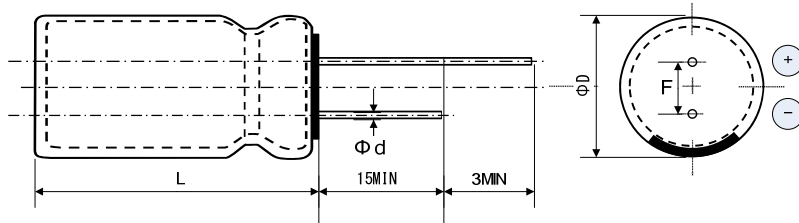


Spec Sheet

Part No. : VLCRS3R8277MG



Part No.	Part Dimension(mm)			
	ϕD	L	F	ϕd
VLCRS3R8277MG	$\phi 25.0 \pm 0.5$	40 ± 2	12.5 ± 0.5	$\phi 1.0 \pm 0.05$

Products characteristics table

Nominal Capacitance	270F
Max. Usable Voltage1	3.8V(at -30 to +70°C)
Max. Usable Voltage2	3.5V(at -30 to +85°C)
Min. Operating Voltage1	2.2V(at -30 to +70°C)
Min. Operating Voltage2	2.5V(at -30 to +85°C)
Initial Internal Resistance(DCR)	60mΩ Max
Initial Capacitance	270F ±15%
Operating Temp. Range1	-30 to +70°C
Operating Temp. Range2	-30 to +85°C
Soldering	Manual

The data is reference only. Electrical characteristics vary depending on environment or measurement condition.
 VINATech Co., Ltd. reserves the right to make change to the data at any time without notice.
 Before making final selection, please check product specification.

Technical Data of VLCRS3R8277MG

•Specification Chart

Table 1 - Specification
Measurement

•Performance

Initial discharging characteristics	Fig.1
Temperature characteristics	
Capacitance	Fig. 2
DCR	Fig. 3
Floating charge characteristics	
Capacitance	Fig. 4
DCR	Fig. 5
Cycle characteristics	
Capacitance	Fig. 6
DCR	Fig. 7
Self discharge characteristics	Fig. 8
Leak current	Fig. 9

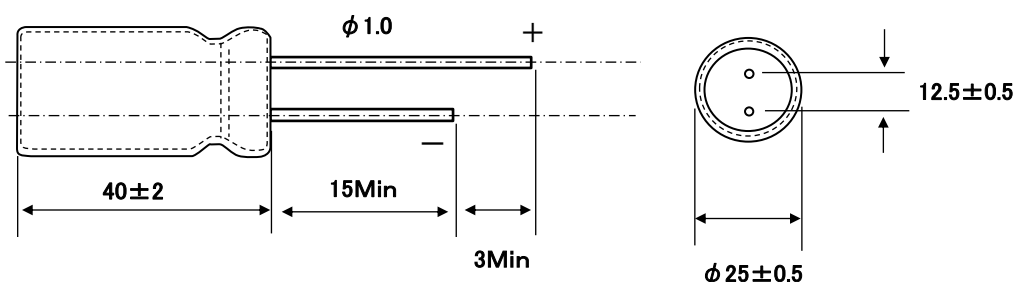
27 July 2017
VINATech Co.,Ltd.

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Table-1 VLRS3R8277MG Specification

Items		Specification	Test Condition
1	Usable temperature range	-30~+85°C	
2	Maximum operating voltage	3.8V	Within the range of usable temperature (3.5V when over 70°C)
3	Minimum operating voltage	2.2V	Within the range of usable temperature (2.5V when over 70°C)
4	Initial characteristics	Capacitance	230F-310F Charge : 3.8V DC-30min, Max 2.7A Discharge : 270mA Calculate by Wh of 3.8V-2.2V discharge
		DCR	Under 60mΩ Charge : 3.8VDC-30min, Max 0.85A Discharge : 0.85A Calculate from the voltage values of 11.7 sec. and 23.4 sec. after the discharge starts by calculation formula.
5	Temperature characteristics	-30°C Capacitance	Over 115F
		DCR	Under 1000mΩ
		70°C, 85°C Capacitance	Over 230F
		DCR	Under 60mΩ
6	Floating charge characteristics-1	Capacitance	Over 184F Temperature : 70±2°C Voltage : 3.8V
		DCR	Under 90mΩ Measure at normal temperature and normal humidity after apply 3.8V for 1000 hours.
7	Floating charge characteristics-2	Capacitance	Over 184F Temperature : 85±2°C Voltage : 3.5V
		DCR	Under 90mΩ Measure at normal temperature and normal humidity after apply 3.5V for 1000 hours.
8	Heat cycle characteristics	Capacitance	Over 184F Leave the capacitor in below condition. Temperature : 85±2°C, -40±2°C
		DCR	Under 90mΩ Duration : 30 min Cycle Numbers : 100 cycles
9	Floating charge characteristics in high temperature and high humidity	Capacitance	Over 184F Temperature : 60±2°C Humidity : 90~95%RH
		DCR	Under 90mΩ Applied Voltage : 3.8V Duration : 500hours

[Measurement]



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VLCRS3R8277MG Initial discharge characteristics

Test condition

Ambient Temp. : 25±5°C

Charge : 3.8V-30minutes Max 2.7A

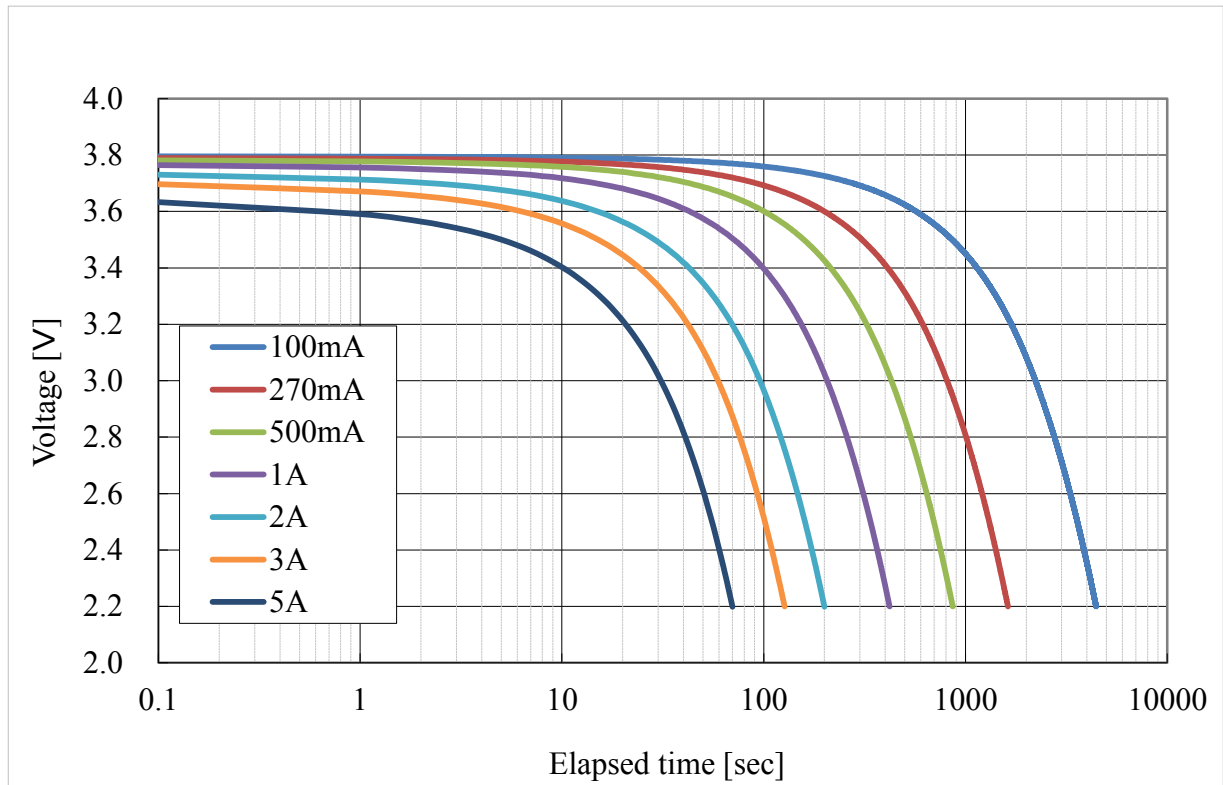


Fig.1 Initial discharge characteristics

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VLCRS3R8277MG Temperature characteristics

Items		Specifications	Test condition
-30°C	Capacitance	Over 115F	After keeping a cell with 2hr or more each temperature. (3.5V when over 70°C)
	DCR	Under 1000mΩ	
70°C	Capacitance	Over 230F	
85°C	DCR	Under 60mΩ	

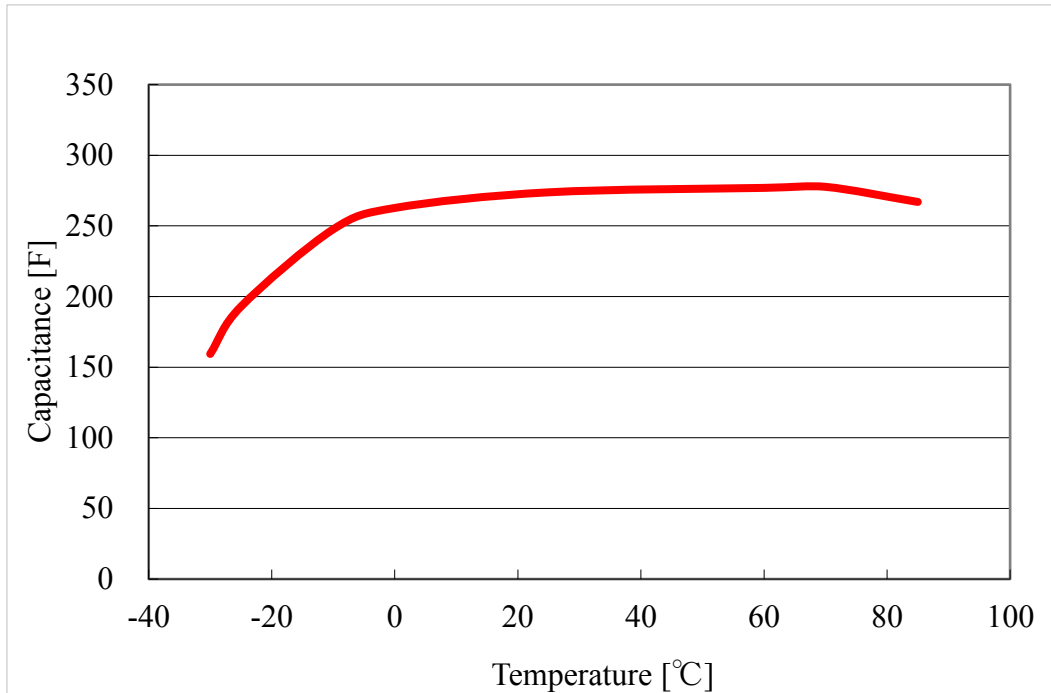


Fig.2 Temperature characteristics(Capacitance change)

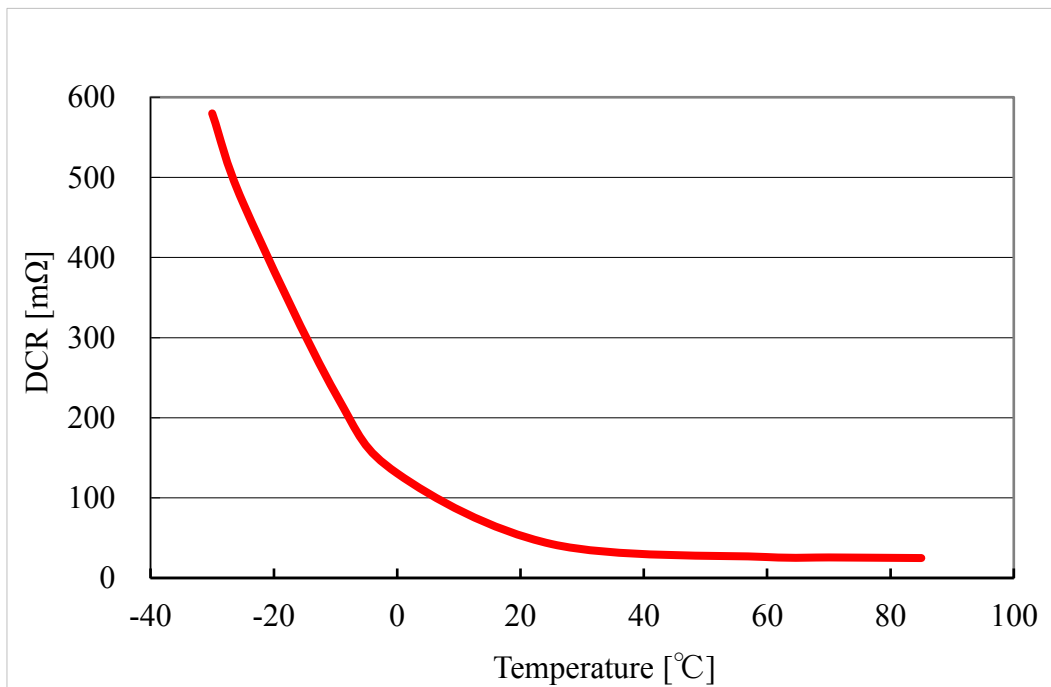


Fig.3 Temperature characteristics(DCR change)

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VLCRS3R8277MG Floating charge characteristics

Items	Floating specification	Test condition
Capacitance	Over 184F	Temperature : 70±2°C Measure at normal temperature and normal humidity after apply 3.8V for 1000 hours
DCR	Under 90mΩ	
Appearance	No significant defect	

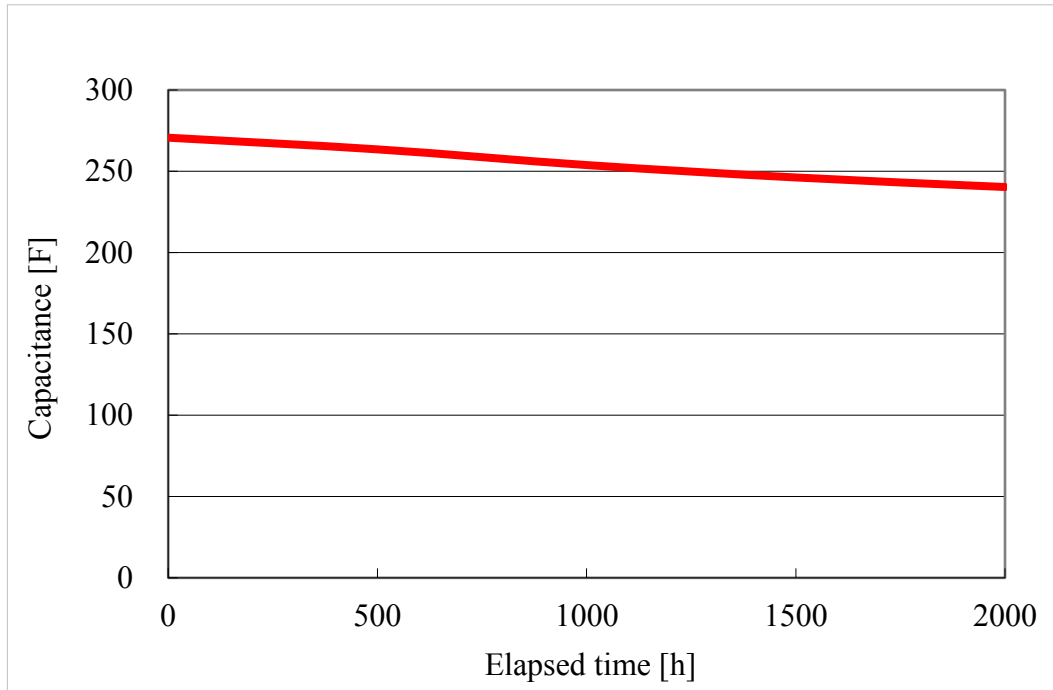


Fig.4 Floating charge characteristics (Capacitance change)

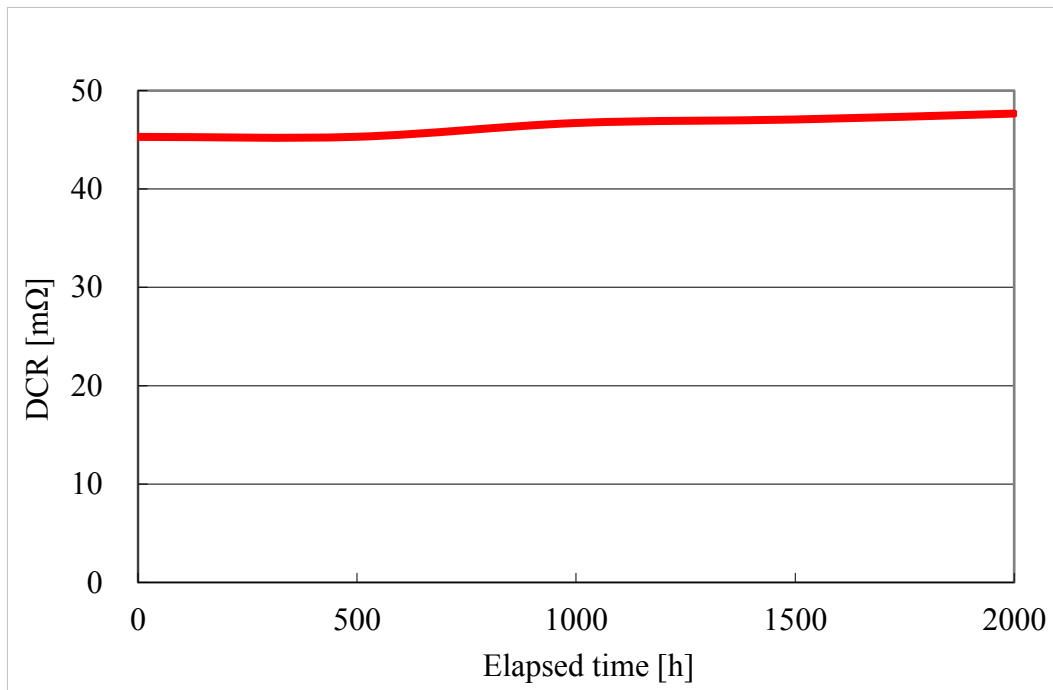


Fig.5 Floating charge characteristics (DCR change)

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VLCRS3R8277MG Charge/Discharge cycle characteristics

※This test item is not a guarantee item.

Items	Cycle specification	Test condition
Capacitance	—	Ambient Temp. : 25±5°C
DCR	—	Charge/Discharge Cycle : 10000Times
Appearance	—	Charge : 3.8V-60sec Max 5A Discharge : 5A Cut off Volt. 2.2V

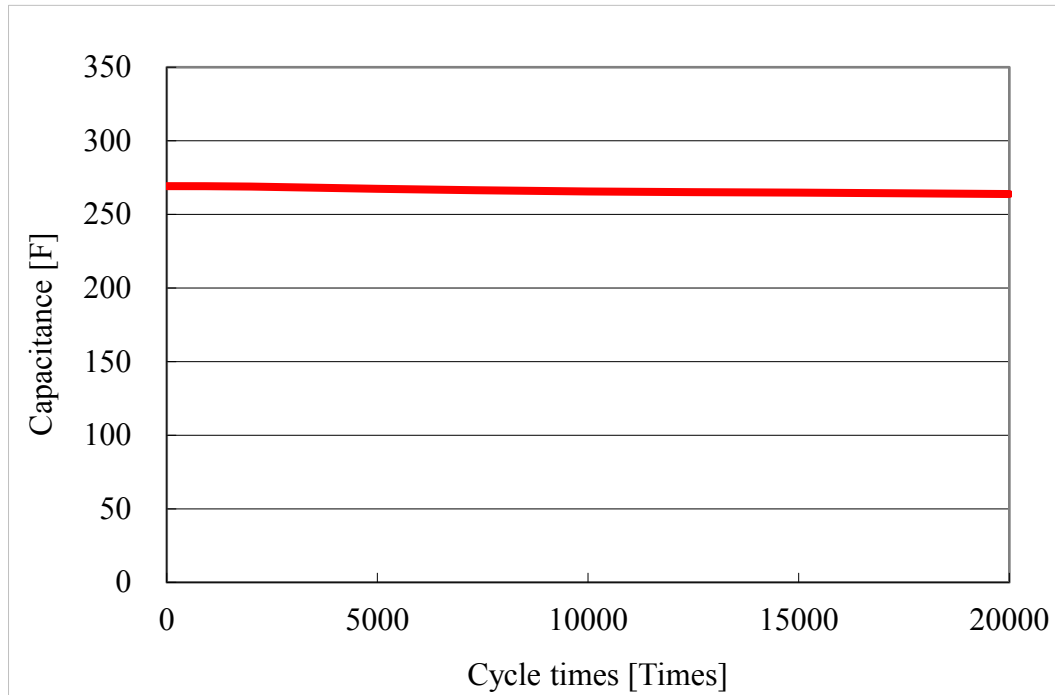


Fig. 6 Charge/Discharge cycle characteristics (Capacitance change)

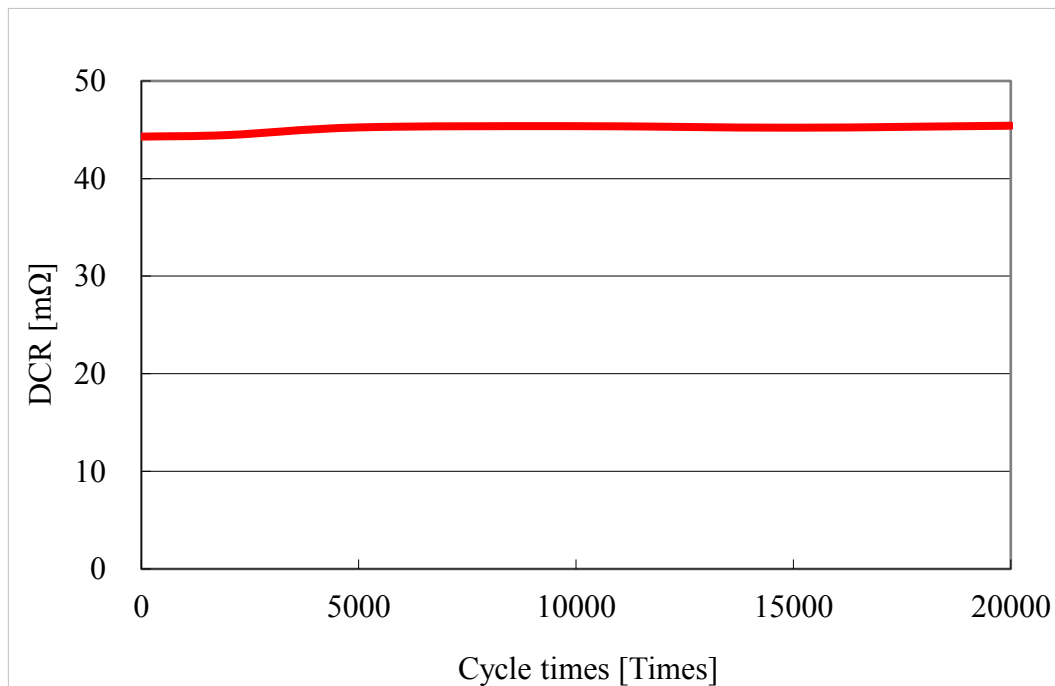


Fig. 7 Charge/Discharge cycle characteristics (DCR change)

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VLCRS3R8277MG Self discharge / Leak current

※This test item is not a guarantee item.

Test condition : Charge 25°C 3.8V 24hr

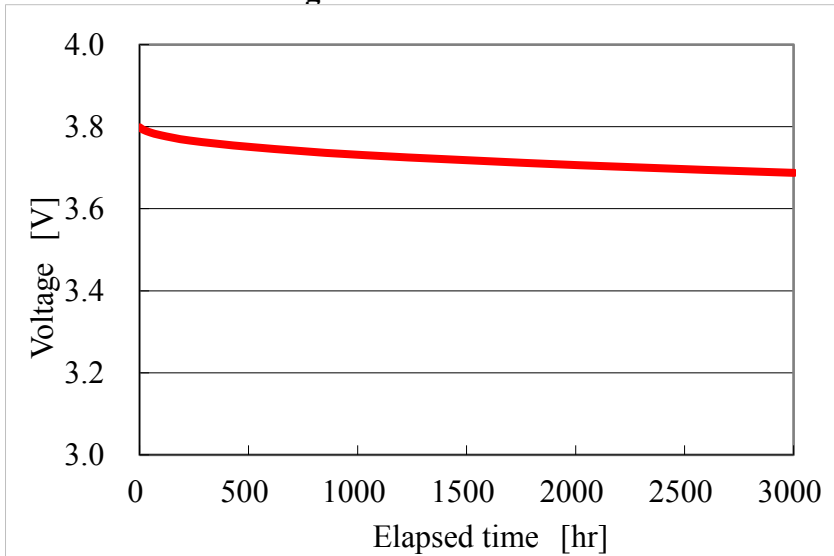


Fig. 8 Self discharge characteristics

Test condition : Follow JIS C5160-1, 3.8V 25°C

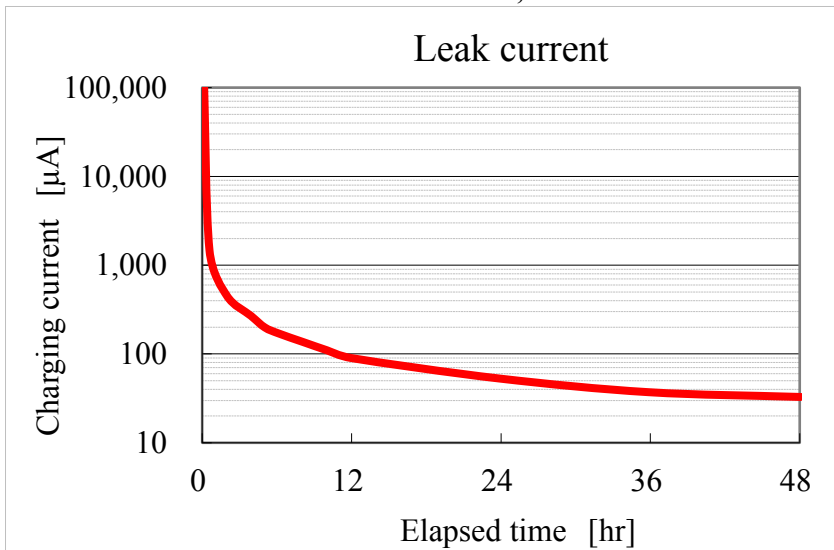


Fig. 9 Leak current

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