

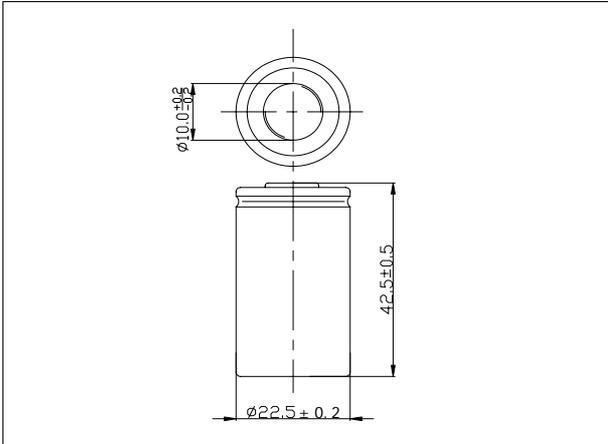
TYSONIC BATTERIES

TYPE : TY-SC3000mAh (Flat)

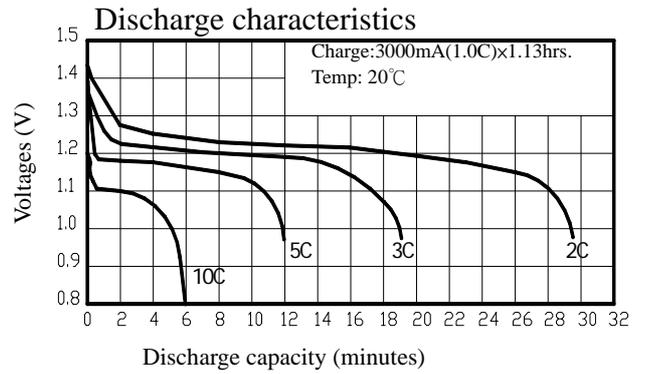
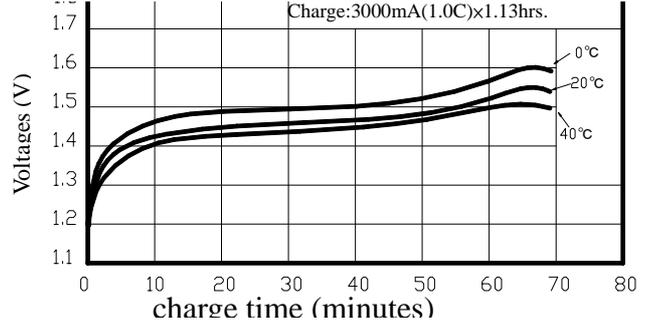
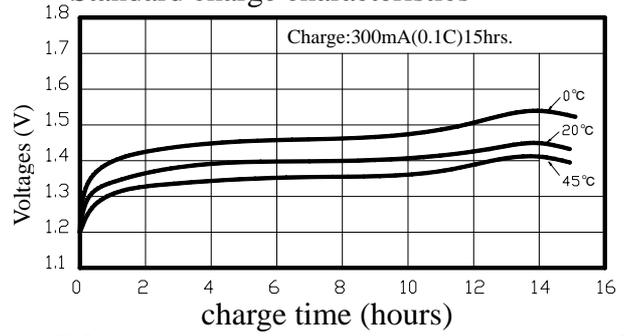
Nominal voltage		1.2V	
Capacity		0.5C Discharge	10C Discharge
	Minimum	3000mAh	2750mAh
	Typical	3050mAh	2800mAh
Dimensions		mm	inch
	Diameter	22.5 ^{+0.2}	0.89 ^{+0.008}
	Height	42.5 ^{+0.5}	1.67 ^{+0.020}
Weight(Approximately)		Grams	Ounces
		60	2.12
Internal Impedance At 1000 Hz		8mΩ(Max) (After Charge)	
Charge	Standard	300mA(0.1C)×15hrs	
	Rapid	3000mA(1.0C)×1.13hrs	
Ambient temperature	Charge		°C
		standard	0°C to 45°C
	Rapid	10°C to 40°C	32°F to 113°F
	Discharge	-20°C to 65°C	
	storage	-20°C to 45°C	
		-4°F to 113°F	

Dimensions(with tube)

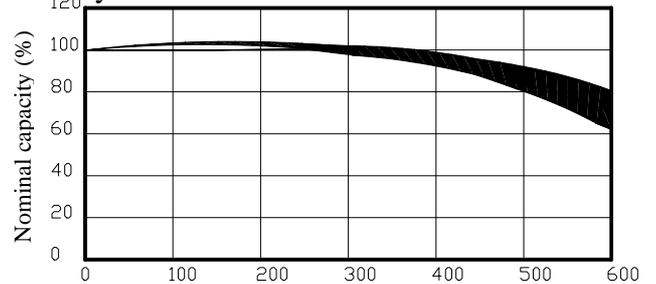
(mm)



Typical characteristics
Standard charge characteristics

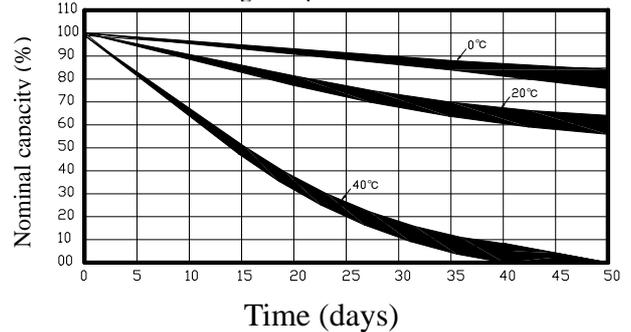


Cycle life characteristics



Charge retention curves of Ni-MH cylindrical cell

At various storage temperatures



Note:

1. After charging at 0.1C for 15hou
2. Nominal capacity,rated at 0.2C 2
3. Average capacity,for reference oi
4. Weight and internal impedance a
For reference.

TYSONIC BATTERIES

1. PREFACE

The specification is suitable for the performance of NI-MH rechargeable battery produced by the TYSONIC Batteries.

2. MODEL

Ni-MH TY-SC3000 (Flat) 1.2V

3. APPEARANCE

There shall be no such details as discoloration electrolyte leakage or no voltage.

4. NORMNAL SPECIFICATION

Description		Specification	
Model		Ni-MH TY-SC3000 (Flat) 1.2V	
Size		SC	
Dimension	Diameter (mm)	22.5 ^{±0.2}	
	Height (mm)	42.5 ^{±0.5}	
	Weight (g)	Approx 60	
Normal Voltage (V)		1.2V	
Capacity (mAh)		0.5C Discharge	10 C Discharge
	Minimum	3000mAh	2750mAh
	Typical	3050mAh	2800mAh
Monomer Internal Impedance(m Ω)		≤8 m Ω	
Charge	Standard	300mA(0.1C) x15 hrs	
	Rapid	3000mA (1.0C) x1.13hrs	
Discharge Cut-off Voltage		1.0V	
Ambient Temperature	Charge	Standard	0°C-45°C
		Rapid	10°C-40°C
	Discharge		-20°C-65°C
	Storage		-20°C-45°C

TYSONIC BATTERIES

5. CHARACTERICS

Unless other specified the standard range of atmospheric condition for marketing and is as follows:

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

Relative Humidity: $65 \pm 20\%$

Atmospheric pressure: $960 \pm 100\text{mbar}$

Voltmeter and ammeters to be used in test shall be of grade 0.5 over.

Test item		Condition	Specification
Charge	Standard	Charge at 300mA(0.1C) for 15 to 16 hours	
	Rapid	Charge at 3000mA(1.0C) to $-\Delta$ V=10mV/cell	
Standard discharge		at 600mA(0.2C) to 1.0V	Note: Discharge to1.0V
Capacity	Minimum	Standard charge/discharge	3000mAh
	Typical	Standard charge/discharge	3050mAh
Monomer internal resistance		After fully charged, rest one hour, measured at 1000Hz	$\leq 8\text{m}\Omega$ (Charge after)
Cycle life		Standard according as IEC 61436 4.4 of testcycle life	≥ 500 cycles
Self-discharge		The charged battery is stored for 30 days at 20°C and the discharge time is measured at stand discharge.	≥ 180 minutes
High temperature test		Stored at 40°C , 50°C , 60°C for charge and discharge.	No leakage
Low temperature test.		Store at 0°C for 2hours then charge or discharge	No leakage
Short circuit test		Short circuit after fully charged	No explode
Drop test		Free fall on the concrete from 3 months after fully charged	No leakage No short -circuit

TYSONIC BATTERIES

6. PRECAUTIONS TO ENSURE THE SAFETY ON HANDLING BATTERY

We will not take on any responsibility for any trouble caused by the actions in the mishandling of the battery as mentioned below.

a) *USE OF BATTERY FOR OTHER PURPOSES*

Don't use batteries for appliance for which it was not intended. Difference in specification can lead to damage to the battery or appliance.

b) *SHORT – CIRCUITING*

Never short-circuit the batteries, that may damage appliances or you may be burned by the heat generated by the batteries.

c) *THROWING BATTERY INTO FIRE OR WATER*

Never throw battery into a fire. Batteries may explode when disposed of in a fire. Never throw them into water since the battery function will be lost

d) *SOLDERING*

Never solder to a battery directly since its safety mechanism may be destroyed by the damage sustained on the safety vent inside the battery cap.

e) *INSERTING THE BATTERY WITH THEIR POLARITIES REVERSED*

Never insert a battery with the positive and negative poles reversed, as this can cause the battery to swell or rupture.

f) *OVERCHARGING AT HIGH CURRENTS AND REVERSE CHARGING*

i. Never reverse charge or overcharge with high current. Doing so causes rapid gas generation and increase gas pressure, thus causing batteries to swell or rupture.

ii. Charging with an unspecified charge or specified charge that has been modified can cause batteries to swell or rupture. Be sure to indicate this safety warning clearly in all operating instructions as a handling restriction for ensuring safety

g) *INSTALLATION IN A SEALED APPLIANCE*

Do not install batteries in a sealed appliance that may run a risk of giving off gases. (oxygen, hydrogen)

And there is a danger of the batteries bursting or exploding due to the pressure ignition source (such as motor switch).

h) *DISASSEMBLY OR MUTILATION*

Never disassemble batteries, as the batteries may be short-circuited or the strong alkaline electrolyte inside may hurt skin and clothes, the alkaline electrolyte inside may catch fire by reaction with air, too.