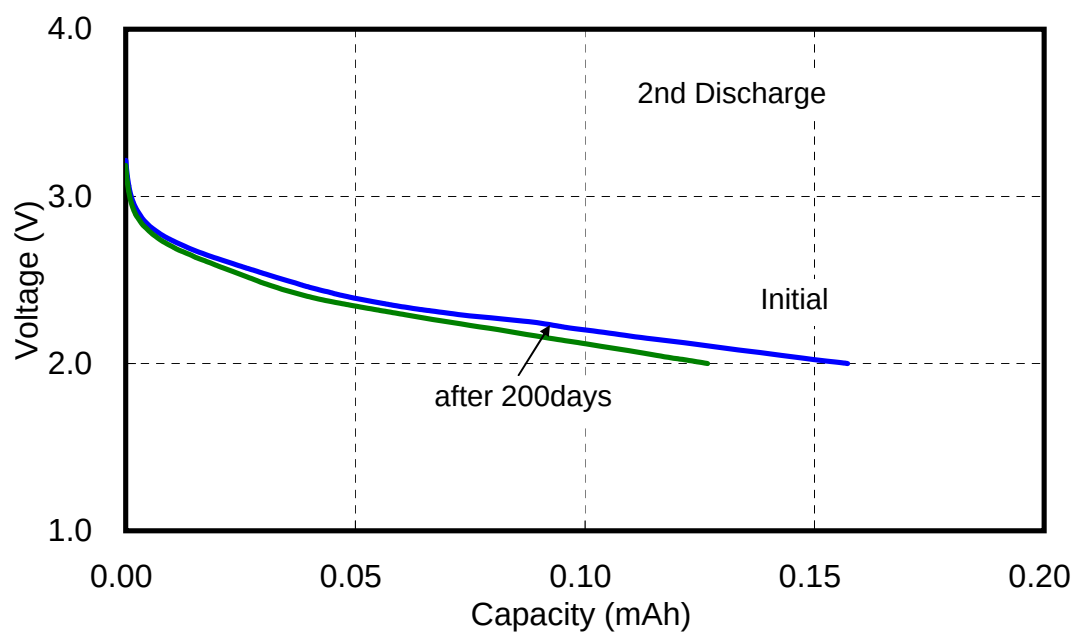
[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, max. 25uA, 30hr, RT
Discharge	Constant Current	5uA, cov.=2.0V

Over Charge Period vs. Capacity Retention Ratio



Discharge Characteristics



5.2 Over-Charge Characteristics(80deg.-C)

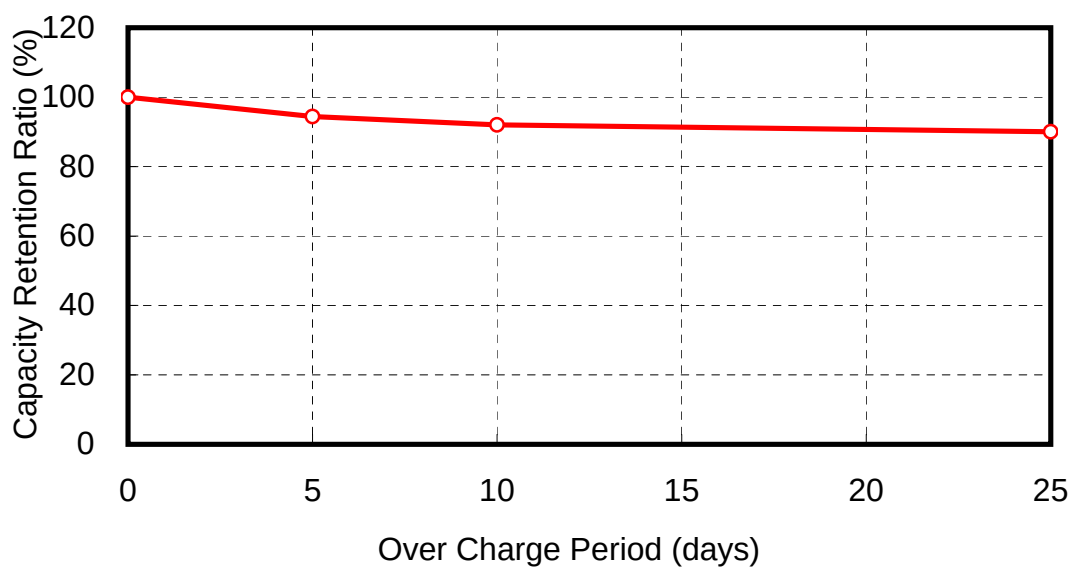
7.Jan.2003

[Over Charge Condition] 80deg.-C-3.3V Impressed

[Charge-Discharge Condition]

Charge	Constant Current / Constant Voltage	3.3V, max. 25uA, 30hr, RT
Discharge	Constant Current	5uA, cov.=2.0V

Over Charge Period vs. Capacity Retention Ratio



Discharge Characteristics

