

Features

- High temperature
- High Capacity

RS PRO Rechargeable Lithium-ion Cylindrical Battery

RS Stock No.: 0677110



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

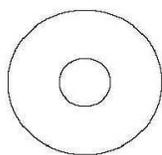
Product Description

The RS PRO Rechargeable Lithium Ion Cylindrical Battery has a long service life, up to 1000 charge/discharge cycles. This product provides a reliable and safe power source with a wide range of temperature reliability, low discharge rate and great overcharge.

General Specifications

Battery type	RCR123A
Nominal voltage	3.7V
Nominal capacity	700 mAh (at 0.2CmA)
Typical weight	Approximate: 17g
Dimension	Diameter:16.7-0.4mm (PVC) ; Height: 34.2-0.6mm
Standard charge	CC/CV, 0.2C ₅ A, 4.20V
Standard Discharge	CC, 0.2C ₅ A, 3.0V
End-of-charge Voltage	4.20V
End-of-charge current	0.02C ₅ A (At CV mode)
End-of-discharge voltage	3.00V
Charging Time	8.0 hours (standard charge)
Quick charge current	700mA (1.0C ₅ rate)
Quick discharge current	700mA (1.0C ₅ rate)
Maximum instantaneous pulse discharge current	2100mA (3.0C ₅ rate)
Initial Impedance	Max:75mΩ
Weight	Approx: 17.0±1g
Operating Temperature	Charging: 0°C~45°C Discharging: -20~60°C
Storage temperature	-5°C~35°C
Storage Humidity	≤75% RH
Appearance	Without scratch, distortion, contamination and leakage
Standard environmental condition	Temperature : 25±2□ Humidity : 45-75%RH Atmospheric Pressure : 86-106 KPA
Temperature Dependence of Discharge Capacity @0.2C Discharge	

Pack Drawing



Item	Specifications
Diameter	16.7-0.4mm (PVC)
Height	34.2-0.6mm

Approvals

Declarations	MFR Declaration of Conformity
Hazardous Area Certification	ATEX / IECEx
Standards Met	VDE

Battery Specifications

Item	Specifications
Typical Capacity	700mAh @ 0.2C Discharge

Minimum capacity	680mAh @ 0.2C Discharge			
Nominal voltage	3.70V			
Standard Charge	CC/CV,0.2C ₅ A, 4.20V			
Standard Discharge	CC,0.2C ₅ A, 3.00V			
End-of-charge Voltage	4.20V			
End-of-charge current	0.02C ₅ A (At CV mode)			
End-of-discharge voltage	3.00V			
Charging Time	8.0 hours (standard charge)			
Quick charge current	700mA (1.0C ₅ rate)			
Quick discharge current	700mA (1.0C ₅ rate)			
Maximum instantaneous pulse discharge current	2100mA (3.0C ₅ rate)			
Initial Impedance	Max:75mΩ			
Weight	Approx: 17.0±1g			
Operating Temperature	Charging: 0°C~45°C Discharging: -20~60°C			
Storage temperature	-5°C~35°C			
Storage Humidity	≤75% RH			
Appearance	Without scratch, distortion, contamination and leakage			
Standard environmental condition	Temperature : 25±2□ Humidity : 45-75%RH Atmospheric Pressure : 86-106 KPA			
Temperature Dependence of Discharge Capacity @0.2C Discharge				
Discharge temperature				
-10□	0□	15□	25□	40□
50%	80%	90%	100%	100%

※The discharge capacity and rate only applies to single electrical cores

Cell General Performance

No.	Item	Test Methods and Condition	Criteria
-----	------	----------------------------	----------

5.1	0.2C Capacity	After standard charging, rest battery for 10min, then discharging at 0.2C to voltage 3.0V, recording the discharging time.	≥300min
5.2	Cycle Life	Constant current 0.5C charge to 4.2V, then constant voltage charge to current declines to 0.01C, rest 10min, constant current 0.5C discharge to 3.0V, rest 15min. Repeat above steps till continuously discharging capacity Higher than 80% of the Initial Capacities of the Cells	≥300 times
5.3	Capability of keeping electricity	25±3□, After standard charging, rest the battery 28days, discharging at 0.2C to voltage 3.0V, recording the discharging time.	≥270min

CAUTIONS IN USE

- To ensure proper use of the battery please read the manual carefully before using it.
- Handling
- Do not expose to, dispose of the battery in fire.
- Do not put the battery in a charger or equipment with wrong terminals connected.

- Avoid shorting the battery
- Avoid excessive physical shock or vibration.
- Do not disassemble or deform the battery.
- Do not immerse in water.
- Do not use the battery mixed with other different make, type, or model batteries.
- Keep out of the reach of children.

Charge & Discharge

- Battery must be charged in appropriate charger only.
- Never use a modified or damaged charger.
- Do not leave battery in charger over 24 hours.

Storage

Store the battery in a cool, dry and well-ventilated area

Disposal

Regulations vary for different countries. Dispose of in accordance with local regulations.

Battery operation instruction

Charging

- Charging current : Cannot surpass the biggest charging current which in this specification book stipulated.
- Charging voltage : Does not have to surpass the highest amount which in this specification book stipulated to decide the voltage °
- Charge temperature : The battery must carry on the charge in the ambient temperature scope which this specification book stipulated.
- Uses the constant electric current and the constant voltage way charge, the prohibition reverse charges. If the battery positive electrode and the cathode meet instead, can damage the battery.

Discharging current

The discharging current does not have to surpass this specification book stipulation the biggest discharging current, the oversized electric current electric discharge can cause the battery capacity play to reduce and to cause the battery heat.

Discharge temperature.

The battery discharge must carry on in the ambient temperature scope

Over-discharges

After the short time excessively discharges charges immediately cannot affect the use, but the long time excessively discharges can cause the battery the performance, battery function losing. The battery long-term has not used, has the possibility to be able to be at because of its automatic flashover characteristic certain excessively discharges the condition, for prevented excessively discharges the occurrence, the battery should maintain the certain electric quantity.

Storing the Batteries

The battery should store in the product specification book stipulation temperature range. If has surpasses above for six months the long-time storage, suggested you should carry on additional charge to the battery.

Other Chemical Reactions

Because batteries utilize a chemical reaction, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, if the various usage conditions such as charge, discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage. If the batteries cannot maintain a charge for long periods of time, even when they are charged correctly, this may indicate it is time to change the battery.