



Company Introduction



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I. Route JD : Energy Company, Creative



Management Philosophy:

- “Make our family happier”
- “Give our customer more satisfaction”
- “Make the world living in peace”



- Established year: 2000.03
- Total Revenue: 10M USD (10)
25M USD (11)
- Number of Employees: 100people(11)
- Location:
Nonsan (Korea) – HQ/Factory
Seoul (Korea) – Sales office
- Manufacturing products: Lithium-ion polymer battery



- Assembling machines
- From electrode punching to degas



- BMS and energy storage system.
- Formation machines



- Special polymer battery tabs
- Metallic package production

The company, Creative



Lithium Ion / Polymer Battery



- Nano material for Cathode/ Anode
- Fuel Cell Catalyst



- Electrode coating and related system
- Drying system with enhanced speed



- Total solution engineering service provider
- Software and hardware for control units

Organization

Young Dug Kim / CEO



Career :

- LG chemical, R&D S.manager
- Korea Power Cell, Inc. (CTO)
- Korea Power Cell, Inc. (CEO)
- Route JD, Inc. (CEO)

Sales & Marketing

Stanley Cho
/ Chief Sales Officer



Career : LG chem, sales director

Administration
& Finance Div

Hyuck Kim
/ Chief Financial Officer



Production & Machinery

Youngchul Ji
/ Plant Manager



Career: Unilever, Plant V.P.

Research & Development

Heesuk Kim
/ Chief Technology Officer



Career: LG chem, R&D S.Manager

Route JD's Timeline

00



The World's 1st Coin Type Li Ion Battery

03



The Thinnest Large Capacity(15A) Lithium Ion battery

05



Flexible Designed Lithium-Ion Polymer Battery

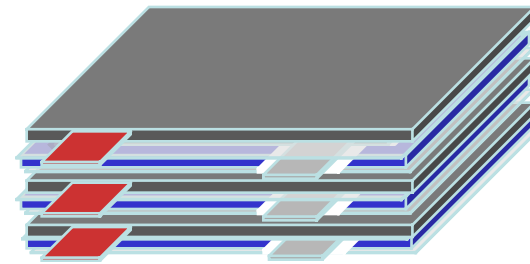
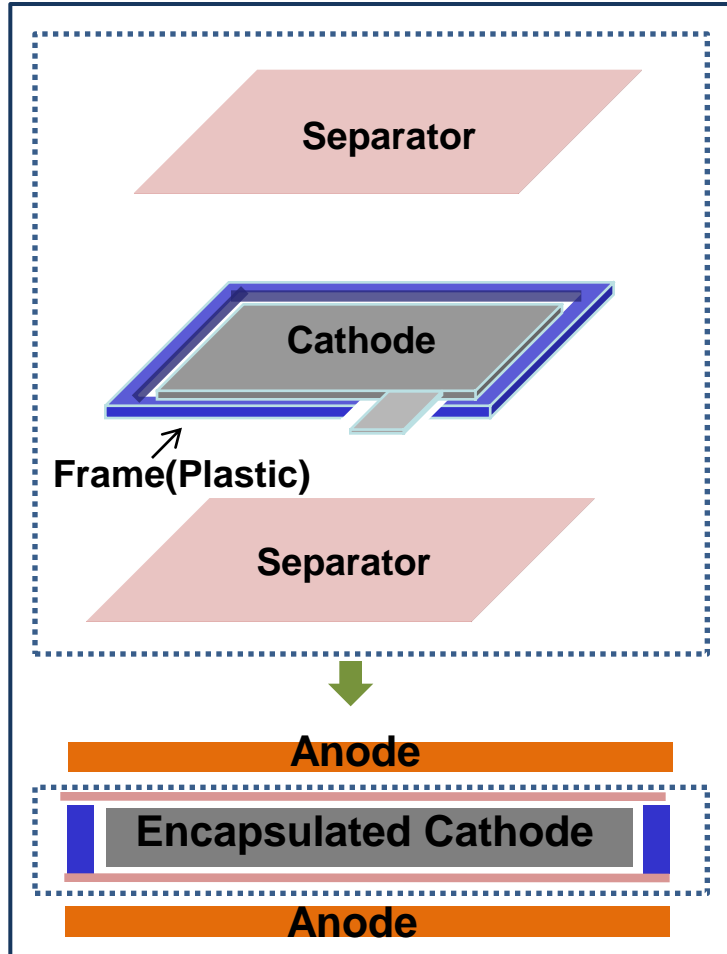
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Technology Cross-Licensing With Dow(US)

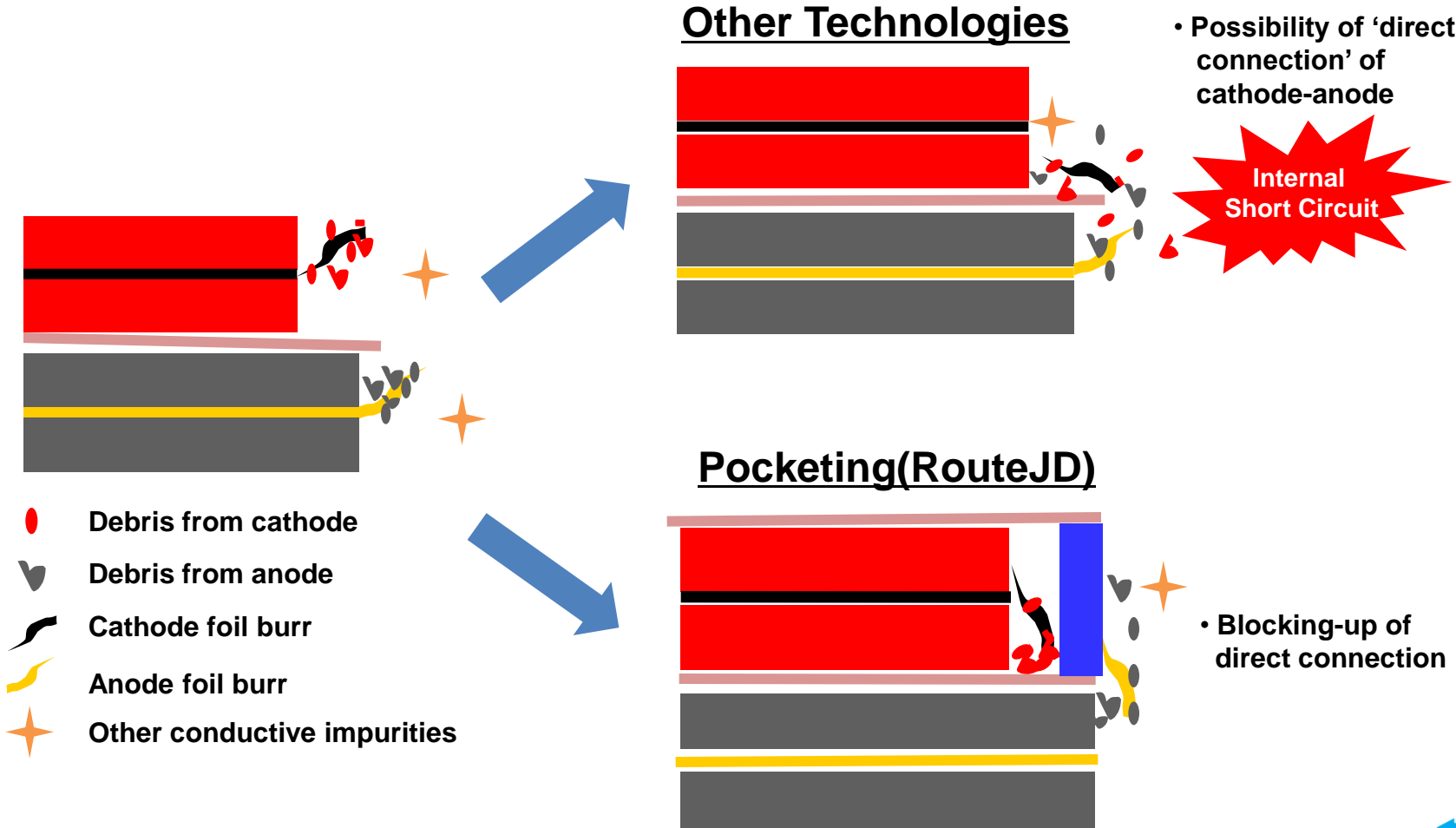
II. Advantage of Key Technology

Encapsulation (pocketing)

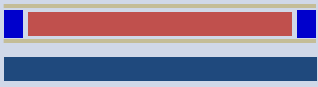
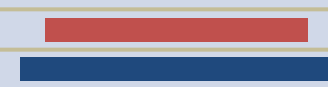
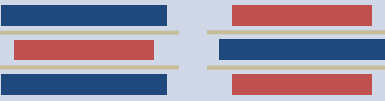
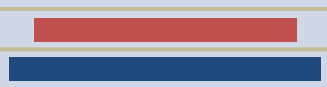
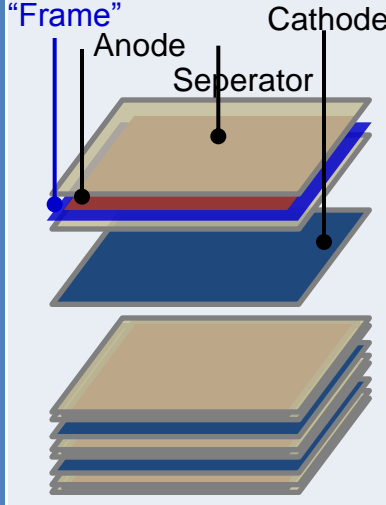
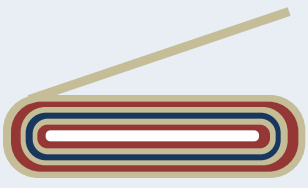
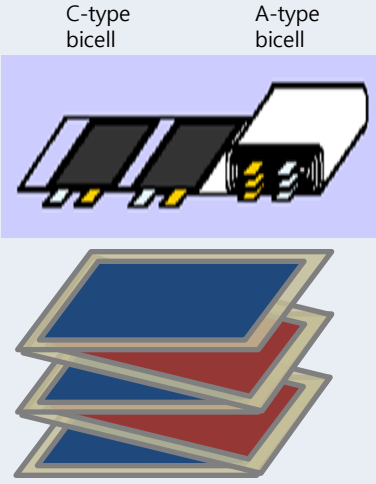
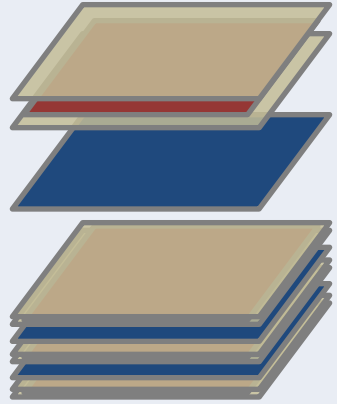


- No chance of Internal Short Circuit
- Easy / perfect alignment of electrodes

Elimination of possibility of the “Internal Short Circuit” by burr / debris

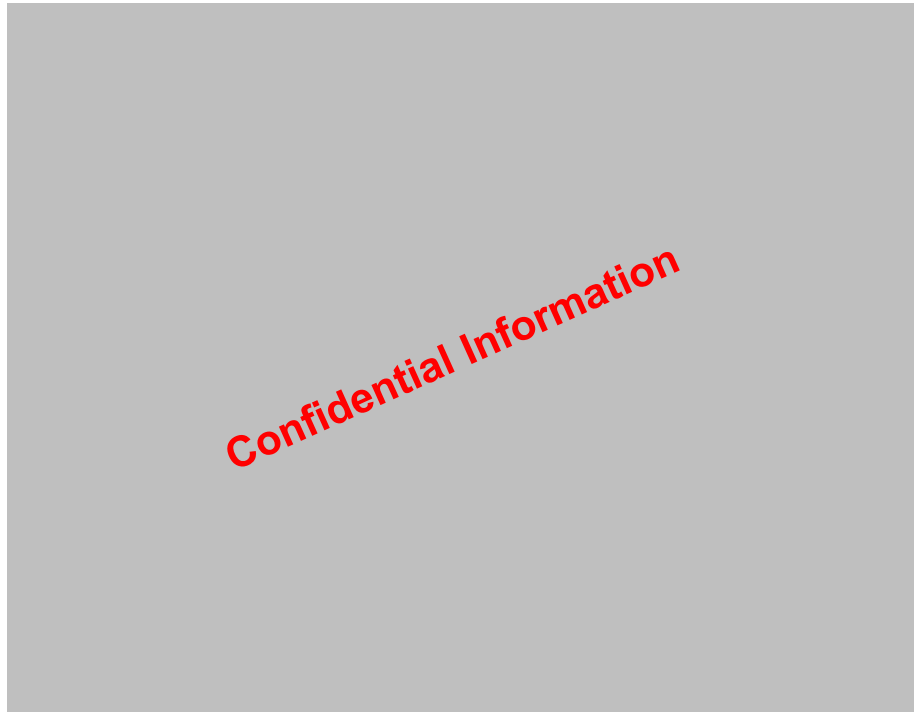


Structure Comparison

Tech	Pocketing™	Winding	Stacking & Folding	Stacking
	 <p>“Frame”</p>	 <p>“No Frame”</p>	 <p>“No Frame”</p>	 <p>“No Frame”</p>
Structure			 <p>C-type bicell A-type bicell</p>	
Company	Route JD Only	“S”, “A”, Chinese major players	“L”, “K”	Chinese minor players

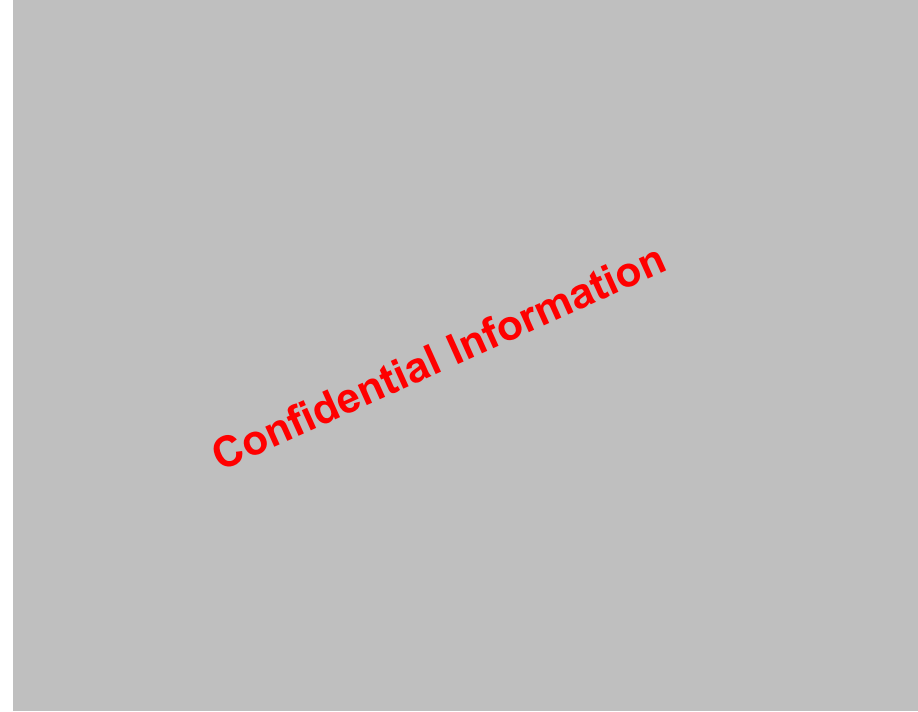
Pocketing manufacturing process is 10 times faster than conventional one

Stacking & Folding



Confidential Information

Pocketing(RouteJD)



Confidential Information

III. Products

• Production Capacity : 300K cells/M (current)



PD™



FLPB™
-Small

- Semi-auto : 50K/M(current)
- Full-auto : 600K/M(by 11.2Q) 1200K/M(by 11.4Q)

Small Size Battery

- Mobile / IT / Wireless Devices
- To be world NO. 1 by 2015

• 50K/M(by 11.4Q)



HLPB™

FLPB™
- Large

• 50K/M(by 11.3Q)



Large Size Battery

- Electric Vehicles
- Energy Storage System
- Differentiated performance/Reliability

※ SLPB™

• 100K cells/M



Mid-Large Size Polymer Battery

- Cell Capacity : 1Ah to 10Ah
- OEM Manufacturing Business



FLPB(Flexible Lithium-ion Polymer Battery)

Advantage of FLPB

- **Design Flexibility**

- Any Size

- Thickness : above 1.5mm
- Width : above 10mm
- Length : above 15mm

- Any Shape

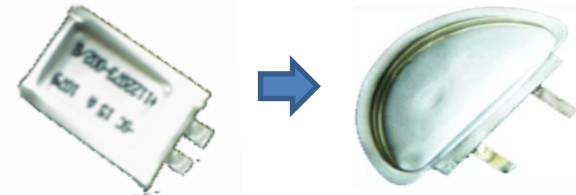
- Circle(O), Triangle(Δ),
D-shape(D)...

- **Fully automated production line**

- **Safe structure adopting encapsulation technology**



- **3D TV glasses, 2011.2Q**

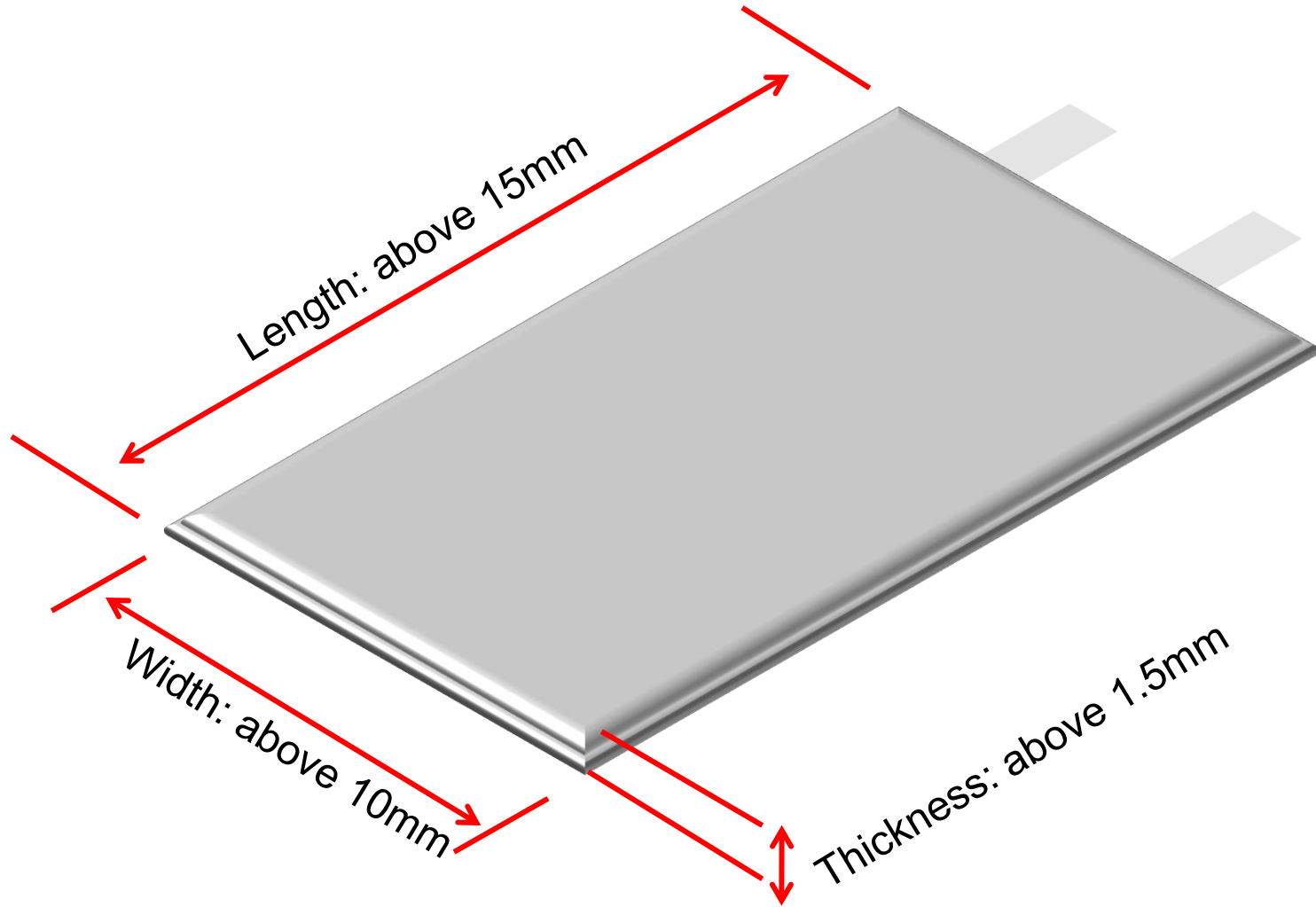


25mAh(2010)

50mAh(2011)

(for same device)

- **Battery for a Glucose meter**



FLPB (small): MP Line UP

Model (T x W x L, mm)	Capacity	MP Schedule
501220 (5.0 x 12 x 20)	85mAh	'11. 3
381223 (3.8 x 12 x 23)	75mAh	'11. 3
402325 (4.0 x 23 x 25)	170mAh	'11. 12
D-48 (Round type) (2.5 x max 30)	48mAh	'11. 3Q
172525 (1.7 x 25 x 25)	60mAh	'11. 3Q



FLPB (large): MP Line UP

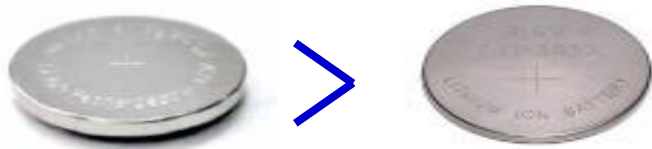
Model (T x W x L, mm)	Capacity	MP Schedule
776495 (7.7 x 64 x 95)	5Ah	'11. 3Q
5670270 (5.6 x 70 x 270)	12Ah	'11. 3Q
110255255 (11 x 255 x 255)	60Ah	'11. 3Q



PowerDisc (Coin Type Li Ion Battery)

PowerDisc vs. Other Coin (Li ion) battery

- '3032' (dia. 30mm x T 3.2mm)
- Same Size
- Same Chemistry (Li ion, 3.7V)

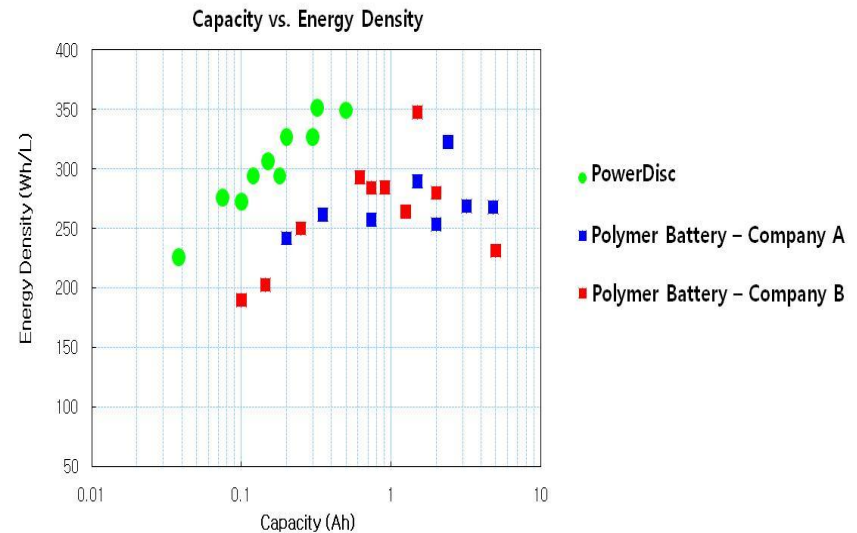


Route JD :
200mAh

Competitor (Japan):
130mAh

54% Higher Capacity

PowerDisc vs. Pouch (Li ion) battery



- The smallest size Li ion battery in the market
- The highest energy density at the same size
- The best proven reliability with metallic case sealing



PowerDisc : MP Line UP

※ All the products are Li ion, 3.7V

Model	Capacity	Dimension (mm)	
		Diameter	Thickness
PD1255	38mAh	11.6	5.7
PD2032	75mAh	20.1	3.45
PD2048	120mAh	20.1	5.0
PD2430	100mAh	24.5	3.15
PD2440	150mAh	24.5	4.3
PD2450	200mAh	24.5	5.4
PD3032	200mAh	30.0	3.4
PD3048	300mAh	30.0	4.9



Conclusion

RouteJD produce highly reliable and unique batteries with flexible design

- RouteJD battery's quality and reliability have been proven by a lot of worldwide customers for 10 years
- RouteJD battery's competitiveness is.....
 - Unique and safe technology : Pocketing
 - Able to make any type of batteries : Design flexibility
 - Stable quality control by full automated production lines
 - Using reliable raw materials which have been adopted by major Korean battery manufacturers

The company, Creative

Thank You !!!



RouteU