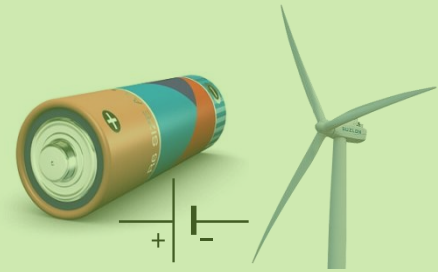
AMOGREENTECH
Bendable Battery



May. 2015

1. Bendable Battery _ AMOBAND™

■ Features

- Fully flexible mechanical structure
- Water-proof protection, IP67
- No heat generation during operation
- Thin and light weight

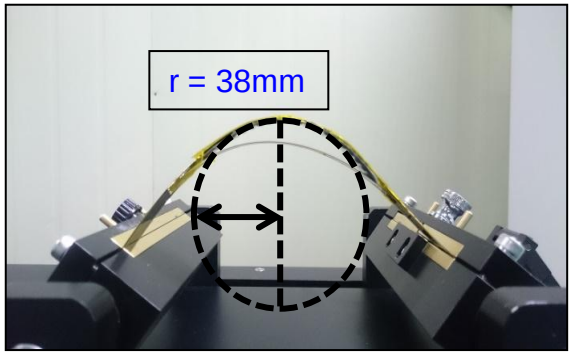
■ Applications

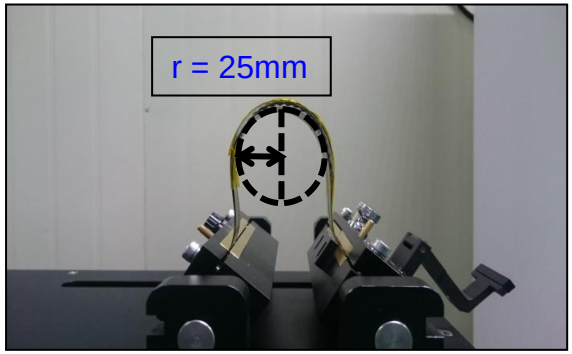
- Wrist devices such as smart watches and bands
- Footwear devices for fitness application in curved spaces
- Outdoor fabrics or jackets for wearable devices

2. Specifications

■ General specifications

Item		Specification
Nominal Capacity @0.2C		135mAh
Nominal Voltage		3.7V
Charge Condition	Normal Current (Max.)	0.2C (0.5C)
	CC-CV	4.2V
	Cut-off Current	0.05C
Discharge Condition	Normal Current (Max.)	0.2C (0.5C)
	Cut-off Voltage	2.8V
Cycle Life @ 0.5C, DOD80%		80% @ 400Cycles
Operating Temperature	Charge	0℃ ~ 45℃
	Discharge	-20℃ ~ 60℃
Bending cycles @ 25R ~ 38R		1,000
Dimension	Width(mm)	26.0 ± 2.0mm
	Length(mm)	85.0±2.0mm
	Thickness(mm)	2.1±0.5mm
Weight		4.7 ±0.5 g
Energy Density	Wh/Kg	106
	Wh/L	107





3. Advantages

■ Flexibility

: Multiple bending and stretching available

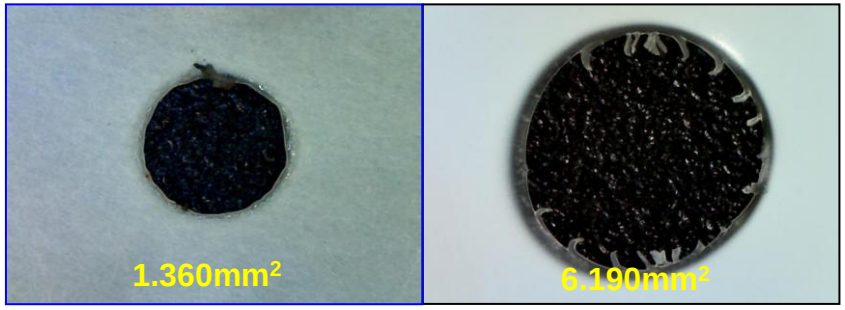
➔ by stable polymer gel-type electrolytes and Nano web seperator

■ Safety

: Thermally stable nano-polymer web for separator

➔ Localize and minimize damaged area by heat

Hot Tip(2Φ) test (1sec @150℃)



AMO Technology | Conventional material

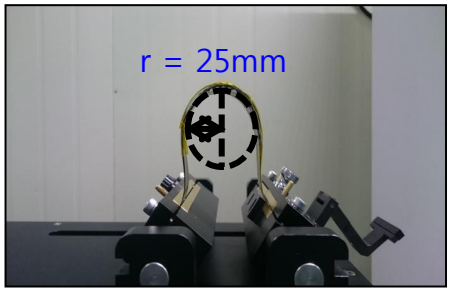
Hot Box test (10min @200℃)

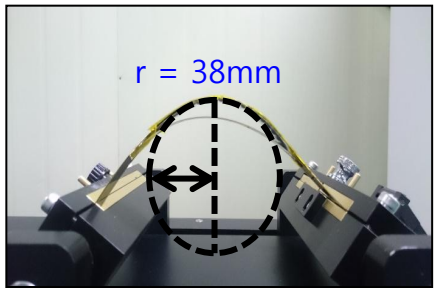
AMO Technology | Conventional material

4. Bending test

■ Test Conditions

1. Bending speed: 120 mm/s
2. Bending radius of curvature : 25R ~ 38R



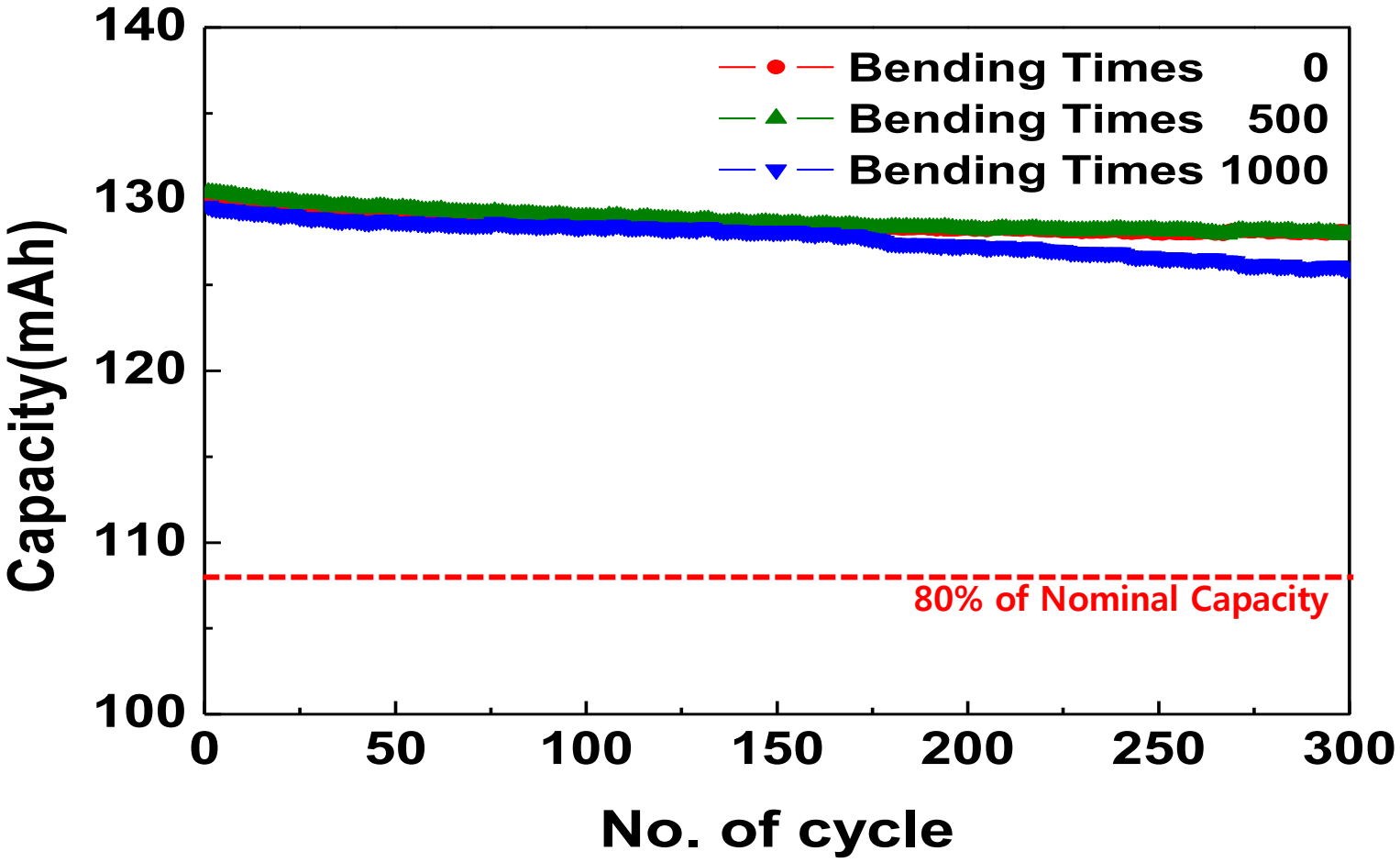


Items			Bending Cycles		
			0	500	1000
General	Nominal Capacity [@0.2C]		135mAh	134mAh	134mAh
	AC-IR		90.48mΩ	92.21mΩ	96.18mΩ
Characteristics	Charge	0.2C vs 1.0C [mAh]	99.3%[134.5]	99.3%[134.5]	98.9%[134.0]
	Discharge	0.2C vs 2.0C [mAh]	89.7%[121.5]	89.7%[121.5]	90.7%[122.5]
Safety		Fold	Pass	Pass	Pass
		Nail [5 points]	Pass	Pass	Pass
		Twist	Pass	Pass	Pass
		Pressure	Pass	Pass	Pass

[Notices] The Data is the actual measured value. The value are only for reference, not guaranteed.

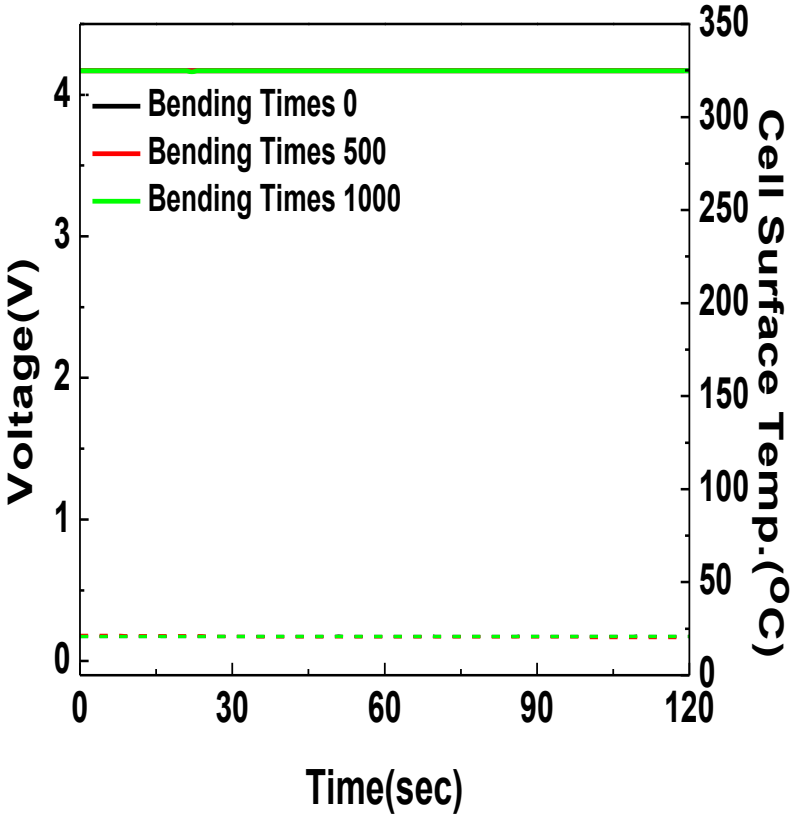
5-1. Safety test_Cycle Life

▣ Test Condition : Charge 1.0C CC-CV 4.2V 0.05C Cut-off / Discharge 1.0C, 2.8V Cut-off



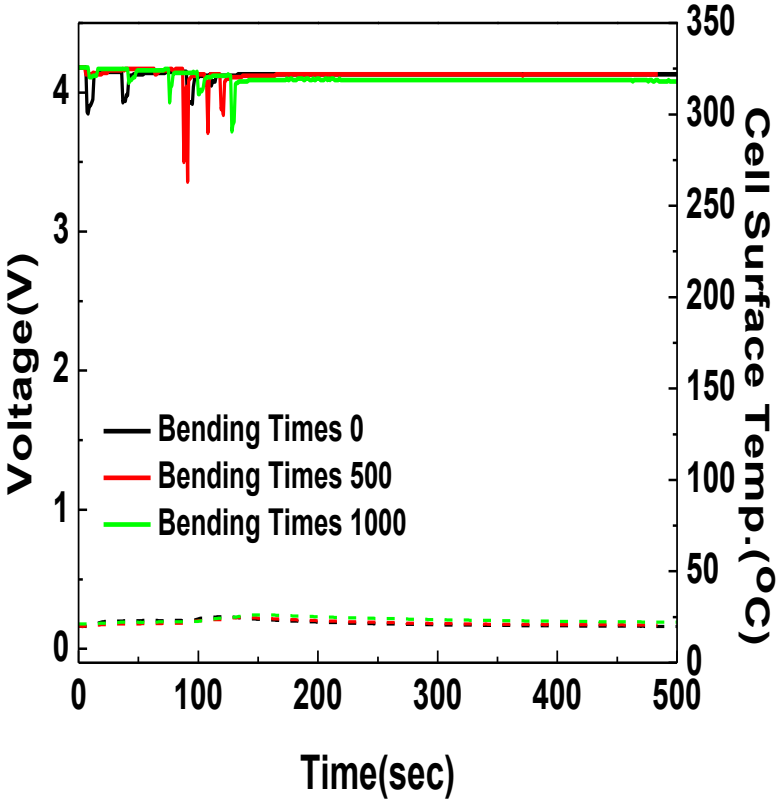
5-2. Safety test_Folding

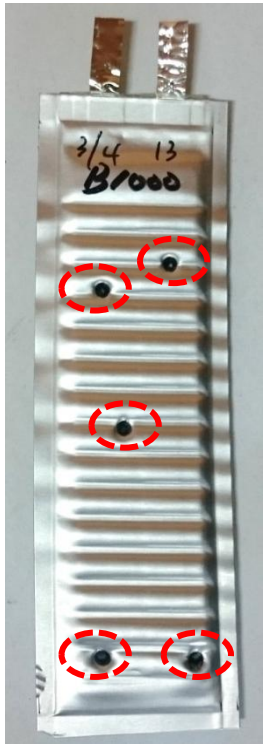
▣ Test Condition : Load = 0.8kN on 11cm2 (=26mm x 42.5mm) [80Kg]



5-3. Safety test_Nail Penetration

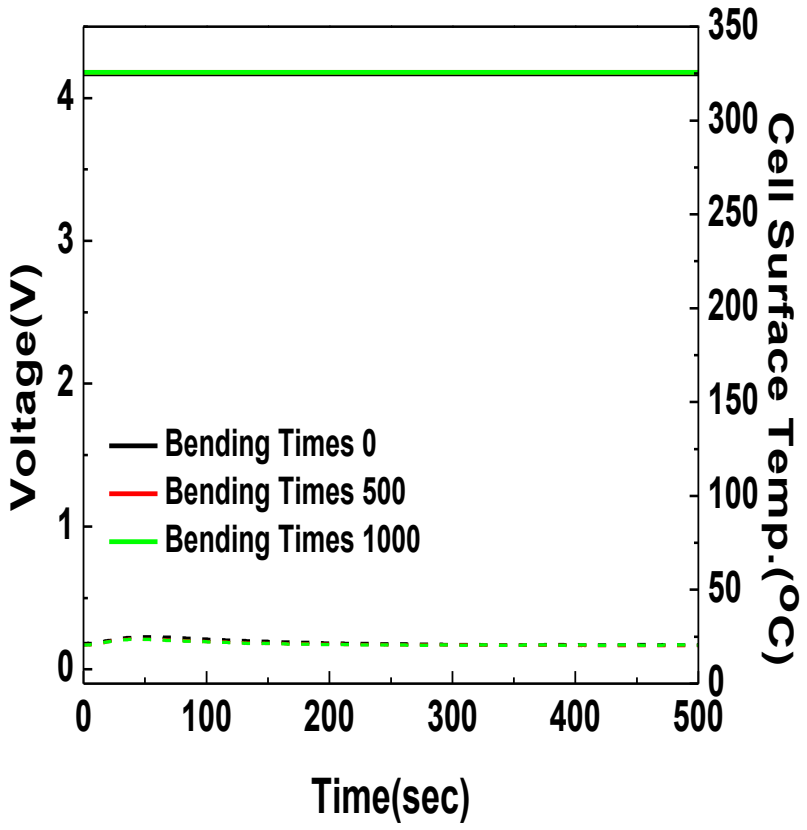
▣ Test Condition : Needle Dia. 2.0mm, 4.8m/min [5points] - EV Standard Base





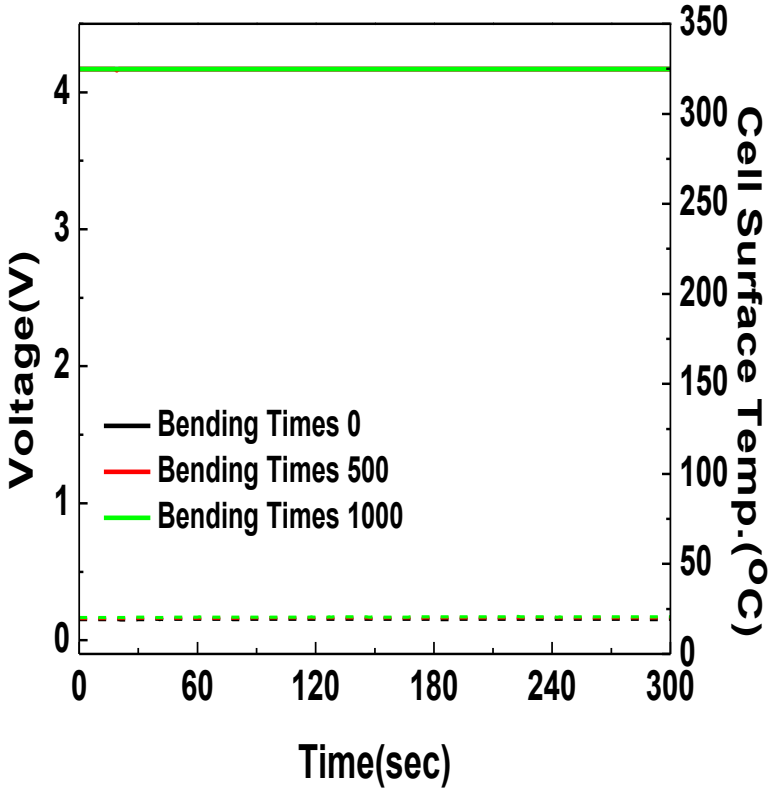
5-4. Safety test_Twist

▣ Test Condition : 180° Twist over time



5-5. Safety test_Pressure

▣ Test Condition : 13kN/22cm2(=26mm x 85mm) [1327kgf-KSC8545 Base]



6. Product Roadmap

Model		2015				2016			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Standard Product	AWBL2126850135(4.2V)	Development		Reliability test & Certification		Mass Production			
	AWBL2426850180(4.2V)		Development		Reliability test & Certification		Mass Production		
	AWBL2726850225(4.2V)			Development		Reliability test & Certification		Mass Production	
New Technology	4.35V Charging		Development			Reliability test & Certification		Mass Production	
	Advanced Electrolytes	Development				Reliability test & Certification			M.P.

Part Number : A WB L ww xx yy zzz

- zzz : Capacity (mAh)
- yy : Length (mm)
- xx : Width (mm)
- ww : Thickness (mm)
- L : Lithium Ion Battery
- WB : Band Type [W : Watch, P : Power]
- A : AMO

* The Roadmap are subject to change without notices.