

1、SCOPE

This specification governs the performance of the following CTECHI Nickel-Cadmium Cylindrical cell and its stack-up battery.

Model: SC1500

Cell Size: SC ($\phi 22.0^{\pm 0.1} \times 42.0^{\pm 0.5}$)
0

2、DATA OF STACK UP BATTERIES

All data involves voltage and weight to stack-up battery are equal to the value of unit cell time the number of unit cell which consisted in the stack-up batteries

Example : Stack-up batteries consisting three unit cells

Nominal voltage of unit cell=1.2V

Nominal voltage of stack-up batteries =1.2V×4=4.8V

3、RATINGS

Description	Unit	Specification	Conditions
Nominal Voltage	V/Cell	1.2	Unit cell or stack-up batteries
Nominal Capacity	mAh	1500	Standard Charge/Discharge
Standard Charge	mA	150 (0.1C)	T ₁ =0~45°C(see Note1)
	Hour	14~16	
Fast Charge	mA	1500 (1C)	- ΔV=0~5mV/cell or Timer Cutoff=110% nominal capacity or Temp.Cutoff=55°C, T ₁ =10~45°C
	hour	1.2approx (see Note 2)	
Trickle Charge	mA	(0.05C)~(0.1C)	T ₁ =0~45°C
Standard discharge	mA	300 (0.2C)	T ₁ = -30~60°C Humidity: Max.85%
Discharge Cut-off Voltage	V/cell	1.0	
Storage Temperature	°C	-30~65	Discharged state、 Humidity、 Max.85%
Typical Weight	Gram	44	Unit cell

4、 PERFORMANCE

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

Ambient Temperature : $20 \pm 5^{\circ}\text{C}$

Relative Humidity : $65 \pm 20\%$

Notes: Standard Charge/Discharge Conditions:

Charge: 150 mA (0.1C)× 14 hours

Discharge: 300 mA(0.2C) to 1.0V/cell

Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	≥ 1500	Standard Charge Discharge	up to 3 cycles are allowed
Open Circuit Voltage(OCV)	V/cell	≥ 1.25	Within 1 hour after standard Charge	
Internal Impedance	$\text{m}\Omega/\text{cell}$	≤ 14	Upon fully charge(1KHz)	
High Rate Discharge(1C)	minute	≥ 54	Standard Charge, 1 hour rest Before discharge by (1C)to 1.0V/cell	up to 3 cycles are allowed
Overcharge	/	No leakage nor explosion	150mA(0.1C)Charge 28 days	
Charge Retention	mAh	≥ 1050 (70%)	Standard Charge, Storage: 28 days, Standard Discharge	
IEC Cycle Life	Cycle	≥ 500	IEC61951-2(2003)7.4.1.1	(see Note 3)
Accelerated Cycle Life	Cycle	≥ 400	Charge:1500mA(1C) Discharge: 1500mA(1C) To 1.0V/cell, End-of:60% nominal Capacity	Cycling charging cut-off condition: - $\Delta V=0\sim 5\text{mV}/\text{cell}$ and Timer cut-off=110% Nominal capacity Input and Temp.cutoff= 55°C
Leakage		No leakage nor deformation	Fully charged at : 1500mA(1C) for 1.2 hrs Stand for 14 days	
Vibration Resistance		Change of voltage should be under 0.02V/cell,Change of impedance should be under 5 milli-ohm/cell	Charge the battery 0.1C 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 under 0.02V/cell Change of impedance should be under 5 milli-ohm/cell	Charge the battery 0.1C 14hrs Then leave for 24hrs,check bat-before/after dropped, Height 50cm Wooden board(thickness 30mm) Direction not specified,3 times.	

5、 CONFIGURATION, DIMENSIONS AND MARKINGS

Please refer to the attached drawing.

6、 EXTERNAL APPEARANCE

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

7、 WARRANTY

One year limited warranty against workmanship and material defects.

8、 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 cell/battery may result.
- (5)Do not incinerate or mutilate the cell/battery.
- (6)Do not solder directly to the cell/battery.
- (7)the life expectancy may be reduced if the cell/battery is subjected adverse conditions like: extreme temperature, deep cycling, excessive overcharge/ over-discharge.
- (8)store the cell/battery uncharged in a cool dry place. Always discharge batteries before bulk storage or shipment.

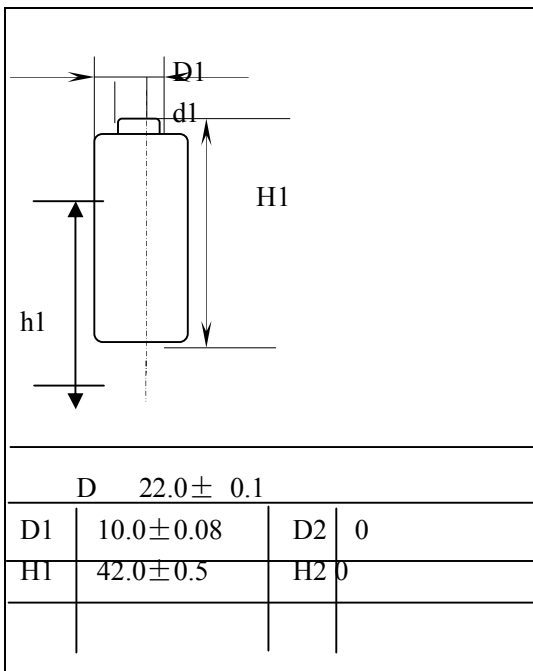
Notes:

- (1) T_1 : 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×16h	None	0.25C×2h20min
2-48	0.25C×3h10min	None	0.25C×2h20min
49	0.25C×3h10min	None	0.25C to 1.0V/cell
50	0.1C×16h	1-4h	0.2C to 1.0V/cell
Cycles 1 to 50 shall be repeated until the discharge duration on any 50th Cycle becomes less than 3 h.			

MODEL No: SC1500

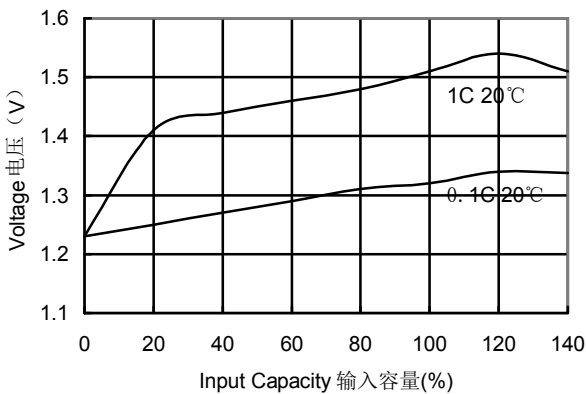
Description: 1500mAh SC SIZE NI-CD



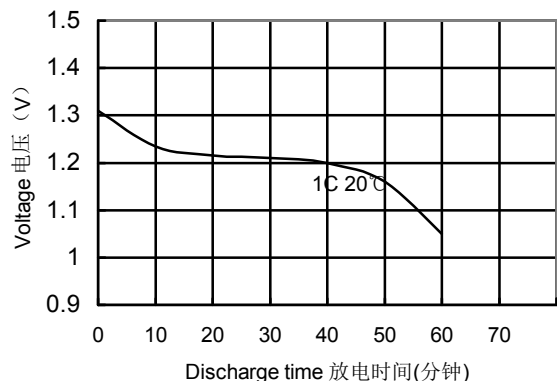
Specification

Nominal Capacity 额定容量		1500 mAh	
Nominal Voltage 额定电压		1.2 V	
Charge current 充电电流	Standard 标准	150 mA	
	Quick 快充	450 mA	
	Fast 急充	1500mA	
Charge time 充电时间	Standard 标准	14~16 Hrs	
	Quick 快充	4.0Hrs	
	Fast 急充	1.2Hrs	
Ambient Temperature 使用温度	Charge 充电	Standard 标准	0°C~45°C
		Quick 快充	10°C~45°C
		Fast 急充	10°C~45°C
	Discharge 放电		-30°C~60°C
Storage 储存		-30°C~65°C	
Internal Impedance(AC) (After Charge) 充电后内阻		Max ≤ 14	
Weight 重量		44g	

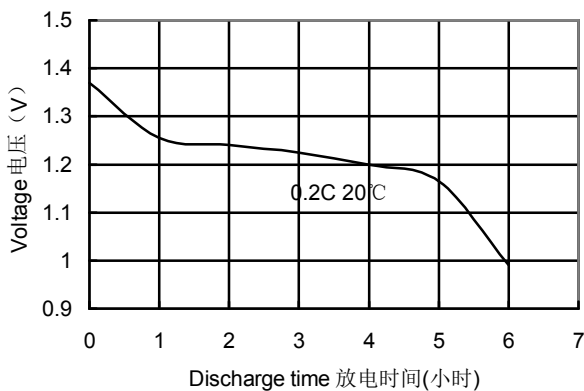
Charge(充电)



Discharge at high rate(高倍率放电)



Discharge at low rate(低倍率放电)



Charge Retention(荷电保持能力)

