



上海航天电源技术有限责任公司

SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.

Square high power lithium iron phosphate base

Lithium-ion battery product specifications

IFP1780123PB

approve	review	prepared by
Wang Jianliang	Bai Xuejun	Song Xiaobo
Customer signature		

Address: Wanfang Road, Pujiang Town, Minhang District, Shanghai501Number

post code:201112

Phone: +86-21-33292329

Fax: +86-21-33883383

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:2/14

Revise resume

Edition	modify the content	Revision date
A/00	New version released	2013-05-07
A/01	revision3.1.10and4.4.5	2013-06-03
A/02	revision3.1.9and3.1.10	2013-6-21
A/03	revision3.1.9 / 3.1.10 / 3.1.11 / 4.4.2 / 4.4.5 / 4.4.6	2013-6-28
A/04	revision3.1.7	2019-1-10

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:3/14

Table of contents

1scope.....	4
2battery model.....	4
3Product performance indicators.....	4
3.1Technical Parameters	4
3.2Charging mode/parameters	6
3.3Discharge mode/parameters	6
4Battery performance standards.....	7
4.1Exterior	7
4.2Standard test conditions	7
4.3Test equipment requirements	7
4.4Electrical performance test	7
4.5Thermal Abuse Test	8
4.7Electrical Abuse Test	10
4.8Storage performance	10
5Battery transportation and storage.....	11
5.1transportation	11
5.2store	11
6Battery appearance diagram.....	11
7quality assurance.....	12
8Safe use guide.....	12
9Battery shipping status.....	13
10technical consulting.....	13
11Revision of product specifications.....	13
12the term.....	14

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:4/14

1scope

This document applies to square high-power lithium iron phosphate produced by Shanghai Aerospace Power Technology Co., Ltd.

based lithium-ion battery.

2battery model

IFP1780123PB

3Product performance indicators

3.1Technical Parameters

(This parameter only applies toSAPTNew products delivered to customers, not applicable to products used by customers)

serial number	project	Technical Parameters		Remark	
3.1.1	Rated Capacity	8Ah		0.5C	
3.1.2	Q	3.2V			
3.1.3	open circuit voltage	3.2~3.4V		50%~60%state of charge	
3.1.4	Cell internal resistance	≤1.3mΩ		1KHzAC electrical impedance	
3.1.5	Unit weight	0.32±0.02Kg			
3.1.6	Maximum charging voltage	3.65V			
3.1.7	Operating temperature	Charge:	0°C~10°C	0.1C	To ensure higher charging capacity and service life It is recommended to use it under the specified current magnification use
		0°C	11°C~20°C	0.3C	
		~30°C	twenty one°C~45°C	1-2C	
		Discharge:-20°C~55°C			
3.1.8	Storage temperature	- 20°C~55°C			

3.1.9	700A high current discharge electricity (25°C~35°C)	≥1Second-rate	<p>The battery is fully charged according to standard charging methods.</p> <p>put on hold 30min, 700A discharge, discharge time ≥3.5s, the cut-off voltage is 1.8V</p> <p>Definition of number of pulse cycles: battery adopts 0.5C constant current and constant voltage charging to 3.65V, change constant voltage charging to 0.05C, put on hold 30min, 450A large current discharge 5s, put aside 4min, the lower limit voltage is set to 1.8V, This is recorded as a cycle (i.e. a pulse Discharge represents a pulse cycle)</p>
3.1.10	room temperature pulse discharge cycle ring (25±2°C)	Battery capacity after 300 pulse cycles ≥6.4Ah	<p>Definition of number of pulse cycles: battery adopts 0.5C constant current and constant voltage charging to 3.65V, change constant voltage charging to 0.05C, put on hold 30min, 450A large current discharge 5s, put aside 4min, the lower limit voltage is set to 1.8V, This is recorded as a cycle (i.e. a pulse Discharge represents a pulse cycle)</p>

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:6/14

Continuation table3.1

serial number	project	Technical Parameters	Remark
3.1.11	Discharge capacity (25°C)	Number of consecutive pulse discharges ≥ 10 Second-rate	according to 4.4.6 entry for testing, this entry Only applies to adoption 4.4.5 items loop continuously ring 250 The battery within a pulse cycle and the ambient temperature $25 \pm 5^\circ\text{C}$, relative humidity 45%~85%RH stored in an environment 1 Year Unused battery inside
3.1.12	Cathode material system	Lithium iron phosphate	
3.1.13	shell material	Aluminum alloy	
3.1.14	maintain	battery in 60%-80%SOC On hold, maintained once a year	

3.2 Charging mode/parameters

serial number	parameter	product specifications	condition
3.2.1	Standard charging current	4.0A	$25 \pm 5^\circ\text{C}$, $65 \pm 20\%$ RH
3.2.2	Maximum charging voltage	$3.65 \pm 0.02\text{V}$	standard: 3.65V
3.2.3	Standard charging mode (constant current and constant voltage)	The ambient temperature is $25 \pm 5^\circ\text{C}$ Under the conditions of $^\circ\text{C}$, use <u>0.5C</u> A=4A constant current Streaming charge to 3.65V When, switch to constant voltage charging, when the charging current is less than 0.05C hour Deadline, the charging time does not exceed 3h	
3.2.4	Standard charging temperature	$25 \pm 5^\circ\text{C}$	

3.3 Discharge mode/parameters

serial number	parameter	product specifications	condition
3.3.1	Standard discharge current	4.0A	$25 \pm 5^\circ\text{C}$, $65 \pm 20\%$ RH
3.3.2	Maximum pulse discharge current	700A	full charge, 700A discharge 3S, The cutoff voltage is set to 1.8V
3.3.3	Standard discharge cut-off voltage	$2.0 \pm 0.05\text{V}$	
3.3.4	High current discharge cut-off voltage	$1.8 \pm 0.05\text{V}$	include 450A and 700A
3.3.5	Standard discharge temperature	$25 \pm 5^\circ\text{C}$	

Before using this battery, please read all relevant safety instructions and this specification sheet carefully to ensure safe and correct use.

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:7/14

4 Battery performance standards

4.1 Exterior

There are no obvious scratches, defects or cracks on the outer surface of the battery, no leakage of electrolyte, and no other appearance defects that affect the sales value of the battery.

4.2 Standard test conditions

The test battery must be a new battery that has been manufactured by our company for no more than one month, and the battery must not have been charged and discharged more than five times. Unless there are special requirements, the product test conditions in this specification are temperature: 25±5°C, humidity:65±20% RH.

4.3 Test equipment requirements

- (1) The accuracy of the instrument for measuring dimensions should be greater than or equal to 0.01mm;
- (2) The accuracy of the multimeter in measuring voltage and current should be no less than 0.5 level, the internal resistance should not be less than 10kΩ;
- (3) The measurement principle of the internal resistance tester should be the AC impedance method (1KHzLCR);
- (4) The current accuracy of the battery test system should be no less than ±0.1%, the constant voltage accuracy is not less than ±0.5%, the timing accuracy is not less than ±0.1%;
- (5) The accuracy of the instrument measuring temperature should be no less than ±0.5°C.

4.4 Electrical performance test

serial number	project	Test Methods	Inspection requirements
4.4.1	Normal temperature and constant current Electrical properties	1) Test ambient temperature 25±5°C 2) battery button 3.2.3 Charging according to prescribed method 3) Leave in open circuit state 30min, and then use 0.5C ₁ A Discharge at a constant current to the standard discharge cut-off voltage and record the discharge capacity.	Discharge capacity ≥100%* Rated Capacity
4.4.2	Room temperature high current Discharge performance	1) Test ambient temperature 30±5°C 2) battery button 3.2.3 Charging according to prescribed method 3) Leave it in the open circuit state 30min, by 700A constant current discharge 3.5s, set the cut-off voltage 1.8V	Number of discharges ≥1 Second-rate
4.4.3	High temperature discharge resistance able	1) battery button 3.2.3 Charging according to prescribed method 2 exist 55±2 Stored under high temperature conditions 5h 3) exist 55±2 at °C 0.5C ₁ A Discharge at a constant current to the standard discharge cut-off voltage and record the discharge capacity.	Discharge capacity ≥95%*Forehead Fixed capacity

Before using this battery, please read all relevant safety instructions and this specification sheet carefully to ensure safe and correct use.



上海航天电源技术有限责任公司
SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.

product specifications

serial number:Q/Pf.J.07.T1-BV

Version:A/04

Number of pages:8/14

Continue the above table4.4

serial number	project	Test Methods	Inspection requirements
4.4.4	Low temperature discharge performance	<p>1) battery button3.2.3Charging according to prescribed method 2</p> <p>2) exist-20±2Store under low temperature conditions16h</p> <p>3) exist-20±2at °C0.5C₁ADischarge at a constant current to the standard discharge cut-off voltage and record the discharge capacity.</p>	<p>Discharge capacity</p> <p>≥50%*Forehead</p> <p>Fixed capacity</p>
4.4.5	room temperature pulse cycle Ring discharge performance	<p>1) at temperature25±2under °C conditions;</p> <p>2) battery with0.5C₁AConstant current and constant voltage charging to3.65V, turn to constant voltage charging to0.05C;</p> <p>3) in the open circuit state30min,by450Aconstant current pulse discharge 5s, put aside4min, this is recorded as a cycle (that is, one pulse represents a cycle)</p> <p>The power-to-power time interval is4min, until reaching the cut-off voltage1.8V; 4)repeat2) and3) steps until the number of constant current pulse discharge cycles in the entire test process reaches300Second-rate;</p> <p>5)Battery button4.4.1Specify testing and recording discharge capacity</p>	<p>accumulation300Second-rate</p> <p>pulse discharge</p> <p>Electricity after cycle</p> <p>Pool capacity ≥ 6.4Ah</p>
4.4.6*	Discharge capacity	<p>1) at temperature25±2under °C conditions;</p> <p>2) battery with0.5C₁AConstant current and constant voltage charging to3.65V, turn to constant voltage charging to0.05C;</p> <p>3) in the open circuit state30min,by450Aconstant current pulse discharge 5s, put aside4min, the constant current pulse discharge is repeated and the time interval between two pulse discharges is4min, until reaching the cut-off voltage1.8V; Record the number of pulse discharges.</p>	<p>continuous pulse</p> <p>Number of discharges</p> <p>≥10 times</p>
4.4.7	Normal temperature charging keep testing	<p>1) Battery button3.2.3Charging according to prescribed method</p> <p>2) in25±5Store at °C28sky</p> <p>3) After the storage period ends, the battery will0.5C₁ADischarge with constant current to the standard discharge cut-off voltage, and calculate the capacity loss of the battery after being left aside.</p> <p>4) battery button3.2.3Charging according to prescribed method</p> <p>5) by0.5C₁ADischarge with constant current to the standard discharge cut-off voltage, and calculate the recovery capacity of the battery after being left aside.</p>	<p>Capacity loss</p> <p><6%*Rated capacity;</p> <p>recovery capacity</p> <p>≥95%*Forehead</p> <p>Fixed capacity</p>
4.4.8	High temperature charging keep testing	<p>1) battery button3.2.3Charging according to prescribed method 2)exist5±2Store at °C7sky</p> <p>3) After the shelving is completed, the battery is25±5Recovery at °C5h</p> <p>4)by0.5C₁ADischarge with constant current to the standard discharge cut-off voltage, and calculate the capacity loss of the battery after being left aside.</p> <p>5) battery button3.2.3Charging according to prescribed method</p> <p>6)by0.5C₁ADischarge with constant current to the standard discharge cut-off voltage, and calculate the recovery capacity of the battery after being left aside.</p>	<p>Capacity loss</p> <p><6%*Rated capacity;</p> <p>recovery capacity</p> <p>≥95%*Forehead</p> <p>Fixed capacity</p>

Note: 4.4.6* items are only applicable to batteries that use the 4.4.5 method to continuously cycle within 250 pulse cycles and at ambient temperature.

Store batteries that have not been used within 1 year in an environment of 25±5°C and relative humidity of 45% to 85%RH.

Before using this battery, please read all relevant safety instructions and this specification sheet carefully to ensure safe and correct use.

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:9/14

4.5 Thermal Abuse Test

4.5.1	temperature shock cycle	<p>1) Will 50% SOC The state of the battery is stored in a high and low temperature chamber 2) exist 70°C to -40°C Conduct three thermal shock cycles between °C, and the temperature rise and fall time of each time is controlled within 15min Within, the battery is within 70°C or</p> <p>- 40°C The shelf time under temperature conditions of °C is 1h</p> <p>3) After temperature shock cycle, observe the appearance and sealing performance of the battery.</p>	<p>The battery should not</p> <p>Explosion, no</p> <p>Fire, no</p> <p>Give way</p>
4.5.2	Thermal stability	<p>1) exist 25±5 Fully charge the battery at</p> <p>2) high temperature box with 5±2°C/min The speed heats up to 150±2°C (266 ±3.6°F), Keep 30min</p> <p>3) Return the oven temperature to room temperature and observe the appearance of the battery</p>	<p>The battery should not</p> <p>Explosion, no</p> <p>fire</p>

4.6 Mechanical abuse testing

serial number	item Head	Test Methods	Inspection requirements
4.6.1	Vibration test	<p>1) Test ambient temperature 25±5°C 2) battery button 3.2.3</p> <p>Charging according to prescribed method</p> <p>3) The battery is fixed on the vibration table, and its test parameters are: the discharge current is 0.5C, the vibration frequency is 10-50Hz, the maximum acceleration is 30m/s², the vibration direction includes X/Y/Z Shaft vibration, sweep cycle 10 times, vibration time 1h</p>	<p>The battery should not explode</p> <p>Explodes, does not catch fire,</p> <p>Do not disclose</p>
4.6.2	Drop test	<p>1) Test ambient temperature 25±5°C 2) battery button 3.2.3</p> <p>Charging according to prescribed method</p> <p>3) Move the battery from the height 1.5m free fall onto the concrete floor</p> <p>4) from X, Y, Z forward and reverse direction (6 surface) falling freely in all directions 1 Second-rate</p> <p>5) Observe the battery after the test 1h changes within</p>	<p>The battery should not explode</p> <p>Explodes, does not catch fire</p>
4.6.3	Immersion test	<p>1) Test ambient temperature 25±5°C 2) battery button 3.2.3</p> <p>Charging according to prescribed method</p> <p>3) Place the battery in salt water (3.5% concentration NaCl aqueous solution), the battery should be fully immersed in salt water, and the experiment continues 2h Stop the test when the above or other visible reactions occur.</p>	<p>The battery should not explode</p> <p>Explodes, does not catch fire</p>
4.6.4	acupuncture	<p>1) Test ambient temperature 25±5°C 2) battery button 3.2.3</p> <p>Charging according to prescribed method</p> <p>3) Use Φ8mm The high temperature resistant steel needle is 10-40mm/s speed, penetrating from the direction perpendicular to the battery plates, the steel needle stays in the battery for at least 30min</p> <p>4) Observe the battery after the test 1h changes within</p>	<p>The battery should not explode</p> <p>Explodes, does not catch fire</p>

 上海航天电源技术有限公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:10/14

Continuation table4.6

serial number	item Head	Test Methods	Inspection requirements
4.6.5	Heavy impact test	1)Test ambient temperature $25\pm 5^{\circ}\text{C}$ 2) battery button3.2.3 Charging according to prescribed method 3) Put a diameter of $15.8\pm 0.1\text{mm}$ The rod is placed in the middle of the battery 4)one $9.1\pm 0.46\text{kg}$ The heavy hammer from $610\pm 25\text{mm}$ high place to the battery	The battery should not explode Explodes, does not catch fire
4.6.6	squeeze test	1)Test ambient temperature $25\pm 5^{\circ}\text{C}$ 2) battery button3.2.3 Charging according to prescribed method 3) Apply pressure perpendicular to the direction of the battery plates, and the maximum pressure does not exceed the battery weight1000times 4) to squeeze the battery to its original thickness85%Keep5min, and then continue Continue extrusion to initial thickness50% 5) The extrusion speed should be slow enough to prevent any possible short circuit in the battery interact with thermal runaway factors	The battery should not explode Explodes, does not catch fire

4.7Electrical Abuse Test

serial number	item Head	Test Methods	Inspection requirements
4.7.1	Overcharge test	1)Test ambient temperature $25\pm 5^{\circ}\text{C}$ 2) battery button3.2.3 Charging according to prescribed method 3)by $0.5\text{C}_1\text{A}$ Constant current charging until the battery capacity reaches the rated capacity 200%Or the voltage reaches twice the charging upper limit voltage	The battery should not explode, afford fire
4.7.2	Overdischarge test	1)Test ambient temperature $25\pm 5^{\circ}\text{C}$ 2) battery button 3.2.3Charging according to prescribed method 3)by $0.5\text{C}_1\text{A}$ Constant current discharge to0V 4) Observe the battery after the test1hchanges within	The battery should not explode, afford Fire, no leakage
4.7.3	Short circuit test	1)Test ambient temperature $25\pm 5^{\circ}\text{C}$ 2) battery button3.2.3 Charging according to prescribed method 3) Use the battery with an internal resistance less than $5\text{m}\Omega$ external circuit short circuit 10min, or terminate the test when other conditions occur (such as component melting, etc.)	The battery should not explode, afford fire

4.8Storage performance

Batteries for this test should be selected from the production date to the test date no more than3months of battery life
 Battery standard charge to50%capacity, then at ambient temperature $25\pm 5^{\circ}\text{C}$, relative humidity45%~85%RHof
 stored in environment90sky. After the storage period expires, the battery is charged to100%capacity, and then $0.5\text{C}_1\text{A}$

Before using this battery, please read all relevant safety instructions and this specification sheet carefully to ensure safe and correct use.

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:11/14

Constant current discharge to the standard discharge cut-off voltage, the discharge capacity should be higher than the rated capacity95%.

Maintenance recommendations: If the battery is not used for a long time, it is recommended to3~6Fully charge and discharge the battery every month
 electricity1~2This will help slow down the decay rate of active materials inside the battery.

5Battery transportation and storage

5.1transportation

Batteries should be packed into boxes for transportation and should be protected from severe vibration, impact or extrusion during transportation.

Protect from the sun and rain, and can be transported by cars, trains, ships, airplanes and other means of transportation.

5.2store

Batteries should be stored at an ambient temperature of -20°C~55°C, relative humidity is10%RH~90%RHof strips
 under the condition. Batteries should avoid contact with corrosive substances or magnetic environments. Batteries should be stored in a clean, dry, and ventilated place.
 environment.

6Battery outline drawing (this outline size does not include packaging materials: insulating gaskets and heat shrink sleeves)

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:12/14

7 quality assurance

From the date of shipment, the shelf life of the battery is determined by the contract. However, within this period, if it is not The reason is not the manufacturing process of Haiyang Power Technology Co., Ltd., but the battery quality problem caused by the customer's misuse. Question, Shanghai Aerospace Power Technology Co., Ltd. does not promise free replacement.

Shanghai Aerospace Power Supply Technology Co., Ltd. will not take any responsibility for the problems and safety accidents caused by the following situations: assume any responsibility for:

- 1) Problems and safety accidents caused by violation of safe use guidelines;
- 2) Defective batteries produced by customers during the battery assembly process after shipment;
- 3) Problems caused by the use of batteries with circuits, battery packs and chargers.

For safety reasons, if there are other aspects such as equipment design, lithium-ion battery system protection circuit or large current, etc. For special applications, please consult Shanghai Aerospace Power Technology Co., Ltd. for relevant matters first.

8 Safe use guide

To avoid battery damage or personal injury caused by misuse of prismatic lithium-ion batteries, be careful when using prismatic lithium-ion batteries. Before replacing the battery, please read the following safety guidelines carefully:



— Batteries carry the risk of fire, explosion and burns. Do not disassemble, crush, incinerate, heat or dispose of batteries.

into fire;

— Keep the battery out of the reach of children. Do not remove the original battery packaging before use.

Dispose of used batteries promptly according to local recycling or waste regulations;

— If the battery needs to be replaced, use batteries from the same manufacturer. Use batteries from other manufacturers.

There may be a risk of fire and explosion;

- Do not put the battery into water or get it wet;

- Do not contact the positive and negative terminals of the battery with the metal case at the same time;

- Do not short-circuit, overcharge or over-discharge the battery;

- Do not use or store batteries near heat sources (such as fire or heaters);

- Do not reverse the positive and negative poles of the battery;

Before using this battery, please read all relevant safety instructions and this specification sheet carefully to ensure safe and correct use.

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:13/14

- Do not place batteries together with coins, metal jewelry or other metal objects;
- Do not use nails or other sharp objects to pierce the battery case, and do not hammer or step on the battery;
- Do not solder the battery directly;
- Do not disassemble or modify the battery in any way without authorization;
- Do not hit, throw, or subject the battery to mechanical shock or natural drop;
- Do not mix lithium-ion batteries of different types and brands;
- Do not connect the negative pole to the case (positive electricity);
- If the battery emits a peculiar smell, generates heat, is deformed, discolored or has any other abnormality, it must not be used and the battery should be removed from the use environment;
- If the electrolyte enters the eyes after the battery leaks, do not rub it, rinse with water, and seek medical assistance immediately. If not treated in time, the eyes will be harmed;
- If the battery catches fire, use dry powder, foam fire extinguisher, sand, etc. to extinguish it and keep it away from the environment;
- If the battery is assembled into a replaceable battery pack that can be installed by non-professionals, precautions and instructions for use should be marked on the terminal application in accordance with the above guidelines.

9 Battery shipping status

If the customer has no special requirements, under normal circumstances, the battery has 50%-60% About the amount of electricity,

The battery voltage is 3.2-3.4V.

10 technical consulting

If you have any questions about the battery during use, please consult as follows:

Factory address: Shanghai Aerospace Power Technology Co., Ltd.—Wanfang Road, Pujiang Town, Minhang District, Shanghai 501

Phone number: 021—33292329

fax: 021—33883383

11 Revision of product specifications

Our company has the right to revise the specifications of this series of products. Except as an attachment to the contract, under normal circumstances,

The company does not provide revised product specifications to customers.

 上海航天电源技术有限责任公司 SHANGHAI AEROSPACE POWER TECHNOLOGY CO.,LTD.	product specifications	serial number:Q/Pf.J.07.T1-BV
		Version:A/04
		Number of pages:14/14

12th term

the term	definition
SAPT	Shanghai Aerospace Power Technology Co., Ltd.
Battery	A basic electrochemical functional unit consisting of electrodes, electrolytes, containers, terminals, and usually separators and all related packaging
client	company, enterprise or individual
open circuit voltage	The voltage between the positive and negative terminals of the battery when no load is connected
SOC	State of charge, relative to the percentage of battery capacity when fully charged
Fully charged	100%state of charge
ambient temperature	Any testing in this document specifies an ambient temperature of 25 °C ±5 °C in the range
leakage	The battery container loses its airtightness, causing gas or liquid to slowly leak out from a location other than where it is designed to relieve pressure.
explode	Rapid release of energy sufficient to trigger pressure waves and/or projectiles that, depending on battery size, may cause severe structural and/or personal damage
fire	Ignition and continued combustion of flammable gases or liquids (approximately exceeding 1 second), sparks are not flames