



# AMN0706

## Technical Specification for SRP8000 Ni-Cd Two-way Radio Rechargeable Battery Pack

Product Description:	7.4V Ni-Cd,1500mAh
Product No.:	RB-S8000-BK
Model No.:	S3290



### 1. SCOPE:

This technical specification is applied to a sealed Ni-Cd Cylindrical rechargeable battery as power supply for Two-way radio. The battery pack is bonded by six pieces of 1500mAh single cell in series (6S). The battery converts chemical energy into electrical energy by chemical reaction. The total voltage of battery pack is equal to an individual single cell voltage times six.

### 2. CELL TYPE

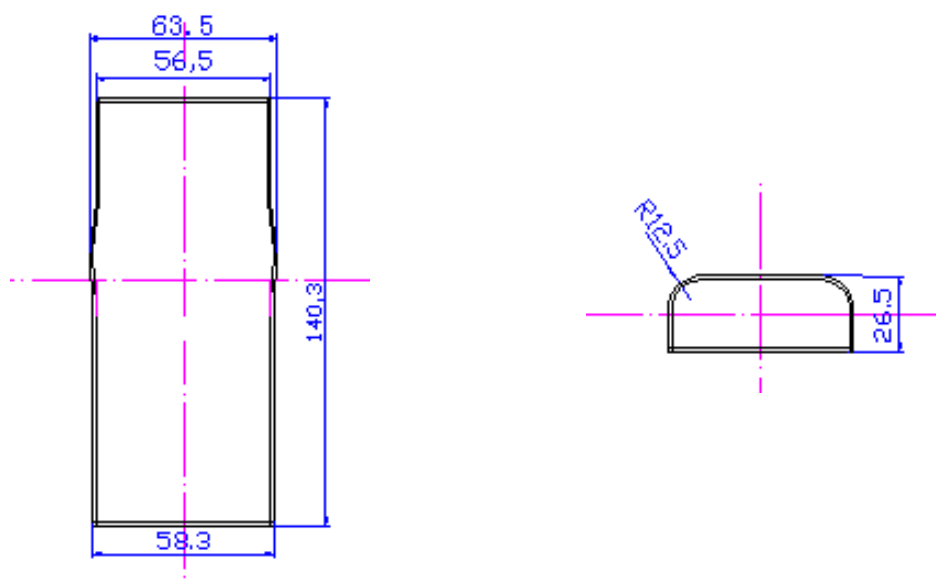
Cell	:	Sealed Ni-Cd Cylindrical Rechargeable Battery
Model	:	1A (D=16.7mm,H=48.5mm)

### 3. PACK RATINGS

Description	Unit	Specification	Condition
Nominal Voltage	V	7.4V per pack	Unit cell or stack-up batteries
Rated Capacity	mAh	1500mAh	Standard Charge/Discharge
Minimum Capacity	mAh	1450mAh	Standard Charge/Discharge
Standard Charge	mA	150 (0.1C)	T =20±5°C
	hour	14~16	
Fast Charge	mA	750 (0.5C)	- Δ V=0~5mV/cell. Timer cut-off=120% nominal capacity. Temp. cut-off=55°C, dT/dt=0.8°C/ min, T =20±5°C
	hour	2.4 approx	
Trickle Charge	mA	0.03C~0.005C	T =20±5°C
Standard discharge	mA	300(0.2C)	T =20±5°C . Humidity : Max.85%
Discharge Cut-off voltage	V/cell	1.0	
Storage Temperature	°C	-20~25	Within 1 year*
		-20~35	Within 6 months
		-20~45	Within 1 month
		-20~55	Within 1 week
Open Circuit Voltage(OCV)	V	≥1.25	Within 1 hour after standard charge
Internal Impedance	mΩ	≤24	Internal Impedance
IEC Cycle Life	Cycle	≥500	IEC61951-2(2003)7.4.1.1

### 4. PHYSICAL CHARACTERISTICS :

Weight of battery	Gram	252.2g±2g
Nominal size per pack (for reference only)	:mm	140.3(L) x 63.5(W) x 26.5(H) ±0.1mm



4.1 The plastic material is ABS, listed on UL certification E50075 & E56070.

## 5. ELECTRICAL TEST

Unless otherwise stated in this specification, all testing procedure should be carried out at  $20\pm 5^{\circ}\text{C}$  temperature and a relative humidity of  $65\pm 20\%$ .

### 5.1 Charging Characteristics

Charging Voltage

The battery is charged under standard charging at a constant current of 140mA 15 hours to 8.7V.

The voltage while standard charging should not be higher than 9.0V per pack.

Charging Temperature

The temperature while standard charging should not be higher than  $60^{\circ}\text{C}$ .

Saturated Charging

At standard charging, the battery will be saturated at the maximum voltage of 8.7V per pack.

### 5.2 Capacity Characteristics

Varied Discharge Rate Capability

The battery is charged under standard charging at a constant current of 150mA 15 hours to 8.7V.

The battery is discharged at the following current to 6.0V / pack at  $20^{\circ}\text{C}$ ; the battery shall deliver the following capacities.

Discharge Current	Minimum Capacity
150mA	1500
1500mA	1425

Discharge capability at Varying Temperature

The battery is charged under standard charging at a constant current of 150mA 15 hours to 8.7V.

The battery is discharged at 300mA to 6.0V / pack at the following temperatures; the battery shall deliver the following capacities.

Temperature ( $^{\circ}\text{C}$ )	Minimum % of Rated Capacity
60	102
0	100

### 5.3 Charge Retention

The battery is charged under standard charging at a constant current of 150mA 15 hours to 8.7V. The battery will be stored on open circuit for 28 days at  $20^{\circ}\text{C}$ . Then discharge the battery at a constant current of 300mA; the nominal capacity shall not be less than 65%.

## **6. RELIABILITY (CYCLE LIFE) TEST**

The test is a series of charge and discharge cycles, the recommended procedures as such. The battery is charged at constant current of 150mA 15 hours to 8.7V / pack (1.45V / cell), and then discharged at constant current of 300mA to 6.0V / pack at 20°C. This charge and discharge cycle is repeated until the nominal capacity drops down to 65%. The total cycles shall not be less than 300 and the battery shall be free from leakage.

## **7. MECHANICAL TEST**

### **7.1 Vibration Test**

The battery shall be mechanically and electrically normal after vibration which has an amplitude of 3.5mm a frequency of 1000 cycles per minutes and it should be continued in any directions during 60 minutes. The battery is observed to be normal.

### **7.2 Dropping Test**

The battery was dropped from a vertical height of 1M onto a flat, firm, non-yielding surface. The same battery was dropped in the same manner three times. The battery was then observed and appears to be normal.

## **8. SAFETY DEVICE AND ABUSE REQUIREMENT**

Circuitry protection as described below has been presented inside the battery pack, to insure safety in case of misuse.

Over charge

The battery shall not explode after 5 hours of charging at 1.5A.

## **9. SUPPLY**

The battery should be stored or transported at open circuit and discharged state.

## **10. SAFETY PRECAUTIONS AND HANDLING**

If inappropriate handling of the battery, it may cause the equipment malfunction from affecting the battery. Be sure that the battery pack is handled properly.

The battery shall be charged before first time application by a specified charger.

Always keep the battery in a cool and dry place.

Be sure to use a charger specified by manufacturer.

The battery pack includes flammable organic solvents. If inappropriate handling occurs it is possible that the battery may rupture, leakage, ignite, or overhead, causing irreparable damage.

Do not disassemble or modify the battery pack. The battery pack is equipped with built in safety protection features.

Do not externally short circuit the battery packs.

Do not use or leave battery nearby fire, stove, or heated place (more than 80°C). It could melt the resin separator causing it to overheat.

If submerged in water, the safety circuitry may be damage the point where the safety devices will not operate properly. Possible overheating, ignition and burst may occur.

Do not directly solder on the battery pack. Heat can melt down its insulation and damage safety circuitry.

Do not use extreme pressure or another medium for potential deformation of the battery pack.

An external opposite connection of the battery pack terminals will short-circuit the battery, resulting in the pack overheating, ignition and damage.

Do not use the battery pack for use other than those specified by manufacturer. Otherwise, the battery performance may be diminished, its service life may be shortened and it will void the performance guarantee. Do not charge, overcharge, or inverse charge at a higher current than specified. Charging the battery pack using chargers not specified or modified may cause the battery pack to overheat, ignite or explode.

If any abnormality or problem of the battery exists, discontinue use.

## **11. RECOMMENDED DISPOSAL METHOD**

The battery contains hazardous waste materials therefore should be disposed by recognized recycled organization. Contact your local agencies to ensure appropriate disposal performed by permitted contractor.

VT reserves the right to alter or amend the design, model and specification without prior notice.