



Professional Battery Supply Chain

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## Professional Battery Supply Chain

To become top three market leaders in Hong Kong and China by mean of innovating  
in technology and management of reliable quality as well as building  
customers' belief & Loyalty continuously.

Hong Kong Batteries Manufactory Limited

香港電池工業有限公司

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# Energy Technologies

- Sealed lead Acid Rechargeable Batteries
- Lithium- Ion Rechargeable Batteries
- Lithium Polymer Rechargeable Batteries
- Ni-Mh & Ni-Cd Rechargeable Batteries
- Lithium Batteries
- Assembling Battery Packs



**A****Sealed lead Acid  
Rechargeable Batteries**

- ◇ AGM Battery Type
- ◇ GEL Battery Type
- ◇ Deep Cycle Vehicle Battery Type

**B****Lithium- Ion  
Rechargeable Batteries**

- ◇ Cylindrical Type
- ◇ PrismaticType
- ◇ Power Li-Ion Type

**C****Lithium Polymer  
Rechargeable Batteries**

- ◇ General Industrial Type



Professional Battery Supply Chain

# Contents

**D****Ni-Mh & Ni-Cd  
Rechargeable Batteries**

- ◇ Battery for Industrial Application Type
- ◇ Battery for High Temperature Type
- ◇ Battery for Power Tools ( High Rate)
- ◇ Button Battery (Back Up Memory ) Type
- ◇ Consumer Type

**E****Lithium Batteries**

- ◇ Manganese Dioxide Button Cell "CR "Type
- ◇ Lithium Button Rechargeable Cell "LIR" Type
- ◇ Lithium Thionyl Chloride i-SOCL<sub>2</sub> Cell "ER" Type

**F****Assembling Battery Packs**

# Corporate brief introduction

Hog Kong Batteries Manufactory Limited (HkbiL) specializes in portable energy development & manufacturing. At present, the current products: SLA batteries, Polymer battery, Li-Ion battery, Ni-Mh battery, Ni-Cd battery and Lithium corn Cell throughout own productions & collaboration with outsourcing partners.

Established in 1993 ( in HK )

Head office : 7 Flats, 10/F, Kam Hon Bldg, 8 Wang Kwung Road, KowloonBay, Kowloon, Hong Kong.

Main Factory: No.2 Bldg, Xitou, 3rd Industrial Area Songgang, Shenzhen, China

2nd Factory : Hongfu Industry Park, Dalang, Harong Road, Longha Town, Baoan Districk, Shenzhen, china.

(Present factory total area: 30,000 square meters)

Total employees: Over than 2,300

Workers: Over than 2,000

Technical Staffs & Quality Controllers over than 180

Management & Marketing participants: Over 120

Main decision persons hold academic level (including 2 Doctor degree, 8 Master degree, 4 MBA, 2 foreign experts)





### Certificates

- \* Gained the ISO9001 (2000 edition)
- \* Passed the QS9000
- \* Passed CE authentication
- \* Majority batteries are recognized by **UL**
- \* OVONIC License for Ni-Mh Rechargeable Technology
- \* RBRC Member
- \* ROHS verified by SGS to identify Lead free
- \* ISO 14000 is pending



### Management:

Human-oriented, scientific Management and Efficient team, HkbiL introduces Japanese experts and advisors to improve the management of manufactory site, employs professional management consulting company to plan strategically the enterprise development and carries on comprehensive staff training so as to promote the whole management level. It invites many world famous enterprises and international professional inspection organizations to inspect the company's social accountability, improving living and working environment for the staff according to requirement SA 8000, raise welfare and ensure the staff's health and security so as to realize the company's social accountability. Key decision markers hold academic level (including 2 Doctor degree, 8 Master degrees, 4 MBA, 2 foreign experts)

### Research and new product Development

Professional technical team led by senior electro-chemistry experts, doctor studying abroad, collaborate with famous Chinese universities and professional associations, to motivate the world leading technologies,

keeping on the future market innovations to provide a strong technology support and ODM capability for HkbiL to access competitive advantage on our battery differentiation. Our R&D fund shares 30% to 40% on corporate-profit to utilize on: High temperature types of batteries, High rate types of batteries, high capacity, compact size battery and green environmental friendly products in addition to satisfy the Green industrial norms



### Enhancement on Customer Support:

- Reply to customer within 24 hours.
- Provide technical information in depth.
- Provide external training and coaching with customer.
- Implement Quarter customer satisfaction survey and multi dimension communication.
- Global Insurance for crisis pre-action.

### Customer group: (names are not in alphabet order)

Atlink. AT&T. Alcatel. ARCHOS. Audioline. Aztech. BT. COBRA. DORO. IDT. SunCorp. Motorola. TYCO. WK&K. UNIROSS. V-Tech.. etc.





## FM series Introductions

### General Purpose Applications (AGM) AGM material From 0.3Ah to 200Ah

FM series are designed for general purpose applications, such as UPS, telecom, electrical utilities.

With 5 years design life, the batteries comply to the most popular international standards, such as IEC896-2, BS6290-4, Eurobat Guide.

The battery container and cover are available both in V0 class flame retardant ABS or HBO ABS plastics.

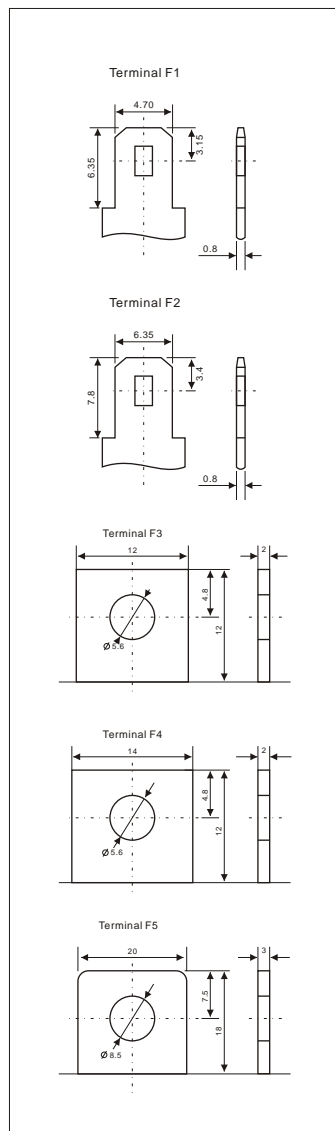
### General Features

- Positive and negative plates in lead-calcium-tin alloy
- Stable Quality & High Reliability
- Sealed Construction
- Long Service Life
- Maintenance-Free Operation
- Low Pressure Venting System
- Low Self Discharge
- U. L. Component Recognition
- Six months shelf life at 20°C
- Design life 5 years





### Terminal



### Specifications

BATTERY TYPE	NOMINAL VOLTAGE(V)	20H RATE CAPACITY(A)	LENGTH		WIDTH		HEIGHT		TOTAL HEIGHT		WEIGHT(APPROX)		TERMINAL TYPE
			mm	in	mm	in	mm	in	mm	in	mm	in	
2FM4.5	4	4.5	48	1.89	48	1.89	102	4.02	108	4.25	≤0.62	≤1.37	F1
3FM1.3	6	1.3	97	3.82	24	0.94	52	2.05	58	2.28	≤0.31	≤0.68	F1
3FM2.3	6	2.3	43	1.69	37	1.46	76	2.99	76	2.99	≤0.34	≤0.75	T5
3FM3.2	6	3.2	134	5.28	35	1.38	61	2.4	67	2.64	≤0.71	≤1.57	F1
3FM4	6	4	70	2.76	47	1.85	101	3.98	107	4.21	≤0.70	≤1.72	F1
3FM4.5	6	4.5	70	2.76	47	1.85	101	3.98	107	4.21	≤0.78	≤1.87	F1
3FM5.0	6	5.0	70	2.76	47	1.85	101	3.98	107	4.21	≤0.81	≤1.87	F1
3FM5.6	6	5.6	70	2.76	47	1.85	101	3.98	107	4.21	≤0.86	≤2.12	F1
3FM7	6	7	151	5.94	34	1.34	94	3.7	100	3.94	≤1.27	≤2.80	F1/F2
3FM8	6	8	151	5.94	34	1.34	94	3.7	100	3.94	≤1.36	≤3.00	F1/F2
3FM12	6	12	151	5.94	50	1.97	94	3.7	100	3.94	≤2.10	≤4.63	F1/F2
6FM0.8	12	0.8	96	3.78	25	0.98	62	2.44	62	2.44	≤0.34	≤0.75	T9/T13
6FM1.2	12	1.2	97	3.82	43	1.69	52	2.05	58	2.28	≤0.61	≤1.34	F1
6FM2.3	12	2.3	178	7.01	35	1.38	61	2.4	67	2.64	≤0.99	≤2.18	F1
6FM2.8	12	2.8	104	4.09	48	1.89	70	2.76	70	2.76	≤0.93	≤2.05	F1
6FM3.2	12	3.2	134	5.28	67	2.64	61	2.4	67	2.64	≤1.40	≤3.09	F1
6FM5	12	5	90	3.54	70	2.76	101	3.98	107	4.21	≤1.72	≤3.79	F1
6FM7.2	12	7.2	151	5.94	65	2.56	95	3.74	101	3.98	≤2.66	≤5.86	F1/F2
6FM10	12	10	151	5.94	98	3.86	95	3.74	101	3.98	≤3.70	≤8.16	F2
6FM12	12	12	151	5.94	98	3.86	95	3.74	101	3.98	≤4.20	≤9.26	F3
6FM18	12	18	181	7.13	77	3.03	167	6.57	167	6.57	≤5.70	≤12.6	F3/F4
6FM24	12	24	166	6.54	175	6.89	125	4.92	125	4.92	≤8.60	≤19.0	F3/F4
12FM8	24	8	180	7.09	160	6.3	72	2.83	72	2.83	≤5.60	≤12.3	T17
6FM33	12	33	195	7.68	130	5.12	159	6.26	180	7.09	≤10.2	≤22.5	F7/F11
6FM40	12	40	197	7.76	165	6.5	170	6.69	170	6.69	≤13.5	≤29.8	F4/F11
6FM45	12	45	197	7.76	165	6.5	170	6.69	170	6.69	≤13.8	≤30.4	F4/F11
6FM55	12	55	239	9.41	132	5.2	205	8.07	235	9.25	≤18.0	≤39.7	F8/F11
6FM60	12	60	258	10.2	166	6.54	206	8.11	235	9.25	≤24.0	≤52.9	F9/F11
6FM65	12	65	350	13.8	167	6.57	179	7.05	183	7.2	≤22.2	≤48.9	F5/F11
6FM75	12	75	258	10.2	166	6.54	206	8.11	235	9.25	≤24.0	≤52.9	F9/F11
6FM80	12	80	350	13.8	167	6.57	179	7.05	183	7.2	≤24.0	≤52.9	F5/F11
6FM90	12	90	306	12	169	6.65	208	8.19	231	9.09	≤30.0	≤66.1	F17/F11
6FM100	12	100	330	13	171	6.73	214	8.43	220	8.66	≤32.0	≤70.5	F5/F11
6FM100H	12	100	330	13	171	6.73	214	8.43	220	8.66	≤32.0	≤70.5	F5
6FM120	12	120	410	16.1	176	6.93	227	8.94	227	8.94	≤38.0	≤83.8	F5/F12
6FM150	12	150	485	19.1	172	6.77	240	9.45	240	9.45	≤47.0	≤104	F5/F12
6FM200	12	200	522	20.6	238	9.37	218	8.58	240	9.45	≤65.0	≤143.3	F16/F12

# Gel Battery series Introductions

## General Features

- Longer Service Life
- High Reliability and Quality
- High Power Density
- Excellent Recovery from Deep Discharge
- Living Up to Prevailing Standards
- Non-sensitive----to Occasional Deep Discharges

Gel batteries show some distinctive advantages over flooded batteries or AGM batteries such as super thermal stability, high deep discharge capability, and good recovery from deep discharge. Even if the battery is left discharged for thirty days, it will still recover its 100% capacity, unlike conventional flooded batteries or AGM batteries. It has gelled electrolyte and can avoid sulphation which most liquid acid batteries would suffer, and electrolyte stratification. Grid corrosion rate is also very low. The gelled construction also eliminates vibration damage to plates. With the above mentioned advantages, you can be assured that the gel battery has long service life and is especially suitable for motive power applications such as golf trailers, scrubbers, forklifts and the like. The deep discharge cycles is increased by 50% as compared with the AGM battery. Because there is no liquid electrolyte in the battery, there will be no spillage, making the battery easy to install in any location.



BATTERY TYPE	NOMINAL VOLTAGE(V)	20H RATE CAPACITY(Ah)	LENGTH		WIDTH		HEIGHT		TOTAL HEIGHT		WEIGHT(APPROX)		TERMINAL TYPE
			mm	in	mm	in	mm	in	mm	in	Kg	Pound	
CG12-10	12	10	151	5.94	98	3.86	95	3.74	101	3.98	3.7	8.16	F2
CG12-12	12	12	151	5.94	98	3.86	95	3.74	101	3.98	3.9	8.6	F2
CG12-15	12	15	181	7.13	77	3.03	167	6.57	167	6.57	4.75	10.5	F3/F4
CG12-20	12	20	181	7.13	77	3.03	167	6.57	167	6.57	5.9	13	F3/F4
CG12-24	12	24	166	6.54	175	6.89	125	4.92	125	4.92	8.6	19	F3/F4
CG12-33	12	33	195	7.68	130	5.12	159	6.26	180	7.09	10.2	22.5	F7
CG12-45	12	45	197	7.76	165	6.50	170	6.69	170	6.69	13.8	30.4	F4
CG12-55	12	55	239	9.41	132	5.20	205	8.07	235	9.25	18	39.7	F8
CG12-60	12	60	258	10.2	166	6.54	206	8.11	235	9.25	24	52.9	F9
CG12-65	12	65	350	13.8	167	6.57	179	7.05	183	7.2	22.2	48.9	F5
CG12-75	12	75	258	10.2	166	6.54	206	8.11	235	9.25	24	52.9	F9
CG12-80	12	80	350	13.8	167	6.57	179	7.05	183	7.2	24	52.9	F5
CG12-90	12	90	306	12.0	169	6.65	208	8.19	231	9.09	30	66.1	F17
CG12-100	12	100	330	13.0	171	6.73	214	8.43	220	8.66	32	70.5	F5
CG12-120	12	120	410	16.1	176	6.93	227	8.94	227	8.94	38	83.8	F2
CG12-134R	12	134	342	13.5	172	6.77	273	10.7	277	10.9	42.5	93.7	F15
CG12-150	12	150	485	19.1	172	6.77	240	9.45	240	9.45	47	104	F5
CG12-200	12	200	522	20.6	238	9.37	218	8.58	240	9.45	65	143	F16
CG24-4.5	24	4.5	207	8.15	78	3.07	74	2.91	74	2.91	3.2	7.05	T17
CG24-8	24	8	180	7.09	160	6.3	72	2.83	72	2.83	5.6	12.3	T17

# Deep Cycle Batteries Introductions



## General Features

- Superior Deep Cycle Design
- High Power Density
- Thick Plates and High-density Active Material
- Longer Life in Deep Cycle Applications

Deep-cycle batteries typically feature thick plates with a high-density active material. The thick battery plates allow for reserve energy to be stored deep within the battery plate and released during slow discharge such as trolling or electronic instrument use. The high-density active material remains within the batteries' plate/grid structure longer, resisting the normal degradation found in cycling conditions. They are typically used where the battery is discharged to great extent and then recharged.

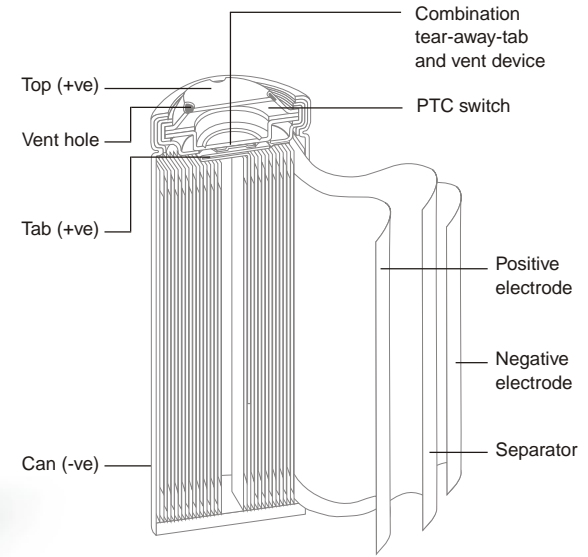
Deep Cycle refers to applications that typically discharge 60 to 70% or more of the battery capacity. An automotive battery is an SLI battery (Starting, Lighting & Ignition.) Its plates are designed to deliver maximum power for a short duration. Starting an engine typically discharges an SLI battery 3% or less. When an SLI battery is used in a deep-cycle application or in a vehicle with heavy accessory loads, the battery life will be shortened proportionally to how deeply and frequently it is discharged.

Battery type	Nominal Voltage (v)	20h Rate Capacity (A)	Length (mm)	Width (mm)	Height (mm)	Total height (mm)	Weight (approx) (kg)	Terminal Type
3FM7D	6	7	151	34	94	100	1.36	F1/F2
3FM10D	6	10	151	50	94	100	1.85	F1/F2
6FM7D	12	7	151	65	95	101	2.66	F1/F2
6FM9D	12	9	151	65	95	101	2.8	F1/F2
6FM10D	12	10	151	98	95	101	3.7	F2
6FM12D	12	12	151	98	95	101	4.4	F2
6FM17D	12	17	181	77	167	167	5.7	F3/F4
6FM18D	12	18	181	77	167	167	5.9	F3/F4
6FM24D	12	24	166	175	125	125	8.6	F3/F4
6FM33D	12	33	195	130	159	180	10.2	F7
6FM40D	12	40	197	165	170	170	13.5	F4
6FM45D	12	45	197	165	170	170	13.8	F4
6FM55D	12	55	239	132	205	235	18	F8
6FM60D	12	60	258	166	206	235	24	F9
6FM65D	12	65	350	167	179	183	22.2	F5
6FM75D	12	75	258	166	206	235	24	F9
6FM80D	12	80	350	167	179	183	24	F5
6FM90D	12	90	306	169	208	231	30	F17
6FM100RD	12	100	337	172	220	228	33	F14
6FM120D	12	120	410	176	227	227	38	F5
6FM150D	12	150	485	172	240	240	47	F5
6FM200D	12	200	522	238	218	240	65	F16

## Cylindrical Case

### Major Features:

- High energy Density
- Variety of size and capacities
- Wide Operating Temperature
- Designed for Safety Operation:
- High -Output and High load Characteristic
- Good Charge Retention
- No Memory Effect
- Long Cycles Life



### Specifications

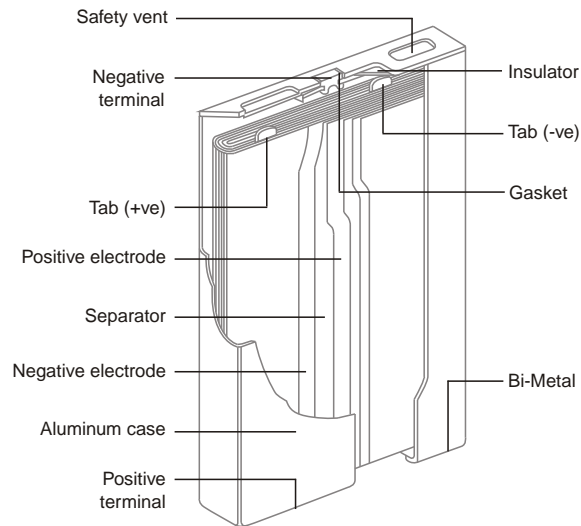
Model No	Nominal Voltage(V)	Capacity(mAh)		Dimension (mm)		Weight(g)	Maximum Discharge Current(mA)	Maximum Charging Voltage(V)	Maximum Charging Current(mA)
		Typical	Minimum	Diameter	Height				
LR1450L70	3.7	700	650	≥14.0	≥50.0	19	1050	4.2	700
LR1465L100	3.7	1000	950	≥14.0	≥65.0	26	1500	4.2	1000
LR1750L110	3.7	1100	1050	≥17.0	≥50.0	26	1650	4.2	1100
LR1767L160	3.7	1600	1550	≥17.0	≥67.0	37	2400	4.2	1600
LR1850L130	3.7	1300	1250	≥18.3	≥50.0	31	1950	4.2	1300
LR1850L140	3.7	1400	1350	≥18.3	≥50.0	31	2100	4.2	1400
LR1865L200	3.7	2000	1950	≥18.3	≥65.2	43	3000	4.2	2000
LR1865L210	3.7	2100	2050	≥18.3	≥65.2	43	3150	4.2	2100
LR1865L220	3.7	2200	2150	≥18.3	≥65.2	44	3300	4.2	2200

Typical Ambient emperature : Charge : 0°C to 45°C / Discharge : -30°C to 60°C / Storage : -20°C to 45°C

# Prismatic Case

## Major Applications:

Notebook Computers, Cellular Phones, Digital Cameras, Camcorders, Video CD/DVD Players, MD Players, PDAs/Webpad, POS Terminals, Electronic Instruments, Communication Devices, etc.



### Part NO:

LN	06	30	48	090	A
↓	↓	↓	↓	↓	↓
Series	Thickness	Width	Height	Capacity	Aluminum Case
	03=3mm 06=6mm 14=14mm	20=20mm 30=30mm 40=40mm	30=30mm 48=48mm 80=80mm	010=100mAh 090=900mAh 100=1000mAh	



## General Specification:

Item	Description
Types ( LN)	Prismatic Lithium Ion Rechargeable battery
Major Substance	Lithium -Ion
Casing	Aluminum Case /Steel Case
Rated Capacity	180 mAh to 2300 mAh
Charge Voltage	3.74 V
Rate Capability	1C Discharge: ≥ 95% @RT 2C Discharge: ≥ 90% @RT
Cell Dimension	Thickness: 3mm to 14 mm Width : 20mm to 40 mm Height: 30mm to 80mm
Maximum Charge Current	1.0CmA
Maximum Discharge Current	2.0CmA
Operating Temperature	Charge: 0°C to 45°C Discharge: -20°C to 60°C Optimum High Temperature 80°C for 16 hours
Initial Internal Impedance (50% SOC, AC impedance 1KHZ)	≤ 200 m Ω
Cycle Life (Standard charge/ 1.0CmA Discharge)	Over > 500 ( 80% retention of initial Capacity )
Swelling after 300 times cycle test	≤ 5% of total height of cell
Certification & Recognition	UL , CE , SGS , ROHS
High Rate Discharge Version up to 10C to 20C	Customization

## LBK Type

### Applications for Power Battery

- Electric Vehicles, such as E-bikes, E-scooters, E-cars, E-bus;
- Electric boats, such as trolling fishing boats;
- Robots for industries and military;
- Remote data transfer system;
- Satellite communication station;
- Un-manned submarine;
- Un-manned aircrafts;
- Power tools, such as drilling, cutting and polishing tools;
- Power station for low temperature application such as -40°C;
- Power suppliers for Training systems, such as Torpedo Trainer.



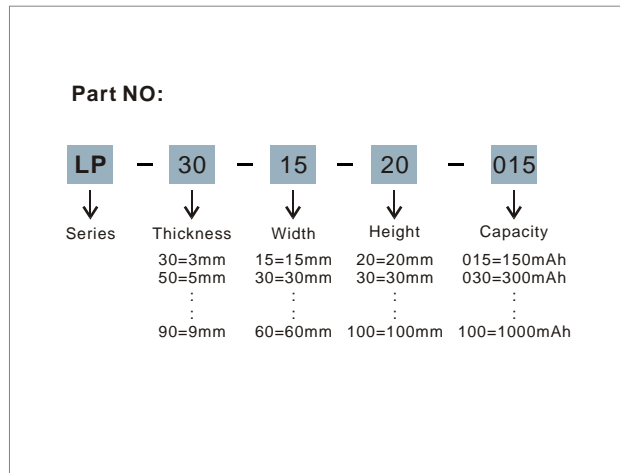
Model	Capacity (Ah)	Voltage (V)	Dimension(mm)			Impedance (mΩ)	Weight (g)	Remarks
			Thickness	Width	Length			
LBK206970	6	3.7	20	69	85	15	240	Single cell
LBK207090	8	3.7	20	70	105	10	300	Single cell
LBK268090	12	3.7	26	80	90	8	470	Single cell
LBK2680110	15	3.7	26	80	110	5	580	Single cell
LBK2680130	18	3.7	26	80	130	4	680	Single cell
LBK50120130	60	3.7	50	120	130	3	1800	Single cell
LBK60130150	80	3.7	60	130	150	2	2200	Single cell
LBK55145255	100	3.7	55	145	255	1	3600	Single cell
LBK110145255	200	3.7	110	145	255	0.5	7800	Pack: 2P
LBK120-15	120	15	100	130	480	20	14400	Pack: 8 cells in 2P4S
LBK160-15	160	15	120	150	520	15	17600	Pack: 8 cells in 2P4S

LBK would assemble any battery pack upon customer's request from 6Ah to 200Ah with voltage output from 3.7V to 400V.





# LP Type



## Lithium Lion Polymer Rechargeable Battery ( LP ) Type

Item	Description
Type ( LP )	Lithium Ion Polymer Battery
Major Substance	Lithium Ion Polymer ( LiCoO <sub>2</sub> )
Casing	Alumium Foil Case
Rated Capacity	100 mAh to 4500 mAh
Charge Voltage	3.74 V
Rate Capability	1C Discharge: > = 95% @RT 2C Discharge:> = 90% @RT
Cell Dimension	Thickness: 2.9 to 10 mm Width : 12 to 67 mm Height: 20 to 135 mm
Weight (g)	3 g to 90 g
Maximum Charge Current	1.0CmA
Maximum Discharge Current	2.0CmA
Operating Temperature	Charge: 0°C to 45°C Discharge: -20°C to 60°C Optimum High Temperature 80°C for 16 hours
Initial Internal Impedance (50% SOC, AC impedance 1KHZ)	≤ 200 m Ω
Cycle Life (Standard charge/ 1.0CmA Discharge)	Over > 500 ( 80% retention of initial Capacity )
Swelling after 300 times cycle test	≤ 5% of total height of cell
Certification & Recognition	UL , CE , SGS, ROHS
Compliance with	GB/ T 18 287-000
High Rate Discharge Application up to 10C to 20C	Customization



Ni-Mh  
Industrial Type

## Major Features:

- Friendly To The Environment
- High Energy Density
- High Discharge Voltage And Long Platform Time
- Excellent Performance Of High Rate Charge And Discharge
- Reliable Safety Vent
- Wide Temperature Range
- Handling Performance
- No memory Effect
- Low Internal Resistance

Model	Size	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Charge 16hrs(mA)	Fast Charge 1.2hrs(mA)	Diameter (mm)	Height (mm)	Approx. Weight (g)
G030-4A40	4/5AAAA	1.2	300	30	300	8.7 <sup>+0</sup> <sub>-0.7</sub>	40.0 <sup>+0</sup> <sub>-1.0</sub>	7
G045-4A52	AAAA	1.2	450	45	450	8.7 <sup>+0</sup> <sub>-0.7</sub>	52.0 <sup>+0</sup> <sub>-1.0</sub>	10
G012-3A14	1/3AAA	1.2	120	12	120	10.5 <sup>+0</sup> <sub>-0.7</sub>	14.0 <sup>+0</sup> <sub>-1.0</sub>	3
G017-3A14	1/3AAA	1.2	170	17	170	10.5 <sup>+0</sup> <sub>-0.7</sub>	14.0 <sup>+0</sup> <sub>-1.0</sub>	3.5
G030-3A29	2/3AAA	1.2	300	30	300	10.5 <sup>+0</sup> <sub>-0.7</sub>	29.0 <sup>+0</sup> <sub>-1.0</sub>	7
G035-3A29	2/3AAA	1.2	350	35	350	10.5 <sup>+0</sup> <sub>-0.7</sub>	29.0 <sup>+0</sup> <sub>-1.0</sub>	7
G050-3A38	4/5AAA	1.2	500	50	500	10.5 <sup>+0</sup> <sub>-0.7</sub>	38.0 <sup>+0</sup> <sub>-1.0</sub>	10
G055-3A43	AAA	1.2	550	55	550	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.5 <sup>+0</sup> <sub>-1.0</sub>	12
G060-3A43	AAA	1.2	600	60	600	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.5 <sup>+0</sup> <sub>-1.0</sub>	12
G065-3A43	AAA	1.2	650	65	650	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.5 <sup>+0</sup> <sub>-1.0</sub>	12
G070-3A43	AAA	1.2	700	70	700	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.5 <sup>+0</sup> <sub>-1.0</sub>	12
G075-3A43	AAA	1.2	750	70	750	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.5 <sup>+0</sup> <sub>-1.0</sub>	12
G080-3A43	AAA	1.2	800	80	800	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.5 <sup>+0</sup> <sub>-1.0</sub>	12
G090-3A43	AAA	1.2	900	90	900	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.5 <sup>+0</sup> <sub>-1.0</sub>	12
G080-3A50	AAA	1.2	800	80	800	10.5 <sup>+0</sup> <sub>-0.7</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	14
G075-2A29	2/3AA	1.2	750	75	750	14.5 <sup>+0</sup> <sub>-0.7</sub>	29.0 <sup>+0</sup> <sub>-1.0</sub>	14
G060-2A49	AA	1.2	600	60	600	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	16
G065-2A49	AA	1.2	650	65	650	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	17
G070-2A49	AA	1.2	700	70	700	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	17
G080-2A49	AA	1.2	800	80	800	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	18
G110-2A49	AA	1.2	1100	110	1100	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	21
G120-2A49	AA	1.2	1200	120	1200	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	24
G130-2A49	AA	1.2	1300	130	1300	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	24
G140-2A49	AA	1.2	1400	140	1400	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	25
G150-2A49	AA	1.2	1500	150	1500	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	25
G160-2A49	AA	1.2	1600	160	800*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	25
G180-2A49	AA	1.2	1800	180	900*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.2 <sup>+0</sup> <sub>-1.0</sub>	26
G190-2A49	AA	1.2	1900	190	950*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.2 <sup>+0</sup> <sub>-1.0</sub>	27
G200-2A49	AA	1.2	2000	200	1000*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.2 <sup>+0</sup> <sub>-1.0</sub>	28
G210-2A51	AA	1.2	2000	210	1050*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.0</sub>	30
G160-SC43	SC	1.2	1600	160	900*2.4hrs	23.0 <sup>+0</sup> <sub>-1.0</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	40
G300-SC43	SC	1.2	3000	300	1500*2.4hrs	23.0 <sup>+0</sup> <sub>-1.0</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	56
G400-C49	C	1.2	4000	400	2000*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	49.0 <sup>+0</sup> <sub>-1.0</sub>	86
G450-C49	C	1.2	4500	450	2250*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	49.0 <sup>+0</sup> <sub>-1.0</sub>	90
G700-D60	D	1.2	7000	700	3500*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.0 <sup>+0</sup> <sub>-1.0</sub>	155
G800-D60	D	1.2	8000	800	4000*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.0 <sup>+0</sup> <sub>-1.0</sub>	155
G900-D60	D	1.2	8700	900	4500*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.0 <sup>+0</sup> <sub>-1.0</sub>	160
G1000-D66	D	1.2	10000	1000	5000*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	66.0 <sup>+0</sup> <sub>-1.5</sub>	178

Ni-Cd  
Rechargeable Batteries

鎳鎘電池  
工業類型

**Ni-CD**  
Industrial Type



Model	Size	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Charge 16hrs(mA)	Fast Charge 1.2hrs(mA)	Diameter (mm)	Height (mm)	Approx. Weight (g)
K024-3A44	AAA	1.2	240	24	240	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.3 <sup>+0</sup> <sub>-1.0</sub>	10
K030-3A44	AAA	1.2	300	30	300	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.3 <sup>+0</sup> <sub>-1.0</sub>	10
K035-3A44	AAA	1.2	350	35	350	10.5 <sup>+0</sup> <sub>-0.7</sub>	43.3 <sup>+0</sup> <sub>-1.0</sub>	11
K017-2A17	1/3AA	1.2	170	17	170	14.5 <sup>+0</sup> <sub>-0.7</sub>	17.0 <sup>+0</sup> <sub>-1.0</sub>	8
K030-2A29	2/3AA	1.2	300	30	300	14.5 <sup>+0</sup> <sub>-0.7</sub>	28.5 <sup>+0</sup> <sub>-1.0</sub>	12
K040-2A29	2/3AA	1.2	400	40	400	14.5 <sup>+0</sup> <sub>-0.7</sub>	28.5 <sup>+0</sup> <sub>-1.0</sub>	12
K060-2A49	AA	1.2	600	60	600	14.5 <sup>+0</sup> <sub>-0.7</sub>	48.7 <sup>+0</sup> <sub>-1.0</sub>	20
K070-2A49	AA	1.2	700	70	700	14.5 <sup>+0</sup> <sub>-0.7</sub>	48.7 <sup>+0</sup> <sub>-1.0</sub>	21
K080-2A49	AA	1.2	800	80	800	14.5 <sup>+0</sup> <sub>-0.7</sub>	48.7 <sup>+0</sup> <sub>-1.0</sub>	21
K090-2A49	AA	1.2	900	90	900	14.5 <sup>+0</sup> <sub>-0.7</sub>	48.7 <sup>+0</sup> <sub>-1.0</sub>	22
K100-2A49	AA	1.2	1000	100	500*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	48.7 <sup>+0</sup> <sub>-1.0</sub>	23
K060-A29	2/3A	1.2	600	60	600	17.0 <sup>+0</sup> <sub>-0.7</sub>	28.5 <sup>+0</sup> <sub>-1.0</sub>	20
K110-A43	4/5A	1.2	1100	110	1100	17.0 <sup>+0</sup> <sub>-0.7</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	30
K120-A43	4/5A	1.2	1200	120	600*2.4hrs	17.0 <sup>+0</sup> <sub>-0.7</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	30
K065-SC26	1/2SC	1.2	650	65	650	23.0 <sup>+0</sup> <sub>-1.0</sub>	26.0 <sup>+0</sup> <sub>-1.0</sub>	26
K120-SC33	4/5SC	1.2	1200	120	1200	23.0 <sup>+0</sup> <sub>-1.0</sub>	33.0 <sup>+0</sup> <sub>-1.0</sub>	35
K130-SC43	SC	1.2	1300	130	650*2.4hrs	23.0 <sup>+0</sup> <sub>-1.0</sub>	42.7 <sup>+0</sup> <sub>-1.0</sub>	41
K170-SC43	SC	1.2	1700	170	850*2.4hrs	23.0 <sup>+0</sup> <sub>-1.0</sub>	42.7 <sup>+0</sup> <sub>-1.0</sub>	45
K180-SC43	SC	1.2	1800	180	900*2.4hrs	23.0 <sup>+0</sup> <sub>-1.0</sub>	42.7 <sup>+0</sup> <sub>-1.0</sub>	45
K200-SC43	SC	1.2	2000	200	1000*2.4hrs	23.0 <sup>+0</sup> <sub>-1.0</sub>	42.7 <sup>+0</sup> <sub>-1.0</sub>	47
K250-C49	C	1.2	2500	250	1250*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	70
K250-D37	1/2D	1.2	2500	250	1250*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	37.0 <sup>+0</sup> <sub>-1.5</sub>	72
K450-D60	D	1.2	4500	450	1350*4.3hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.0 <sup>+0</sup> <sub>-1.5</sub>	122
K500-D60	D	1.2	5000	500	1500*4.3hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.0 <sup>+0</sup> <sub>-1.5</sub>	123
K700-F90	F	1.2	7000	700	1400*7hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	90.0 <sup>+0</sup> <sub>-1.5</sub>	180

# Ni-Mh

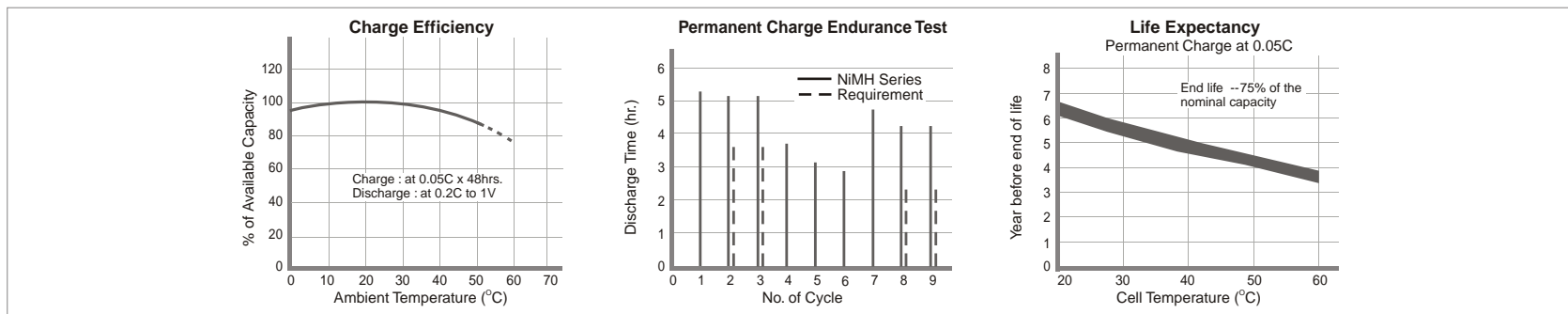
## High Temperature Type

### Major Features:

- Superior Charge Acceptance at High Temperature
- Permanent Charge Endurance Characteristic
- Excellent Cycling Characteristic at High Temperature
- High Reliability
- Product Safety Approved by **UL**
- Comprehensive Product Range
- Environmentally Friendlier
- ISO 9001 Accreditation



Mode	Size	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Charge 16hrs(mA)	Diameter (mm)	Height (mm)	Approx. Weight (g)
G050-4A55HT	AAAA	1.2	500	50	8.70 <sup>+0</sup> <sub>-0.7</sub>	55.0 <sup>+0</sup> <sub>-1.0</sub>	11
G060-3A44HT	AAA	1.2	600	60	10.5 <sup>+0</sup> <sub>-0.7</sub>	44.0 <sup>+0</sup> <sub>-1.0</sub>	13
G080-2A49HT	AA	1.2	800	80	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	20
G120-2A49HT	AA	1.2	1200	120	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	24
G150-2A49HT	AA	1.2	1500	150	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	26
G160-A43HT	4/5A	1.2	1600	160	17.0 <sup>+0</sup> <sub>-0.7</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	33
G210-A50HT	A	1.2	2100	210	17.0 <sup>+0</sup> <sub>-0.7</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	38
G280-A67HT	4/3A	1.2	2800	280	17.0 <sup>+0</sup> <sub>-0.7</sub>	67.0 <sup>+0</sup> <sub>-1.0</sub>	52
G280-SC43HT	SC	1.2	2800	280	23.0 <sup>+0</sup> <sub>-1.0</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	54
G400-C49HT	C	1.2	4000	400	26.0 <sup>+0</sup> <sub>-1.0</sub>	49.0 <sup>+0</sup> <sub>-1.0</sub>	86

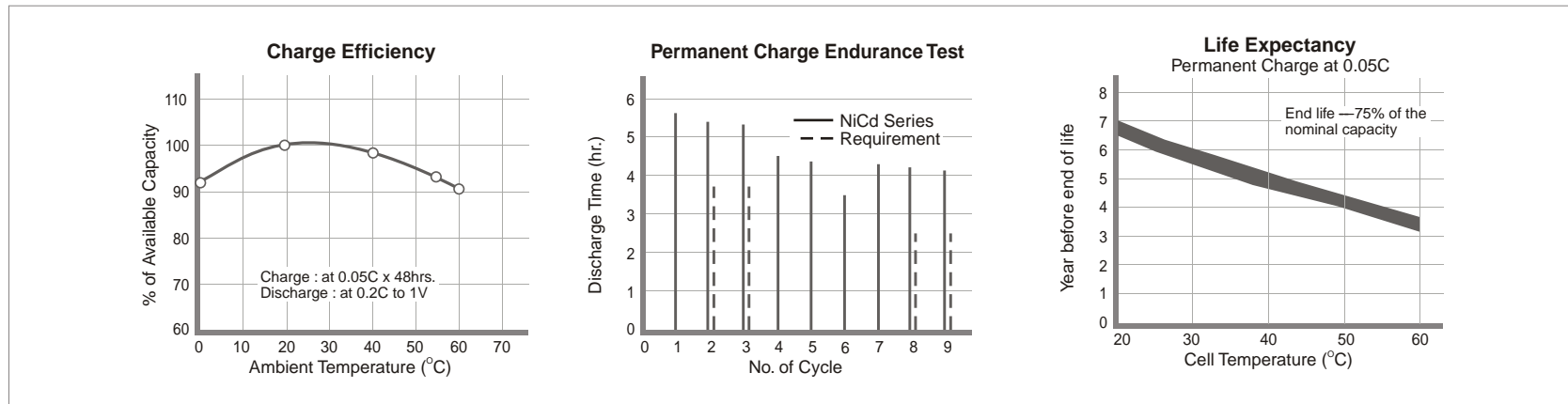


# Ni-CD

## High Temperature Type



Model	Size	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Charge 16hrs(mA)	Diameter (mm)	Height (mm)	Approx. Weight (g)
K150-SC43HT	SC	1.2	1500	150	23.0 <sup>+0</sup> <sub>-1.0</sub>	42.7 <sup>+0</sup> <sub>-1.0</sub>	44
K220-C50HT	C	1.2	2200	220	26.0 <sup>+0</sup> <sub>-1.0</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	74
K400-D60HT	D	1.2	4000	400	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.0 <sup>+0</sup> <sub>-1.5</sub>	125
K450-D60HT	D	1.2	4500	450	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.0 <sup>+0</sup> <sub>-1.5</sub>	125



# Ni-Mh

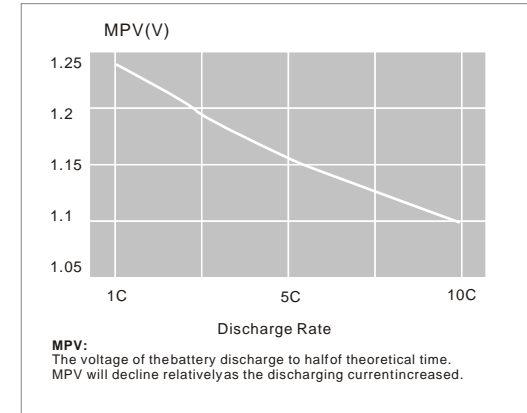
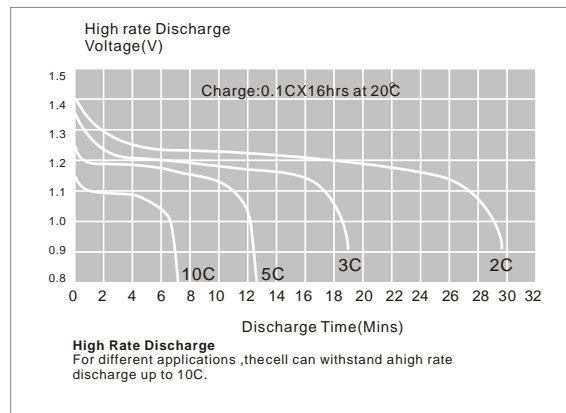
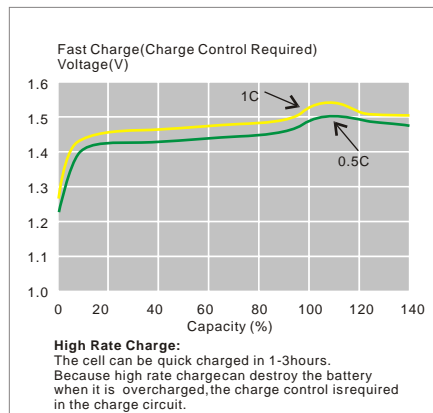
## High Rate Type

### Major Features:

- Friendly To The Environment
- High Energy Density
- High Discharge Voltage And Long Platform Time
- Excellent Performance Of High Rate Charge And Discharge
- Reliable Safety Vent
- Wide Temperature Range
- Handling Performance
- No Memory Effect
- Low Internal Resistance



Mode	Size	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Charge 16hrs(mA)	Fast Charge 1.2hrs(mA)	Diameter (mm)	Height (mm)	Approx. Weight (g)
HR050-3A38	4/5AAA	1.2	500	50	500	10.5 <sup>+0</sup> <sub>-0.7</sub>	38.0 <sup>+0</sup> <sub>-1.0</sub>	10
HR055-3A44	AAA	1.2	550	55	550	10.5 <sup>+0</sup> <sub>-0.7</sub>	44.0 <sup>+0</sup> <sub>-1.0</sub>	12
HR050-2A25	1/2AA	1.2	500	50	500	14.5 <sup>+0</sup> <sub>-0.7</sub>	25.0 <sup>+0</sup> <sub>-1.0</sub>	13
HR060-2A29	2/3AA	1.2	600	60	600	14.5 <sup>+0</sup> <sub>-0.7</sub>	29.0 <sup>+0</sup> <sub>-1.0</sub>	14
HR130-2A49	AA	1.2	1300	130	1300	14.5 <sup>+0</sup> <sub>-0.7</sub>	49.0 <sup>+0</sup> <sub>-1.5</sub>	32
HR130-SC43	SC	1.2	1300	130	1300	23.0 <sup>+0</sup> <sub>-0.7</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	34
HR160-SC43	SC	1.2	1600	160	800*2.4hrs	23.0 <sup>+0</sup> <sub>-0.7</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	46
HR300-SC43	SC	1.2	3000	300	1500*2.4hrs	23.0 <sup>+0</sup> <sub>-0.7</sub>	43.0 <sup>+0</sup> <sub>-1.0</sub>	58



## Ni-Mh Botton Type

### Ni-Mh Rechargeable Button batteries for Memory Backup

HKbiL provide consistent and reliable performance for memory backup (MBU) and real time clock (RTC) application. Built-in PCB tags facilitate the subsequent processing and wave soldering

### Major Application:

PC. VCR. Desktop PCs. Notebooks. Car Stereo. OEM .. etc



Button Cell Type	Ni-Mh Rechargeable Cell Specificatio	Diameter (mm)	Height (mm)	Weight (g)	Charge Current (mA)	Charge Time (h)	Trickel Charge Current (mA)
15BVH	1.2V 15 mAh	φ 11.6±0.1	3.07+0.8	1.3±0.2	1.5	14	0.5
40BVH	1.2V 40 mAh	φ 11.6±0.1	5.07+0.8	1.8±0.2	4	14	1.2
80BVH	1.2V 80 mAh	φ 15.15±0.1	6.0+0.8	3.5±0.2	8	14	2.4
110BVH	1.2V 110 mAh	φ 15.15±0.1	7.65+0.8	4.4±0.35	11	14	3.3
160BVH	1.2V 160 mAh	14.98±0.1 x 23.34±0.1	5.18+0.8	5.7±0.35	16	14	4.8
210BVH	1.2V 210 mAh	15.27±0.1 x 24.6±0.1	5.3+0.8	6.9±0.35	21	14	6.3
230BVH	1.2V 230 mAh	φ 25.05±0.1	6.15+0.9	10.2±0.5	23	14	7.0
280BVH	1.2V 280 mAh	φ 25.05±0.1	7.25+0.9	11.3±0.5	28	14	8.4
330BVH	1.2V 330 mAh	φ 25.05±0.1	8.35+0.9	13.3±0.5	32	14	9.9



## Ni-Mh Rechargeable Batteries

鎳氫電池  
消費類型



## Ni-Mh Consumer Type

Mode	Size	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Charge 16hrs(mA)	Fast Charge 1.2hrs(mA)	Diameter (mm)	Height (mm)	Approx. Weight (g)	Packing Type	
									C2	C4
G060-3AH45	AAA	1.2	600	60	600	10.5 <sup>+0</sup> <sub>-0.7</sub>	44.5 <sup>+0</sup> <sub>-1.0</sub>	12	⊕	⊕
G070-3AH45	AAA	1.2	700	70	700	10.5 <sup>+0</sup> <sub>-0.7</sub>	44.5 <sup>+0</sup> <sub>-1.0</sub>	12	⊕	⊕
G075-3AH45	AAA	1.2	750	75	750	10.5 <sup>+0</sup> <sub>-0.7</sub>	44.5 <sup>+0</sup> <sub>-1.0</sub>	12	⊕	⊕
G085-3AH45	AAA	1.2	800	85	850	10.5 <sup>+0</sup> <sub>-0.7</sub>	44.5 <sup>+0</sup> <sub>-1.0</sub>	12	⊕	⊕
G090-3AH45	AAA	1.2	900	90	900	10.5 <sup>+0</sup> <sub>-0.7</sub>	44.5 <sup>+0</sup> <sub>-1.0</sub>	12	⊕	⊕
G100-3AH45	AAA	1.2	1000	100	1000	10.5 <sup>+0</sup> <sub>-0.7</sub>	44.5 <sup>+0</sup> <sub>-1.0</sub>	12	⊕	⊕
G130-2AH51	AA	1.2	1300	130	1300	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.5</sub>	24	⊕	⊕
G140-2AH51	AA	1.2	1400	140	1400	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.5</sub>	25	⊕	⊕
G150-2AH51	AA	1.2	1500	150	1500	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.5</sub>	25	⊕	⊕
G160-2AH51	AA	1.2	1600	160	1600	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.5</sub>	26	⊕	⊕
G180-2AH51	AA	1.2	1800	180	900*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.0</sub>	26	⊕	⊕
G190-2AH51	AA	1.2	1900	190	950*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.0</sub>	27	⊕	⊕
G210-2AH51	AA	1.2	2000	210	1050*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.0</sub>	30	⊕	⊕
G230-2AH51	AA	1.2	2150	230	1150*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.0</sub>	30	⊕	⊕
G250-2AH51	AA	1.2	2300	250	1250*2.4hrs	14.5 <sup>+0</sup> <sub>-0.7</sub>	50.5 <sup>+0</sup> <sub>-1.0</sub>	30	⊕	⊕
G180-CH50	CH	1.2	1800	180	900*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	55	⊕	
G250-CH50	CH	1.2	2500	250	1250*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	78	⊕	
G300-CH50	CH	1.2	3000	300	1500*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	78	⊕	
G350-CH50	CH	1.2	3500	350	1750*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	85	⊕	
G400-CH50	CH	1.2	4000	400	2000*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	86	⊕	
G450-CH50	CH	1.2	4500	450	2250*2.4hrs	26.0 <sup>+0</sup> <sub>-1.0</sub>	50.0 <sup>+0</sup> <sub>-1.0</sub>	90	⊕	
G250-DH61	DH	1.2	2500	250	1250*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.5 <sup>+0</sup> <sub>-1.5</sub>	91	⊕	
G300-DH61	DH	1.2	3000	300	1500*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.5 <sup>+0</sup> <sub>-1.5</sub>	95	⊕	
G400-DH61	DH	1.2	4000	400	2000*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.5 <sup>+0</sup> <sub>-1.5</sub>	100	⊕	
G500-DH61	DH	1.2	5000	500	2500*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.5 <sup>+0</sup> <sub>-1.5</sub>	108	⊕	
G800-DH61	DH	1.2	8000	800	4000*2.4hrs	33.0 <sup>+0</sup> <sub>-1.0</sub>	60.5 <sup>+0</sup> <sub>-1.5</sub>	155	⊕	

Mode	Type	Nominal Capacity (mAh)	Thick x Width x Height	Packing Type C1
G012-H7C	9V(8.4V)	120	15.2 x 26.1 x 48.5	⊕
G017-H7C	9V(8.4V)	170	15.2 x 26.1 x 48.5	⊕
G020-H7C	9V(8.4V)	200	15.2 x 26.1 x 48.5	⊕
G025-H7C	9V(8.4V)	250	15.2 x 26.1 x 48.5	⊕

Discharge at 0.2C after charging at 0.1C for 16 hours.

Packing type :

C1: Blister Card Packing With 1 Pcs of Battery

C2: Blister Card Packing With 2 Pcs of Batteries

C4: Blister Card Packing With 4 Pcs of Batteries





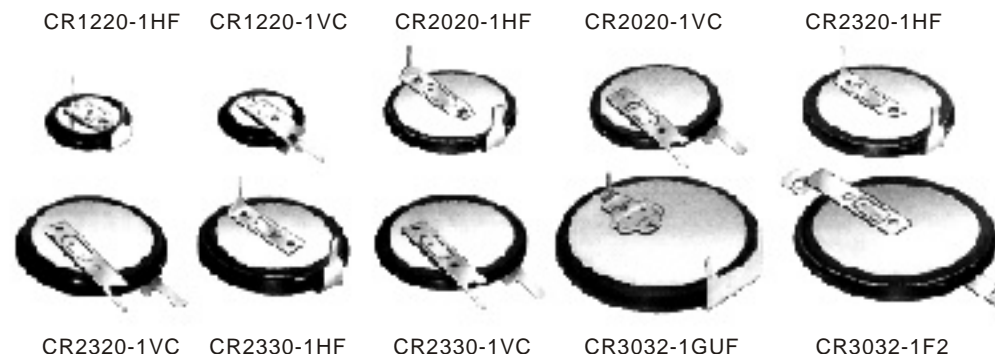
# CR Type

## Major Features:

- High voltage(3V)
- Excellent leakage resistance;
- Wide temperature range:-20°C~+60°C.

## Major Applications

Watches; Calculators; Portable computer; Electronic Key;  
Card-type radios IC card memory card;  
Electronic healthy care devices; Remote Controller;  
CMOS memory backup power sources.



Mode	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Discharge Current(mA)	Max. Discharge Current(mA)		Max. Dimensions (mm)	Approx. Weight (g)
				Continuous	Pulse		
CR927	3.0	30	0.1	1.0	5	φ9.5×2.7	0.6
CR1025	3.0	30	0.1	1.0	5	φ10.0×2.5	0.6
CR1216	3.0	25	0.1	1.0	5	φ12.5×1.6	0.7
CR1220	3.0	38	0.1	1.0	5	φ12.5×2.0	0.8
CR1225	3.0	50	0.1	1.0	5	φ12.5×2.5	0.9
CR1530	3.0	85	0.1	1.0	10	φ15.0×3.0	1.4
CR1616	3.0	50	0.1	1.0	10	φ16.0×1.6	1.1
CR1620	3.0	70	0.1	1.0	10	φ16.0×2.0	1.2
CR1632	3.0	120	0.1	1.0	15	φ16.0×3.2	1.8
CR2016	3.0	75	0.1	1.0	15	φ20.0×1.6	1.7
CR2025	3.0	150	0.2	2.0	20	φ20.0×2.5	2.5
CR2032	3.0	220	0.2	2.0	20	φ20.0×3.2	3.0
CR2320	3.0	130	0.2	2.0	20	φ23.0×2.0	2.7
CR2325	3.0	190	0.2	2.0	20	φ23.0×2.5	3.2
CR2330	3.0	260	0.2	2.0	20	φ23.0×3.0	3.7
CR2335	3.0	300	0.2	3.0	20	φ23.0×3.5	4.2
CR2354	3.0	530	0.2	3.0	20	φ23.0×5.4	6.3
CR2412	3.0	90	0.1	1.0	15	φ24.5×1.2	2.2
CR2430	3.0	270	0.2	3.0	20	φ24.5×3.0	4.3
CR2450	3.0	550	0.2	3.0	20	φ24.5×5.0	5.8
CR2450	3.0	600	0.2	3.0	20	φ24.5×5.0	7.1
CR2477	3.0	950	0.2	3.0	20	φ24.5×7.7	9.9
CR3032	3.0	500	0.2	3.0	20	φ30.0×3.2	6.8

## LIR Type

### FEATURES

High voltage (3.6V);  
Excellent charge /discharge cycle characteristics;  
Low self-discharge rate;  
No memory effect;  
Wide temperature range(-20°C~+60°C);  
Excellent safety characteristics.

### APPLICATIONS

Portable electronic devices ,  
such as mobile phone ,  
notebook computer, PNA, FRS,etc.



Type	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Current 0.2°C(mAh)	Max. charge & discharge Current 0.1°C(mA)	Pulse Current 2°C(mA)	Resistance (mΩ)	Dimensions mm(Max) φ H
LIR2016	3.6	20	4	20	40	≤900	20.0*1.8
LIR2025	3.6	30	6	30	60	≤500	20.0*2.8
LIR2032	3.6	50	10	50	100	≤450	20.0*3.5
LIR2430	3.6	70	14	70	140	≤420	24.5*3.4
LIR2450-III	3.6	140	28	140	280	≤370	24.5*5.4
LIR2477	3.6	130	26	130	260	≤370	24.5*8.1
LIR3032	3.6	130	26	130	260	≤370	30.0*3.5

# ER Type

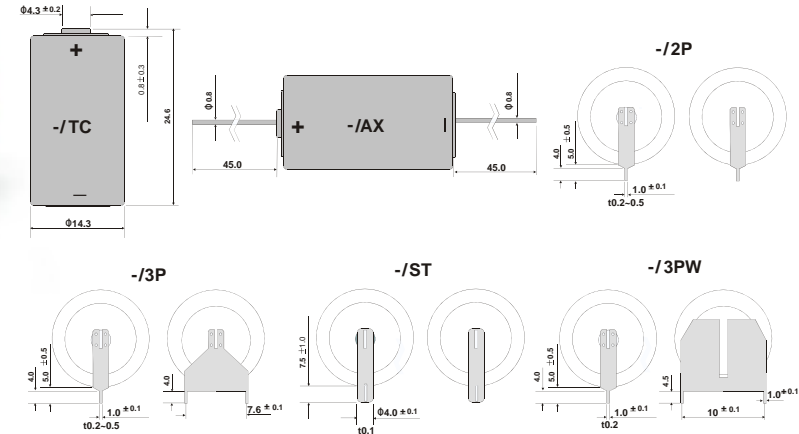
Li-SOCl<sub>2</sub> Primary cylindrical cells

Due to the characteristics of Li-SOCl<sub>2</sub> batteries, There are three basic type:

- **Energy type:**  
At -55°C~+85°C, 90% capacity could be output at high level
- **Power type:**  
high power rate, large power output for over five years
- **High temperature type:**  
At -20°C~+150°C, be stores over 10years at 0°C



## Available Terminations;



## General feature:

- High energy density up to 420WH/Kg(800WH/dm<sup>3</sup>).
- High operation voltage,3.3V-3.6V upon loading resistance.
- Long storage life, less than 2% of self-discharging rate per year, could be stored 10-15year at room temperature,
- Non-magnetic stainless steel case, hermetically sealed.  
Be safe for transportation and general shock, No leakage problem.

Type	Nominal Capacity (mAh)	Nominal Voltage (V)	Operating Current(max) Continuous	Pulse	Standard Discharge Current(mA)	Cut off Voltage (V)	Dimensions mm(Max) dia.	H	Weight (g)	Operating Temperature (°C)
ER12130	100	3.6	2	5	0.1	2.0	12.0	13.0	5.0	-55~+85
ER13170	500	3.6	8	25	0.5	2.0	13.5	17.0	5.0	-55~+85
ER13459	L31 1300	3.6	10	30	1.0	2.0	13.5	45.9	13.0	-55~+85
ER14200	600	3.6	5	15	2.4	2.0	14.5	20.0	7.0	-55~+85
ER14250	1/2AA 1100	3.6	50	100	0.5	2.0	14.5	25.0	10.0	-55~+85
ER14250H	1/2AA 1200	3.6	50	100	0.5	2.0	14.5	25.0	10.0	-55~+85
ER14335	2/3AA 1600	3.6	50	100	0.7	2.0	14.5	33.5	13.0	-55~+85
ER14335H	2/3AA 1650	3.6	20	50	0.5	2.0	14.5	33.5	13.0	-55~+85
ER14505	AA 2400	3.6	100	200	1.0	2.0	14.5	50.5	19.0	-55~+85
ER14505H	AA 2700	3.6	100	200	1.0	2.0	14.5	50.5	19.0	-55~+85
ER17250	1000	3.6	100	200	1.0	2.0	17.0	25.0	12.0	-55~+85
ER17335	2200	3.6	100	200	1.2	2.0	17.0	33.5	17.0	-55~+85
ER17450	3000	3.6	100	200	1.2	2.0	17.0	45.0	25.0	-55~+85
ER18505	3500	3.6	100	200	1.0	2.0	18.5	50.5	32.0	-55~+85
ER18505H	4200	3.6	100	200	1.0	2.0	18.5	50.5	32.0	-55~+85
ER20505	3800	3.6	100	200	4.0	2.0	20.0	50.5	35.0	-55~+85
ER26500	C 8200	3.6	200	400	2.0	2.0	26.2	50.0	55.0	-55~+85
ER26500H	C 9000	3.6	200	400	2.0	2.0	26.2	50.0	55.0	-55~+85
ER34320	5000	3.6	150	300	2.0	2.0	34.2	32.0	65.0	-55~+85
ER34615	D 18000	3.6	200	400	3.0	2.0	34.2	61.5	106.0	-55~+85
ER34615H	D 19000	3.6	200	400	3.0	2.0	34.2	61.5	106.0	-55~+85
ER34065	1/10D 1000	3.6	10	20	0.5	2.0	32.9	6.5	19.0	-55~+85

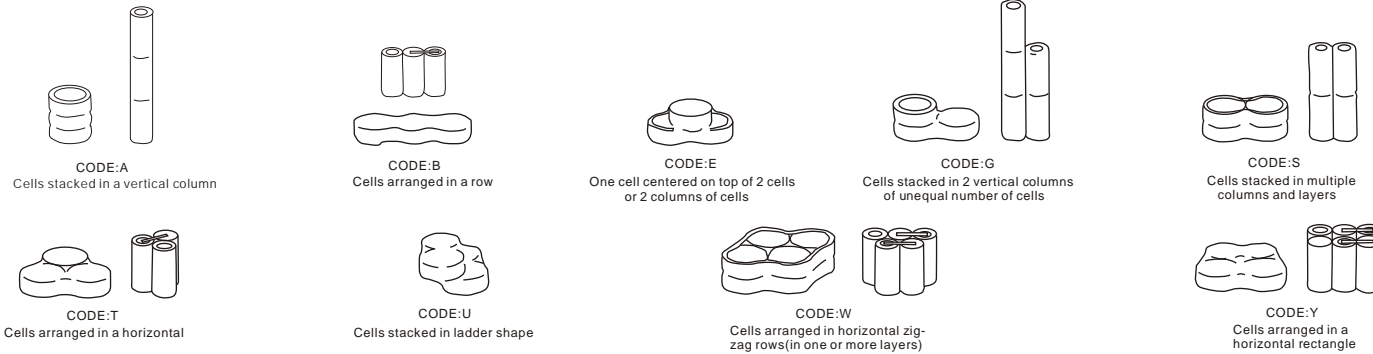
### DESIGNATION SYSTEM FOR BATTERY PACKS

HKG130AAE3B1P	Model Number
3	Number of Cells in a Pack
T	Configuration Code
1	Tag Type Code
H	Tag Direction Code

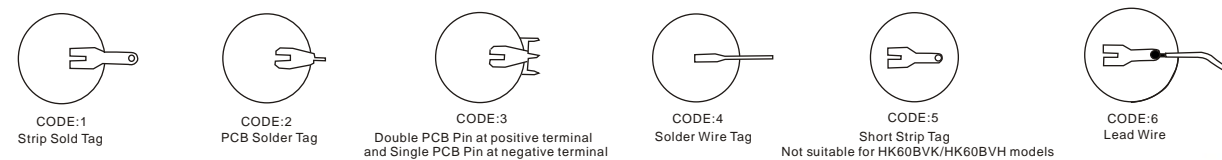
In case of battery pack with connector, the last two characters will be used to specify connector type



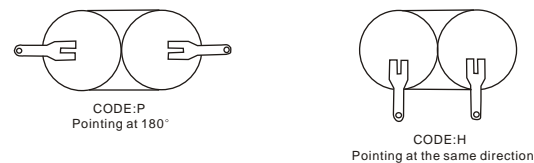
### STANDARD CONFIGURATION FOR BATTERY PACKS



### TAG TYPE SPECIFICATION



### TAG DIRECTION CODE





Cordless Phones Ni-Mh & Ni-Cd Battery Packs made by HkbiL

Material : Li-Ion , Ni-Mh , Ni-Cd

Voltage: 1.2V to 7.2V

Capacity: 300 mAh to 2,000 mAh

For: Sony, Panasonic, Toshiba, Cobra, Uniden, Glodatex, Skyphone, AT&T, Atlnk, GE, Audiovox, Samsung, Doro, Citizen, AEG, Telefunken, Ericsson, Dancall, Doro Walk, Siemens ...etc.



Notebook Computers Lithium ion & Ni-Mh battery Packs made by HkbiL

Universal Battery pack for DELL, NEC, Sony , Toshiba ...etc.



Digital Cameras & Camcorders Lithium Ion & Ni-Mh Battery Packs made by HkbiL

Voltage: 3.7V or 7.4V

Capacity: 600 mAh to 3000 mAh

For Sony, Panasonic, JVC, Canon, Hitachi, Samsung, Sharp , Pentax, Casio, Nikon, FujiFilm ...etc.



Digital Cameras & Camcorders Lithium & Ni-Mh battery Packs Power Tools Battery Packs made by HkbiL

Material: Ni-Mh or Ni-Cd

Voltage: 7.2V to 18V

Capacity: 1300 mAh to 3500 mAh

For: BOSCH, MAKITA, DEWALT, RYBOL ...etc.



**Taking quality as the policy**

Striving constantly for perfection, Relying on the quality bases;  
Fulfilling completely our promises, Treating the customer as first.

**To achieve the quality objective**

Providing 100% satisfying high quality products;  
Providing 100% satisfying delivery;  
Providing 100% satisfying service;





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