

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Rechargeable Lithium-ion cell

Name and address of the applicant
Nom et adresse du demandeur

JORDAN GREEN TECHNOLOGY (DG) CO., LTD.
No.19, Qigu E. Rd.
Chenwu Ind. Zone, Houjie, Dongguan, Guangdong, P.R. China

Name and address of the manufacturer
Nom et adresse du fabricant

JORDAN GREEN TECHNOLOGY (DG) CO., LTD.
No.19, Qigu E. Rd.
Chenwu Ind. Zone, Houjie, Dongguan, Guangdong, P.R. China

Name and address of the factory
Nom et adresse de l'usine

JORDAN GREEN TECHNOLOGY (DG) CO., LTD.
No.19, Qigu E. Rd.
Chenwu Ind. Zone, Houjie, Dongguan, Guangdong, P.R. China

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

12Ah, 3.2VDC

Trade mark (if any)
Marque de fabrique (si elle existe)

JD

Model/type Ref.
Ref. de type

JD12Ah (IFP27/70/127)

Additional information (if necessary)
Information complémentaire (si nécessaire)

For model differences, refer to the test report.

A sample of the product was tested and found
to be in conformity with
Un échantillon de ce produit a été essayé et a été
considéré conforme à la

IEC 62133:2002
National differences see test report

As shown in the Test Report Ref. No. which forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue une partie de ce Certificat

17020532 001

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification



TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021 Japan
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Date: 26.05.2011

Signature:

Dipl.-Ing. S. O. Steinke

JORDAN GREEN TECHNOLOGY (DG) CO.,
LTD.

Mr. Hui Zeng

-

No.19, Qigu E. Rd.
Chenwu Ind. Zone, Houjie
Dongguan, Guangdong
P.R. China

Date : 26.05.2011

Our ref. : DaiDa ZJ

Your ref.: 173060106

Ref : CB Certificate Japan

Type of Equipment : Rechargeable Lithium-ion cell

Model Designation : See Certificate

Certificate No. : JPTUV-038583

Report No. : 17020532 001

Dear Mr. Hui Zeng,

Thank you very much for your interest in our services.

Please find enclosed your certification documents.

We appreciate your support and would like to offer our assistance in the approval of your future products through our extensive range of technical services.

Please feel free to contact us whatever your requirements may be.

With kind regards

Certification Body

Dipl.-Ing. S. O. Steinke

Enclosure



TEST REPORT IEC 62133, First Edition Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications	
Report Reference No.	17020532 001
Date of issue	2011-05-16
Total number of pages	16
CB Testing Laboratory	TÜV Rheinland (Shenzhen) Co., Ltd.
Address	34 F Tower A, World Finance Centre, Shennan East Road 4003, Luohu District, Shenzhen 518001, P.R. China.
Applicant's name	JORDAN GREEN TECHNOLOGY(DG) CO., LTD.
Address	No.19, Qigu E. Rd., Chenwu Ind. Zone, Houjie, Dongguan, Guangdong, P.R. China
Test specification:	
Standard.....	IEC 62133: 2002 (1st Edition)
Test procedure.....	CB/CCA
Non-standard test method.....	N/A
Test Report Form No.	IEC 62133A
Test Report Form(s) Originator.....	UL International Demko A/S
Master TRF	Dated 2008-02
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If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.	
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.	
Test item description	Rechargeable Lithium-ion cell
Trade Mark.....	
Manufacturer	Same as applicant
Address	Same as applicant
Model/Type reference	JD12Ah (IFP27/70/127)
Factory	Same as applicant
Ratings	12Ah, 3.2VDC

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB Testing Laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.
Testing location/ address	Unit B and C/ 1F, 2nd Building, Shenzhen Cyber-Tech Zone, 7th High-tech South Avenue, High-tech Industrial Park, Shenzhen, Guangdong Province, P.R. China
<input type="checkbox"/> Associated CB Test Laboratory:	
Testing location/ address	
Tested by (name + signature).....	Daniel Dai <i>Daniel Dai</i>
Approved by (+ signature)	Jacky Qiu <i>Jacky Qiu</i>
<input type="checkbox"/> Testing procedure: TMP	
Tested by (name + signature).....	
Approved by (+ signature)	
Testing location/ address	
<input type="checkbox"/> Testing procedure: WMT	
Tested by (name + signature).....	
Witnessed by (+ signature).....	
Approved by (+ signature)	
Testing location/ address	
<input type="checkbox"/> Testing procedure: SMT	
Tested by (name + signature).....	
Approved by (+ signature)	
Supervised by (+ signature).....	
Testing location/ address	
<input type="checkbox"/> Testing procedure: RMT	
Tested by (name + signature).....	
Approved by (+ signature)	
Supervised by (+ signature).....	
Testing location/ address	

Summary of testing:

Tests performed (name of test and test clause):

Test items:

- Cl.3 Type test conditions;
- Cl.4.1 Charging procedure for test purpose;
- Cl.4.2.1 Continuous low-rate charging;
- Cl.4.2.2 Vibration;
- Cl.4.2.4 Temperature cycling;
- Cl.4.3.2 External short circuit;
- Cl.4.3.3 Free fall;
- Cl.4.3.4 Mechanical shock (crash hazard);
- Cl.4.3.5 Thermal abuse;
- Cl.4.3.6 Crushing of cells;
- Cl.4.3.7 Low pressure;
- Cl.4.3.9 Overcharge for lithium system;
- Cl.4.3.10 Forced discharge;
- Cl.4.3.11 Cell protection against high charging rate.

Charging method declared by the manufacturer in specification: Charging the battery with 0.2C (2.4A) constant current, 3.75V until current reaches 0.01C (120mA).

Tests are made with the number of batteries specified in IEC 62133 Table 1.

Testing location:

TÜV Rheinland (Shenzhen) Co., Ltd.
Unit B and C/ 1F, 2nd Building, Shenzhen Cyber-Tech Zone, 7th High-tech South Avenue, High-tech Industrial Park, Shenzhen, Guangdong Province, P.R. China

Summary of compliance with National Differences:

AT, DE, DK, FI, FR, HU, KR, NL, SA, SE, SG, TR.

AT=Austria, DE=Germany, DK=Denmark, FI=Finland, FR=France, HU=Hungary, KR=Republic of Korea, NL=The Netherlands, SA=Saudi Arabia, SE=Sweden, SG=Singapore, TR=Turkey.

All national differences of EU group considered according to EN 62133: 2003.

Copy of marking plate



JD12AH
IFP27/70/127

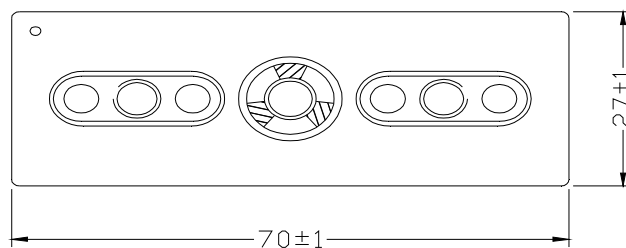
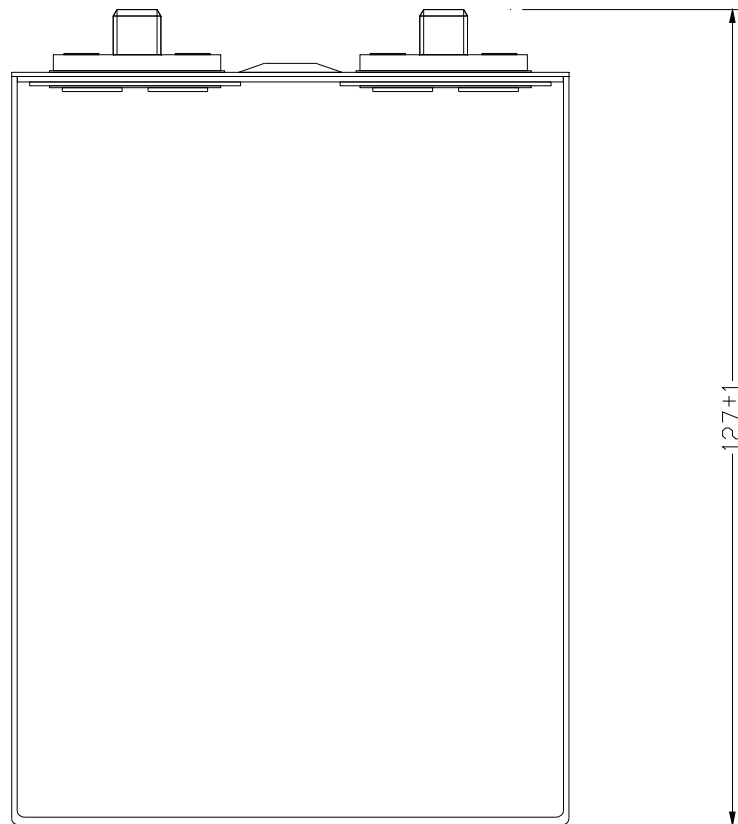
Test item particulars	
Classification of installation and use	N/A
Supply Connection	Direct plug in
Cell type	JD12Ah (IFP27/70/127)
Application	Portable
Nominal Voltage	3.2V
Rated Capacity	12Ah
Recommended charge current	2.4A
Recommended discharge current	2.4A
Max. charge current	6A
Max. discharge current	120A
Electrolyte	Non-Acid Lithium ion
Dimension(mm)	27x70x127mm (tolerance: ±1mm)
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	Mar. 20, 2011
Date (s) of performance of tests	Mar. 21, 2011 – Apr. 26, 2011
General remarks:	
<p>The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. The completed test report includes the attachment 1: Photo documents (2 pages).</p> <p>Throughout this report a point is used as the decimal separator.</p> <p>Factory: Same as applicant.</p>	

General product information:

The main features of this model are shown as below:

Model	Nominal capacity	Nominal voltage	Nominal Charge Current	Nominal Discharge Current	Maximum Charge Current	Maximum Discharge Current	Maximum Charge Voltage	Cut-off Voltage
JD12Ah (IFP27/70/127)	12Ah	3.2V	2.4A	2.4A	6A	120A	3.75	2.3

Construction:



Units: mm
Tolerance: ±1mm

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict
1	General		P
	Parameter measurement tolerances	Complies.	P
2	General Safety Considerations		P
	Cells and batteries subject to intended use be safe and continue to function in all respects	Refer to the following clauses.	P
	Cells and batteries subject to reasonably foreseeable misuse do not present significant hazards.	Refer to the following clauses.	P
2.1	Insulation and Wiring		P
	Insulation Resistance between an accessible metal case (excluding electrical contacts) and positive terminals $\geq 5M\Omega$.	No accessible metal case exists.	N/A
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements	See tests of clause 4.	P
	Orientation of wiring maintains adequate creepage and clearance distances between conductors. Mechanical integrity of internal connections are sufficient to accommodate conditions of reasonably foreseeable misuse.	See tests of clause 4.	P
2.2	Venting		P
	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition.	Incorporated with venting line.	P
	Encapsulant used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief.	Without encapsulant.	N/A
2.3	Temperature/current management	Cells.	N/A
	The batteries are designed such that abnormal temperature rise conditions are prevented.		N/A
	Means is provided to limit current to safe levels during charge and discharge.		N/A
2.4	Terminal contacts	Cells.	N/A
	Terminals have a clear polarity marking on the external surface of the battery.		N/A
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current.		N/A
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance.		N/A
	Terminal contacts are arranged to minimize the risk of short circuits.		N/A
2.5	Assembly of cells into batteries	Cells.	N/A

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict
	Cells used in the battery assembly have closely matched capacities, are of the same design, and are of the same chemistry and same manufacturer.		N/A
	The battery incorporates separate circuitry to prevent cell reversal from uneven charges as the pack is designed for the selective discharge of a portion of its series connected cells.		N/A
2.6	Quality Plan		P
	The manufacture has prepared a quality plan defining the procedures for the inspection of materials, components, cells and batteries and which covers the process of producing each type of cell and battery.	Complies.	P
3	Type Test Conditions		P
	Tests were conducted with the number of cells or batteries as outlined in Table 1 of IEC 62133 with cells or batteries that were not more than 3 months old.	Tests are made with the number of batteries specified in Table 1. Cells are not more than three months old.	P
	Unless noted otherwise in the test methods, testing was conducted in an ambient of 20°C ± 5°C.	Tests are carried out at 20°C-25°C.	P
4	Specific requirements and tests		P
4.1	Charging procedure for test purposes	Test is carried out at 20°C-25°C. Charging method declared by the manufacturer.	P
4.2	Intended Use	See tests below.	P
4.2.1	Continuous Low-Rate Charging		P
	Fully charged cells are subjected for 28 days to a charge as specified by the manufacturer.	Tested as required.	P
	Nickel systems: no fire, no explosion.		P
	Lithium systems: no fire, no explosion, no leakage.	See table 4.2.1.	P
4.2.2	Vibration		P
	The measured open circuit voltage of the fully charged cells or batteries is within anticipated parameters		P
	The cells or batteries are subjected to a vibration sequence as outlined in Table 2 of IEC 62133 with amplitude of 0.75 mm and a total maximum excursion of 1.52 mm. The frequency was varied at the rate of 1 Hz/min between the limits of 10 Hz and 55 Hz. The entire range of frequencies (10 Hz to 55 Hz) and return (55 Hz to 10 Hz) was traversed in 90 min ± 5 min for each mounting position.	Arrange the test as required.	P
	The vibration was applied in each of three mutually perpendicular directions.	Arrange the test as required.	P

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict
	Results: no fire, no explosion, no leakage.	See Table 4.2.2.	P
4.2.3	Moulded case stress at high ambient temperature	Cell.	N/A
	Fully charged batteries were placed in an air-circulating oven at a temperature of 70°C ± 2°C for 7 hours. Afterwards, they are removed and allowed to return to room temperature.		N/A
	Results: no physical distortion of the battery casing resulting in exposure of internal components.		N/A
4.2.4	Temperature cycling		P
	Fully charged cells or batteries were subjected to temperature cycling (-20C, +75C) in forced draught chambers according to the procedure outlined in 4.2.4 b) and Fig. 1 of IEC 62133.	Arrange the test as required.	P
	After the fifth cycle, the cells or batteries were stored for 7 days prior to examination.	Arrange the test as required.	P
	Results: No fire, no explosion, no leakage.	Complies.	P
4.3	Reasonably foreseeable misuse		P
4.3.1	Incorrect installation of a cell (nickel systems only)		N/A
	Four fully charged cells of the same brand, type, size and age were connected in series with one of the four cells reversed. The assembly was connected across a 1-ohm resistor until the vent opens or until the temperature of the reversed cell returns to ambient temperature.	Lithium system.	N/A
	Alternatively, a stabilized dc power supply was used to simulate the conditions imposed on the reversed cell.		N/A
	Results: no fire, no explosion.	See table 4.3.1.	N/A
4.3.2	External short circuit		P
	Fully charged cells or batteries were subjected to a short circuit test at 20°C ± 5°C.	20°C short circuit: Max. temperature of cell surface: 207.3 °C.	P
	Fully charged cells or batteries were subjected to a short circuit test at 55°C ± 5°C.	55°C short circuit: Max. temperature of cell surface: 203.2 °C.	P
	The external resistance did not exceed 100 mΩ.	Total external resistance: 20°C short circuit: R=69.5 mΩ 55°C short circuit: R=69.5 mΩ	P
	The cells or batteries were tested for 24 h or until the case temperature declined by 20% of the maximum temperature rise.	Tested until the case temperature declined by 20% of the maximum temperature rise.	P
	Results: no fire, no explosion.	See Table 4.3.2.	P

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict
4.3.3	Free fall		P
	Fully charged cells or batteries were dropped 3 times from a height of 1.0 m onto a concrete floor.	Arrange the test as required.	P
	Results: no fire, no explosion.	No fire, no explosion.	P
4.3.4	Mechanical shock (crash hazard)		P
	Fully charged cells or batteries were subjected to a total of three shocks of equal magnitude applied in each of three mutually perpendicular directions. At least on of the directions was perpendicular to a flat face. During the initial 3 milliseconds, the minimum average acceleration was 75 g _n . The peak acceleration was between 125 g _n and 175 g _n .	Arrange the test as required.	P
	Results: no fire, no explosion, no leakage.	No fire, no explosion, no leakage.	P
4.3.5	Thermal abuse		P
	Fully charged cells were placed in a gravity or circulating air-convection oven. The oven temperature was raised at a rate of 5°C/min ± 2°C/min to a temperature of 130°C ± 2°C. The cell remained at that temperature for 10 minutes before the test was discontinued.	Tested as required.	P
	Results: no fire, no explosion.	Complies.	P
4.3.6	Crushing of cells		P
	Fully charged cells were crushed between two flat surfaces with a hydraulic ram exerting a force of 13 kN ± 1 kN.	Tested as required.	P
	A cylindrical or prismatic cell was crushed with its longitudinal axis parallel to the flat surfaces of the crushing apparatus.	Tested as required.	P
	A second set of prismatic cells was tested, rotated 90 degrees around their longitudinal axis compared to the first set.	Tested as required.	P
	Results: no fire, no explosion.	Complies.	P
4.3.7	Low pressure		P
	Fully charged cells are placed in a vacuum chamber whose internal pressure was gradually reduced to a pressure equal to or less than 11,6 kPa and held at that value for 6 hours.	Tested as required.	P
	Results: no fire, no explosion, no leakage.	Complies.	P
4.3.8	Overcharge for nickel systems		N/A
	A discharged cell or battery was subjected to a high-rate charge of 2.5 times the recommended charging current for a time that produced a 250% charge input (250% of rated capacity).	Lithium system.	N/A
	Results: no fire, no explosion.	See table 4.3.8.	N/A

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict
4.3.9	Overcharge for lithium systems		P
	A discharged cell was charged from a power supply of ≥ 10 V, at a charging current I_{rec} recommended by the manufacturer for $2.5 C_5/I_{rec}$ hours..	Tested as required.	P
	Results: no fire, no explosion.	See table 4.3.9.	P
4.3.10	Forced discharge		P
	Discharged cells intended for use in multi-cell applications, were subjected to a reverse charge $1t 1.0 I_t$ (A) for 90 minutes.	Tested as required.	P
	Results: no fire, no explosion.	See table 4.3.10.	P
4.3.11	Cell protection against a high charging rate (lithium systems only)		P
	Discharged cells were charged at three times the charging current recommended by the manufacturer until the cells was fully charged or an internal safety devices cut off the charge current before the cell became fully charged.	Tested as required.	P
	Results: no fire, no explosion.	Complies.	P
5	Information for safety		P
	Information is provided to equipment manufacturers in the form of instructions to minimize and mitigate hazards associated with the cells or batteries in accordance with guidelines outlined in informative Annex A.	Information for safety mentioned in manufacturer's specification.	P
	Information is provided to end-users in the form of instructions to minimize and mitigate hazards associated with the batteries in accordance with guidelines outlined in informative Annex B.	Cells for equipment manufacturer.	N/A
6	Marking		P
6.1	Cell Marking		P
	Nickel system cells are marked in accordance with IEC 61951-1, -2, IEC 61440, or IEC 61436 as applicable. See Copy of Marking Plate item in the beginning of this report.	Lithium system.	N/A
	Lithium system cells are marked in accordance with IEC 61960. See Copy of Marking Plate item in the beginning of this report.	Complies.	P
6.2	Battery Marking		N/A
	Batteries of nickel systems are marked in accordance with IEC 61951, or IEC 61951 -2 as applicable. See Copy of Marking Plate item in the beginning of this report	Lithium system.	N/A
	Batteries of lithium system are marked in accordance with IEC 61960. See Copy of Marking Plate item in the beginning of this report.	Cells.	N/A

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict
	Batteries are marked with the cautionary marks.	Cells.	N/A
6.3	Other Information	Cells	N/A
	Disposal instructions are marked on the battery or supplied in the information packaged with the battery.	Cells.	N/A
	Recommended charging instruction are marked on the battery or supplied in the information packaged with the battery.	Cells.	N/A
7	Packaging		P
	Cells or batteries were provided with packaging that was adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design was chosen to prevent the development of unintentional electrical conduction, corrosion of the terminal and ingress of moisture.	Complies.	P

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict

2.1 – 2.5	TABLE: List of critical Components					P
Object/part No.	Manufacturer/ trademark	Type/Model	Technical Data	Standard	Marks of Conformity	
Cell Case	JinYang	Aluminium	27*70*116mm	--	--	
Cathode	Changs	SFCM3005E	2 < D50 < 8, Cu < 0.1%	--	--	
Anode	HongYuan	F1-20	D50: 20±3, C: ≥ 99.2%	--	--	
Separator	celgard	0.025*104mm	Shutdown temp: 133±3°C	--	--	
Electrolyte	TianJiao	JDP	H2O < 20ppm, HF < 30ppm	--	--	
Conductive Adhesive	HaiYue	F-01	Visccity: 2200-2800 mPa·s	--	--	
Insulating tape	SanJing	0.06*12mm/ 0.06*18mm	Width: 12±0.05/18±0.05 mm	--	--	
Supplementary information:						

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict

TABLE: 4.2.1 Continuous Low Rate Charge Test					P
Model (cell)	Recommended Charging Method, CC, CV, or CC/CV	Recommended Charging Voltage Vc, Vdc	Recommended Charging Current Irec, A	OCV at Start of Test, Vdc	Results
JD12Ah	CC/CV	3.75	2.4	3.429	P
JD12Ah	CC/CV	3.75	2.4	3.426	P
JD12Ah	CC/CV	3.75	2.4	3.433	P
JD12Ah	CC/CV	3.75	2.4	3.433	P
JD12Ah	CC/CV	3.75	2.4	3.435	P

Supplementary information:
No fire, no explosion, no leakage.

TABLE: 4.2.2 – Vibration Test			P
Model (cell)	OCV at Start of Test, Vdc	Results	
JD12Ah	3.375	P	
JD12Ah	3.378	P	
JD12Ah	3.382	P	
JD12Ah	3.379	P	
JD12Ah	3.381	P	

Supplementary information:
- No Fire or Explosion
- No Leakage

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict

TABLE: 4.3.1 – Incorrect Installation of a Cell Test (Nickel Systems)			N/A
Model	OCV (reversed cell) Vdc	Results	
Supplementary information:			

TABLE: 4.3.2 – External Short Circuit Test					P
Model (cell)	Ambient (At 20°C ± 5°C)	OCV at start of test, Vdc	Resistance of Circuit, mΩ	Maximum Case Temperature T, °C	Results
JD12Ah	24.2°C	3.376	69.5	154.0	P
JD12Ah	24.2°C	3.378	69.5	172.4	P
JD12Ah	24.2°C	3.382	69.5	160.8	P
JD12Ah	24.2°C	3.376	69.5	190.2	P
JD12Ah	24.2°C	3.381	69.5	207.3	P
	Ambient (At 55°C ± 5°C)				
JD12Ah	55.6°C	3.382	69.5	182.3	P
JD12Ah	55.6°C	3.375	69.5	203.2	P
JD12Ah	55.6°C	3.376	69.5	155.2	P
JD12Ah	55.6°C	3.368	69.5	165.8	P
JD12Ah	55.6°C	3.378	69.5	185.8	P
Supplementary information:					
<ul style="list-style-type: none"> - No Fire or Explosion - No Leakage 					

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict

TABLE: 4.3.8 – Overcharge Test (Nickel Systems)				N/A
Model	OCV prior to charging, Vdc	Maximum Charge Current, A	Time for Charging, h	Results
supplementary information:				

TABLE: 4.3.9 – Overcharge Tests (Lithium Systems)					P
Model (cell)	OCV at start of test, Vdc	Maximum Charging Current, mA	Maximum Charging Voltage, Vdc	Total Time of Charging, h	Results
JD12Ah	2.819	6000	10	5	P
JD12Ah	2.798	6000	10	5	P
JD12Ah	2.811	6000	10	5	P
JD12Ah	2.812	6000	10	5	P
JD12Ah	2.615	6000	10	5	P
Supplementary information:					
No fire, no explosion.					

IEC 62133:2002			
Cl.	Requirement - Test	Result - Remark	Verdict

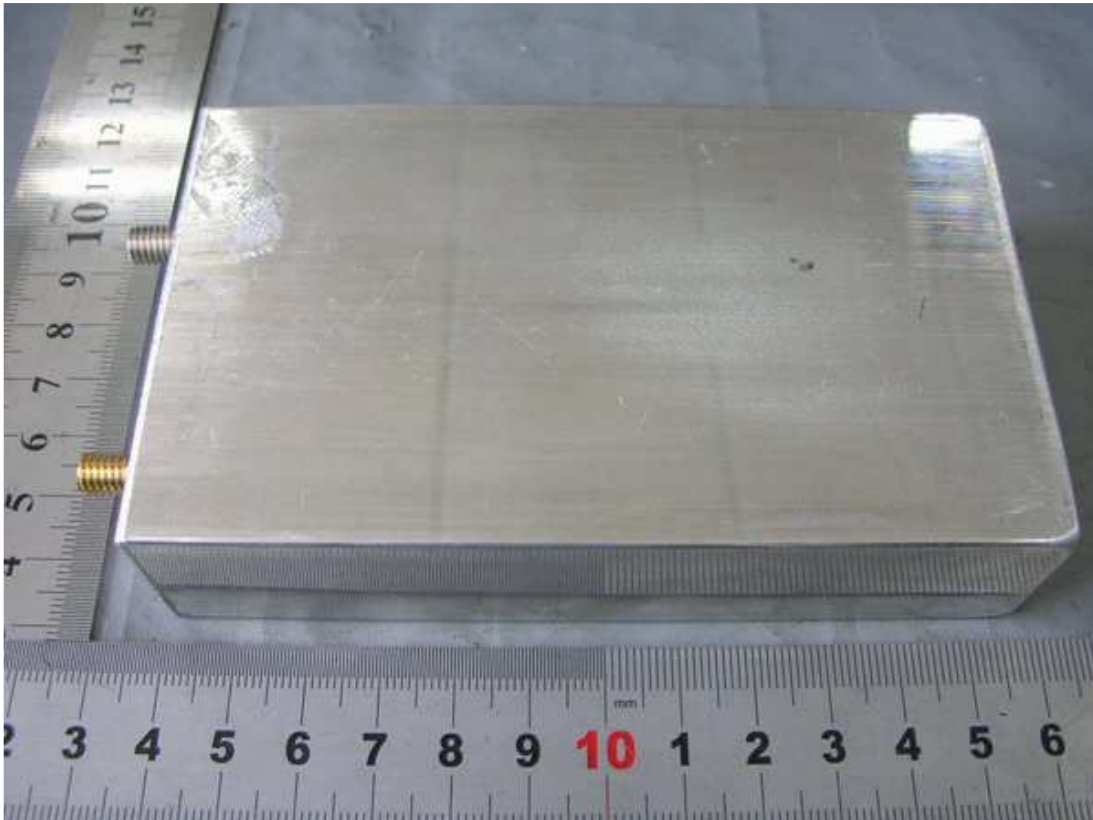
TABLE: 4.3.10 – Forced Discharge Test				P
Model (cell)	OCV before application of reverse charge, Vdc	Measured Reverse Charge It, A	Total Time for Reversed Charge Application, Min	Results
JD12Ah	2.703	12	90	P
JD12Ah	2.645	12	90	P
JD12Ah	2.688	12	90	P
JD12Ah	2.702	12	90	P
JD12Ah	2.762	12	90	P

Supplementary information:
No fire, no explosion.

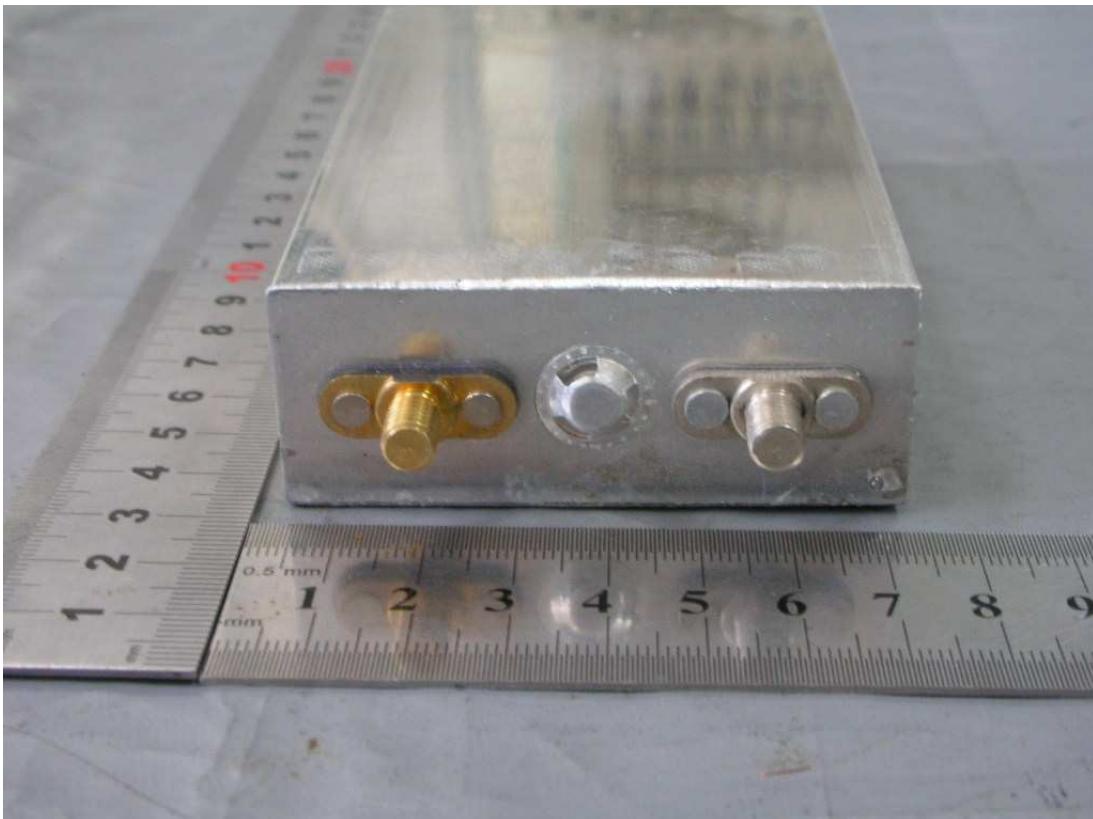
TABLE: 4.3.11 – Cell Protection Against a High Charging Rate Test (Lithium Systems)				P
Model	OCV at start of test, Vdc	Maximum Charging Current, mA	Maximum Charging Voltage, Vdc	Results
JD12Ah	2.698	18000	3.75	P
JD12Ah	2.813	18000	3.75	P
JD12Ah	2.694	18000	3.75	P
JD12Ah	2.698	18000	3.75	P
JD12Ah	2.753	18000	3.75	P

Supplementary information:
No fire, no explosion.

-- End of Report --



Picture 1



Picture 2



Picture 3



Picture 4