



Specification Approval Sheet

Product Name	Nickel Metal Hydride Battery
Model Spec	MH-1.2V SC 4200mAh with Tap
Document Number	
Document Revision	A0

Make	Checkup	Approved



1 Application

This specification applies to the Nickel- Metal Hydrides Cylindrical Cell.

Model: MH-1.2V SC 4200mAh with tap

Cell type: SC

2 Ratings

Form1:Battery rated performance

No	Description	Specification	Conditions
1	Nominal voltage	1.2 V	
2	Capacity	Nominal capacity 4200mAh Minimum capacity 4000mAh	Standard Charge/Discharge
3	Standard charge	0.1C × 16 hrs	Ta=0~45°C
4	Rapid charge	0.5C × 2.4 hrs approx.	(With -ΔV or dT/dt or TCO control) Timer CutOff =120% -ΔV= 0-5mV/cell dT/dt= 1~2°C/3min Temp. CutOff = 50°C (122°F) Ta=10~45°C
5	Trickle charge	0.05C-0.1C	Ta=0~45°C
6	Standard discharge	0.2C	Ta= -20°C ~65°C
8	Discharge cut-off voltage	1.0V	
9	Maximum discharging current	5C(cut-off voltage 0.9V)	
10	Storage temperature	-20°C ~35°C	Discharged state

3 Performance

3.1 Test conditions

Unless otherwise stated, tests should be done within one month after receipt under the following conditions

Ambient temperature ,Ta: 20±5°C and

Relative humidity: 65±20%

Notes: Standard charge/discharge conditions:

Charge: 0.1C × 16 hrs

Discharge: 0.2C to 1.0V/cell

3.2 Test method & performance

Form2:Test method & performance

No	Test	Conditions	Specification
1	Capacity	Standard charge/discharge	≥4000mAh
2	Open circuit voltage(OCV)	Within 1hr after standard charge	≥1.25V
3	Internal impedance (Ri)	Upon fully charge(1000Hz)	≤15mΩ



Form2:Test method & performance(continuous)

4	Charge retention	Standard Charge, Storage: 28 days, Standard Discharge	≥60%
5	IEC cycle test	IEC 61951-1: 2003(see below note)	≥500 Cycle

Note:

Form3:IEC 61951-2: 2003 Cycle life test

Cycle number	Charge	Rest	Discharge
1	0.1C×16hrs	None	0.25C× 2hrs20mins
2-48	0.25C× 3hrs10mins	None	0.25C×2hrs20mins
49	0.25C× 3hrs10mins	None	0.25C× 1.0V/cell
50	0.1C×16hrs	1-4hr(s)	0.2C×1.0V/cell
Cycles 1 to 50 shall be repeated until the discharge duration on any 50th cycle becomes less than 3hrs			

Form4:Safty test

No	Test	Conditions	Specification
1	Bump test	The bump test is carried out under the following conditions: Peak acceleration: 98m/s ² Corresponding duration of pulse: 16ms Corresponding velocity change: 1.00m/s	No functional change No leakage
2	External Short Circuit	The is fully charged cell is shorted for 1 hour with a load or lighter with its resistance less than 100mΩ. This test must be carried out in a protective chamber	Operation of safety valve No explosion Leakage may occur

4 Assembly & dimension

As per attached drawing.

5 External appearance

The cell / battery shall be free from cracks, scars, breakage, rust, discoloration, leakage nor deformation.



6 Warranty

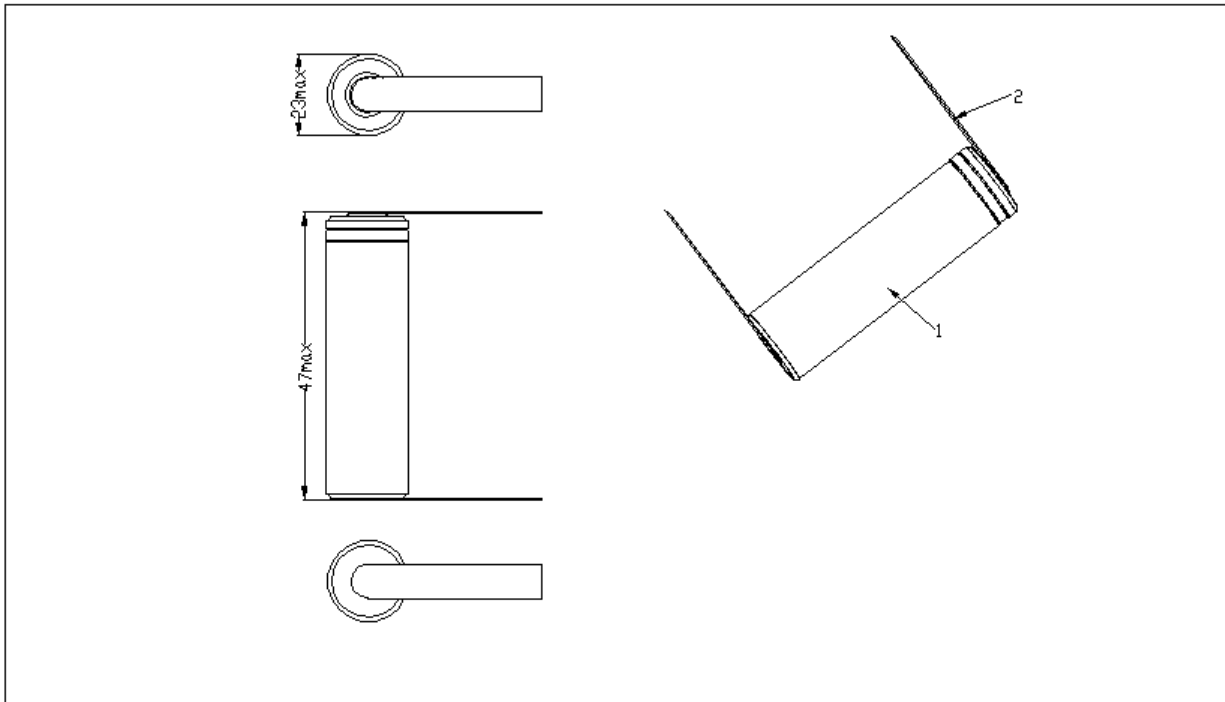
One year limited warranty against workmanship and material defects.

7 Caution

- 7.1 Reverse charging is not acceptable.
- 7.2 Charge before use. The cells / batteries are delivered in an uncharged state.
- 7.3 Do not charge / discharge with more than the specified current.
- 7.4 Do not short circuit the cell / battery. Permanent damage to the cell / battery may result.
- 7.5 Do not incinerate or mutilate the cell /battery.
- 7.6 Do not solder directly to the cell /battery.
- 7.7 The life expectancy may be reduced if the cell / battery is subjected to adverse conditions like: extreme temperature , deep cycling , excessive overcharge / overdischarge.
- 7.8 Store the cell / battery uncharged in a cool dry place. Always discharge batteries before bulk storage or shipment.
- 7.9 For storage of cells/ batteries over one year, in order to prevent the degrading of the function of cells, cells /batteries should be at least charged and discharged once trimester.
- 7.10 Keep away from children. If swallowed, contact a physician at once.
- 7.11 Air ventilation should be provided in the plastic case of batteries, otherwise it may have a risk of accumulating gas (oxygen gas, hydrogen gas) generated inside the cell resulting in explosion triggered by fire sources (motors or switches). Airtight battery compartments are strongly discouraged.

8 Battery Drawings

Drawing1:Battery Drawings



2	connect Tap	2	NI-6*30*0.15			TENERGY CORPORATION					
1	ceLL	1	MH-1.2V4200mAh			qty	1/1	model	MH-1.2V4200mAh	unit	mm
Item	material	qty	specification	remark	app		edition				