

1. APPLICATIONS

The specifications applies to the following sealed nickel-metal hydride battery made by HUANYU.

TYPE: HYM-AA1100-J APPLICATION: Cordless phones toys camcorders.

2. RATINGS

- ★ Nominal voltage: 1.2 V.
- ★ Nominal capacity: 1100 mAh (0.2C₅).
- ★ Standard charge: 110 mA×14h.
- ★ Fast charge: 1100 mA×1.2h, (-ΔV= 20 mV).
- ★ Trickle charge: 37~55 mA.
- ★ Discharge cut-off voltage: 1.0 V/cell (20°C).
- ★ Max current of constant discharge: 3300 mA (20°C, unit cell).
- ★ Operate temperature range. (Max relative humidity: 85%)
 - Standard charge -20~+30°C
 - Trickle charge 10~+45°C
 - Fast charge 10~+45°C
 - Discharge -20~+50°C
- ★ storage temperature range. (Max relative humidity:85%)
 - Within two years -20~+30°C
 - Within two months -20~+45°C
 - Within one month -20~+55°C
 - Within one week -20~+65°C

3. EXTERNAL DIMENSION/WEIGHT

3-1. dimensions: $\phi 14.0^{+0.5} \times 49.5^{+0.5}$ (mm); Positive terminal diameter: $\phi 4.8$ (mm);

3-2. Gross weight: 28 (g);

4. APPEARANCE PERFORMANCE

4-1. TEST REQUIREMENTS

The following conditions are for new batteries (within one month after delivery under the test method of 4-2-2.)

Environmental Temperature: +15~+25°C; Relative humidity: 45%~85%.

4-2. TEST METHOD AND EXTERNAL PERFORMANCES

4-2-1. APPEARANCE

No conspicuous stretches which influence the value of the battery.

4-2-2. CAPACITY

Charge with 0.1C for 14 hours then discharge with 0.2C to the end-voltage 1.0 V/unit, the capacity shall be more than 1100 mAh.

4-2-3. OPEN-CIRCUIT VOLTAGE

The open-circuit voltage within one hour after full charge shall be more than 1.25V/unit.

4-2-4. INTERNAL IMPEDANCE

Within one hour after full charge, the internal impedance shall be less than 25mΩ /cell.

4-2-5. HIGH RATE DISCHARGE

The capacity shall be more than 990 mAh with the constant discharge current of 1100mA to the end voltage of 1.0V after the battery is fully charged.

4-2-6. SELF-DISCHARGE

The capacity shall be more than 715 mAh after the storage of 28 days for the fully charged battery.

4-2-7. OVER-CHARGE

The battery shall not cause salting, leakage or reformation when charged at 110 mA for 48 hours and the capacity shall be more than 1100 mAh.

4-2-8. OVER DISCHARGE

The battery shall not cause reformation when it is discharged for 24 hours with the external resistance at 5Ω.

4-2-9. LIFE-SPAN(CUSTOM)

The capacity shall be more than 825 mAh after 500 cycles with the test conditions as follow:

TEST CONDITION

cycle-th	charge	rest	discharge
1	charge at 0.1C ₅ for 16 hours	None	discharge at 0.25C ₅ for 2.33 h
2~48	charge at 0.25C ₅ for 3.17 hours	None	discharge at 0.25C ₅ for 2.33 h
49	charge at 0.25C ₅ for 3.17 hours	None	discharge at 0.25C ₅ to 1.0V/unit
50	charge at 0.1C ₅ for 16 hours	1~4 hours	discharge at 0.2C ₅ to 1.0V/unit

4-2-10. LIFE-SPAN(EXPRESS)

The battery shall supply 115 mAh at the 400th cycle under the conditions as follows.

Charge	$1C_5$ for 75 minutes ($-\Delta V = 20$ mV)
discharge	$1C_5$ to 1.0V/unit

4-2-11. STORAGE

Within 14 days, the battery shall not cause leakage at 30-60°C with the relative humidity at 75%-85%.

4-2-12. VIBRATION

The battery shall not cause damage to its performances when tested with the amplitude at 4 mm (0.158 inch) and the frequency at 1000Hz.

4-2-13. DROP TEST

The battery shall keep normal when dropped from a height of 450 mm(17.716 inch) to the wooden board.

4-2-14. SHORT CIRCUIT

The fully charged battery shall not explode when shorted directly by wires.

4-2-15. INCORRECT POLARITY CHARGE

Discharge at $02C_5$ to the end voltage 0V, then discharge by force at $1C_5$ rate for 60 minutes, the battery should not explode or break.

5. SUGGESTION & ADVICE

- A. The end-voltage are recommended at $1.0 \pm 0.1V$ /cell.
- B. The battery may go fail when shorted, over-charged or charged with incorrect polarity.
- C. Avoiding soldering directly to the battery.
- D. Do not dispose of in fire and keep away from damage.

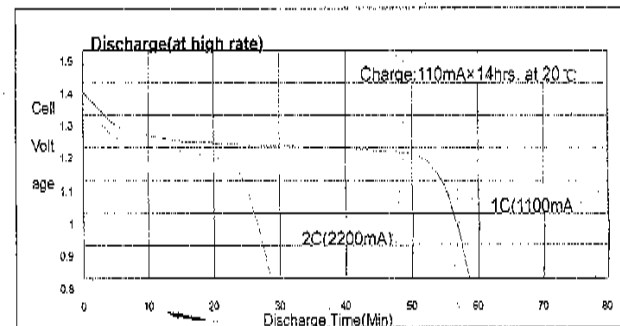
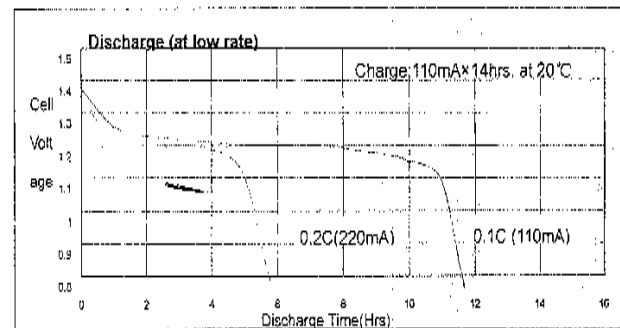
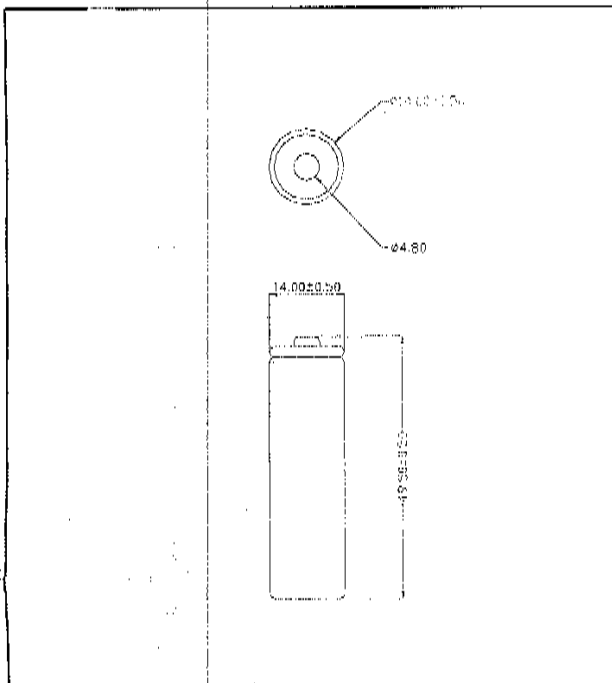
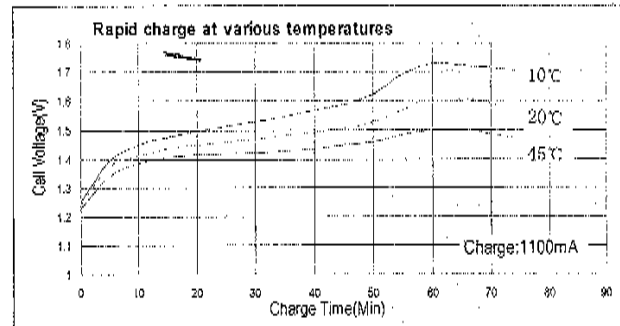
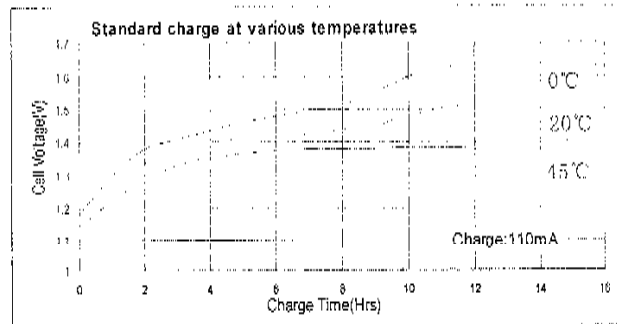
Specifications

Nominal voltage		1.2V	
Capacity (mAh)		C/5	C
	Nominal	1100	990
	Typical	1155	1100
Diameter		0.55 ± 0.02 in 14.0 ± 0.5 mm	
Height		1.95 ± 0.02 in 49.5 ± 0.5 mm	
Weight		28g	
Internal impedance at 1000Hz.		25mΩ (After charge)	
Charge	Standard	110mA × 14hrs.	
	Quick	1100mA × 1.2hrs.	
	Trickle	Max.	55mA
Min.		37mA	
Ambient temperature	Charge	Standard	-20°C ~ 30°C
		Quick	10°C ~ 45°C
	Discharge	-20°C ~ 50°C	
	Storage	-20°C ~ 35°C	

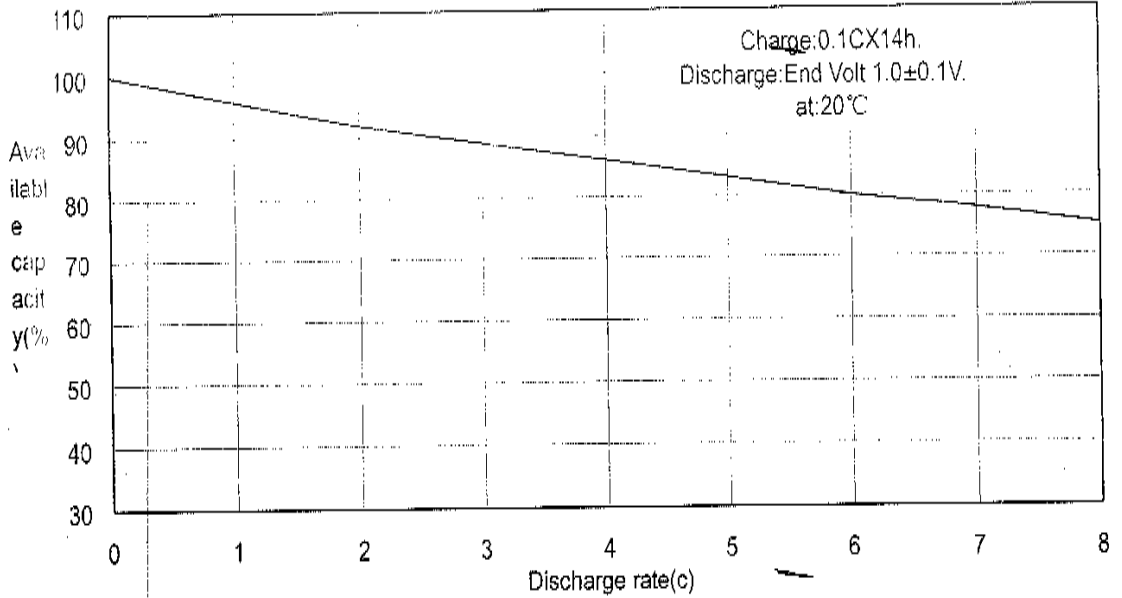
Note:

1. Nominal capacity, rated at C/5, 20°C.
2. Other capacities are for reference.
3. Weight and internal impedance are for reference.

Typical characteristics



Cell capacity (at various discharge rate)



Cycle Characteristic

