

1. SCOPE

This specification governs the performance of the following Everwin Tech Co., Limited Nickel- Hydride cylindrical Cell and its stack-up batteries.

Model: Ni-MH 1/2A 1.2V 1100mAh

The data involving nominal voltage and the approximate weight of stake-up batteries shall be equal to the value of the unit cell multiplied by the number of unit cells in the battery.

Nominal voltage of unit cell = 1.2V

2.RATINGS

Description	Unit	Specification	Conditions
Nominal Voltag	V	1.2V	
Nominal Capacity	mAh	1100	Standard Charge/discharge
Minimum Capacity	mAh	1100	Standard Charge/discharge
Standard Charge	mA	110(0.1C)	Ta=0~45°C
	hour	14-16	
Fast Charge	mA	0.5C	Timercutoff=110%input capacity Ta=0~70°C Temp.Cutoff=55°C, dT/dt=0.8°C/min,
	hour	2.4 approx	
Trickle Charge	mA	0.03C ~ 0.05C	Ta=0~70 °C
Standard discharge	mA	220(0.2C)	T1= 20±5°C Humidity: Max85%
Discharge Cut-off Voltage	V	1.0V	
Storage Temperature	°C	-20~30(Within 1 year	Discharged state Humidity: Max85%
		-20~40(Within 6 months)	
		-20~50(Within 1 month)	
		-20~60(Within 1 week)	
Typical Weight	g	19.5	unit cell

3. PERFORMANCE

Unless otherwise stated, tests should be done within one month of delivery under the following conditions:

Ambient Temperature: Ta=20±5°C

Relative Humidity: 65±20%

Standard Charge/ Discharge Condition:

Charge: 110mA(0.1C)×16hrs

Discharge: 220mA(0.2C)to 1.0V/ cell

Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	≥ 1100	Standard Charge/Discharge	Up to 3 cycles are allowed
Open Circuit Voltage (OCV)	V	≥ 1.25	Within 1hr after standard charge	
Internal Impedance (Ri)	m Ω	≤ 45	Upon fully charge(1kHz) (1kHz)	
High Rate Discharge (1C)	min	≥ 51	Standard Charge,1hr rest before discharge	
Charge Retention	mAh	≥ 660 (60%)	Standard Charge,Storage: 1months,Standard Discharge	
Leakage		No leakage nor deformation	Fully charged at 110mA 48 hrs	
IEC Cycle Life	Cycle	≥ 500	IEC61951-2(2003)7.4.1.1	see Note 3
Vibration Resistance		Change of voltage should be less than 0.02V/cell,Change of impedance should be less than 5 milli-ohm/cell	Charge the battery at 0.1C for 14hrs,then leave for 24hrs,check battery before/after vibration,amplitude 1.5mm,vibration 3000 CPM,any direction for 60mins.	
Impact Resistance		Change of voltage should be less than 0.02V/cell,change of impedance should be less than 5 milli-ohm/cell	Charge the battery at 0.1C for 14hrs,then leave for 24hrs,check battery before/after dropped,height 50 cm wooden board(thickness 30mm)direction not specified,3 times.	

4. CONFIGURATION, DIMENSIONS AND MARKINGS

Please refer to the attached drawing.

5. EXTERNAL APPEARANCE

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

6、CAUTION

- [1]Reverse charging is not acceptable.
- [2]Charge before use. The cells/batteries are delivered in an uncharged state
- [3]Do not charge/discharge with more than our specified current.
- [4]Do not short circuit the cell/battery Permanent damage to the cells/batteries may result.
- [5]Do not incinerate or mutilate the cells/batteries.
- [6]Do not solder directly to the cells/batteries.
- [7]The expected life may be reduced if the cells/batteries are subjected to adverse conditions as: extreme temperature, deep cycling, excessive overcharge/over-discharge.
- [8]Store the cells/batteries in a cool dry place. Always discharge batteries before packing.

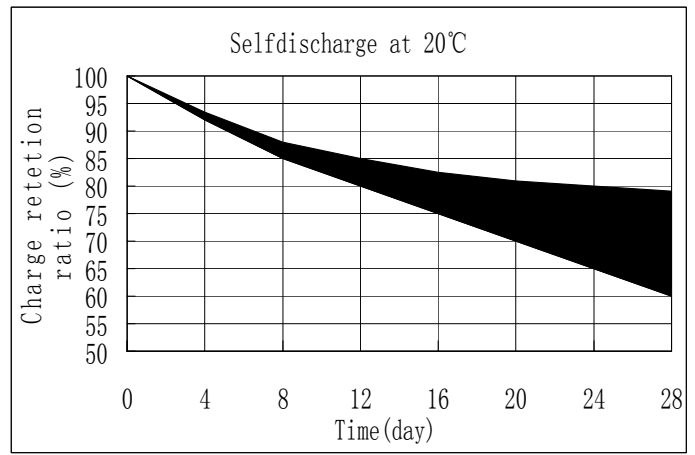
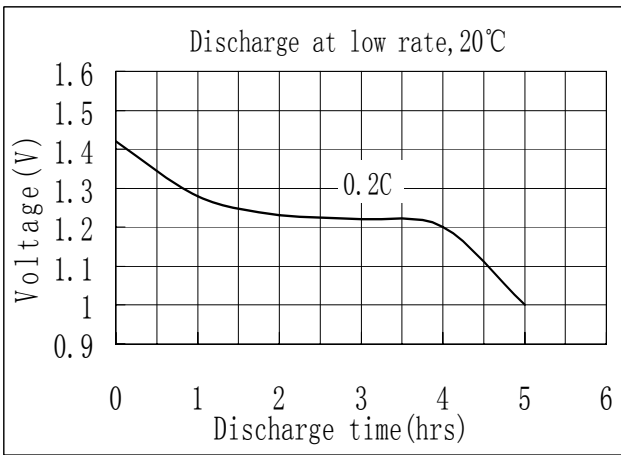
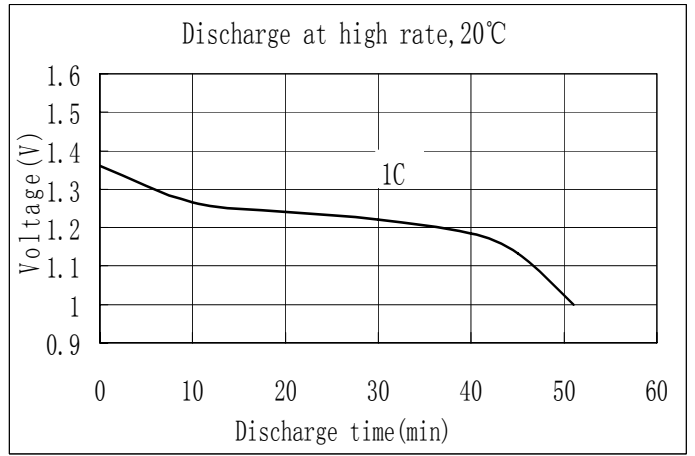
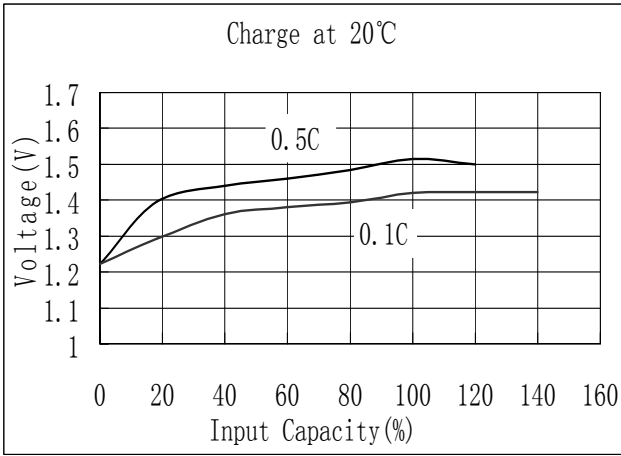
Notes:

- [1] T1: Ambient Temperature.
- [2] Approximate charge time from discharged state, for reference only.
- [3] IEC61951-2(2003)7.4.1.1 Cycle Life:

Cycle No.	Charge	Rest	Discharge
1	$0.1C \times 16h$	None	$0.25C \times 2h20min$
2-48	$0.25C \times 3h10min$	None	$0.25C \times 2h20min$
49	$0.25C \times 3h10min$	None	0.25C to 1.0V/cell
50	$0.1C \times 16h$	1-4h	0.2C to 1.0V/cell

Cycle 1 to 50 shall be repeated until the discharge duration on any 50th cycle becomes less than 3 h.

7. Specification



8. Draw

