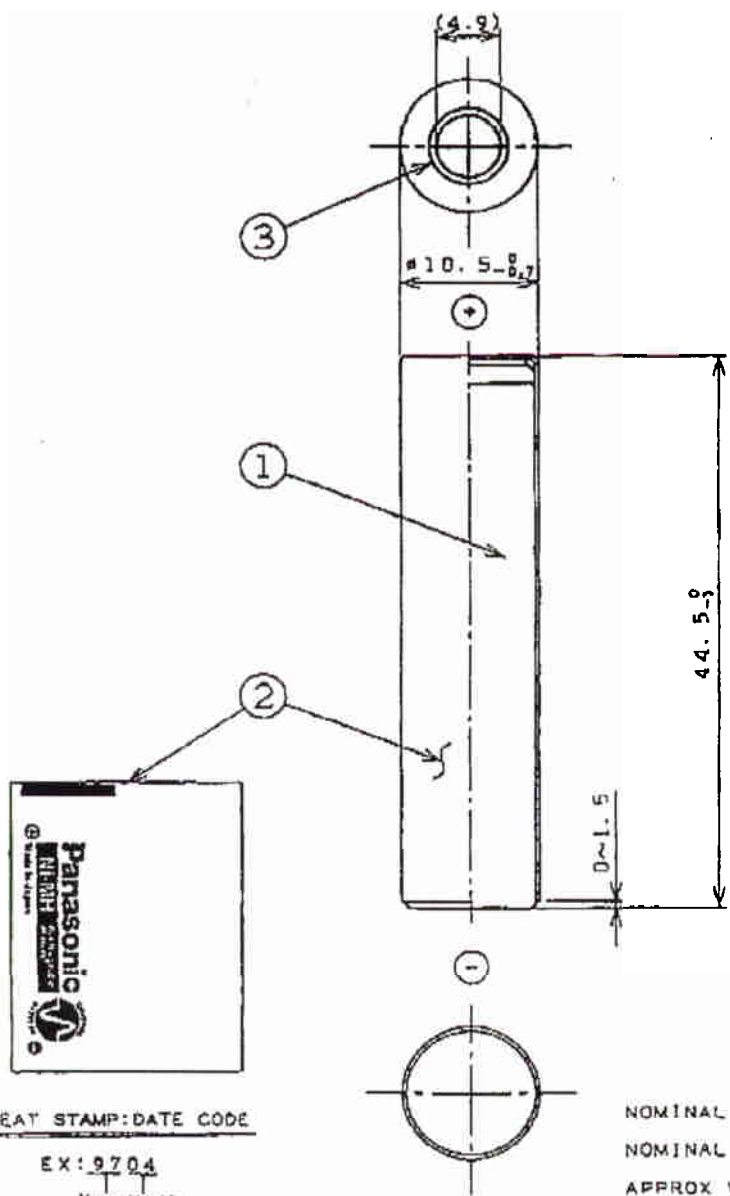


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HEAT STAMP: DATE CODE
 EX: 9704
 Year Month

NOMINAL VOLTAGE : 1.2V
 NOMINAL CAPACITY : 550mAh
 APPROX WEIGHT : 12g

3	INSULATOR	PAPER	1		
2	OUTER JACKET	P. V. C. TUBE (FRESH GREEN)	1	PRINT: Panasonic	HEAT STAMP: DATE CODE
1	CELL	HHR-55AAA	1	DISCHARGED	
Sym.	Item or Code No.	Material & Size	qt.	Process	Remark

SEALED NICKEL METAL HYDRIDE BATTERY					Model No.	HHR-55AAAC1
					Name	DIMENSION SKETCH
Sonic	Designed	Drawn	Checked	Approved	No.	C2197040201
?	<i>Ashida</i>	<i>Wakabayashi</i>	<i>Stuart</i>	<i>SL</i>		

Cylindrical Ni-MH Battery HHR-55AAA

(Specification)

LEVEL 1

Nominal Voltage		1.2V/Cell	
Capacity	Current	0.2C	1.0C *1
	Nominal	550mAh	510mAh
	Typical	600mAh	550mAh
Dimension (With Tube)	Diameter	10.5 ⁺⁰ -0.7mm	
	Height	44.5 ⁺⁰ -1.0mm	
Weight		approx. 12g	
Internal Impedance (at 1000Hz)		approx. 30mΩ	
Charge	Standard	55mA×15hours	
	Rapid *2	550mA×1.5hours (Need Control System)	
Continuous Maximum Discharge Current		1100mA	
Temperature	Charge	Standard	0~45°C
		Rapid	0~40°C
	Discharge		-10~65°C
	Storage		-20~45°C
Continuous Over Charge	Current	0.05C	
	Term	24hours	
	Temperature	0~45°C	

*1) Capacity is measured by the condition below.
 Charge : 20°C 550mA×1.2hrs.
 Rest : 20°C 1hr.
 Discharge: 20°C 550mA to 1.0V/cell

*2) NEED SPECIALLY DESIGNED CONTROL SYSTEM

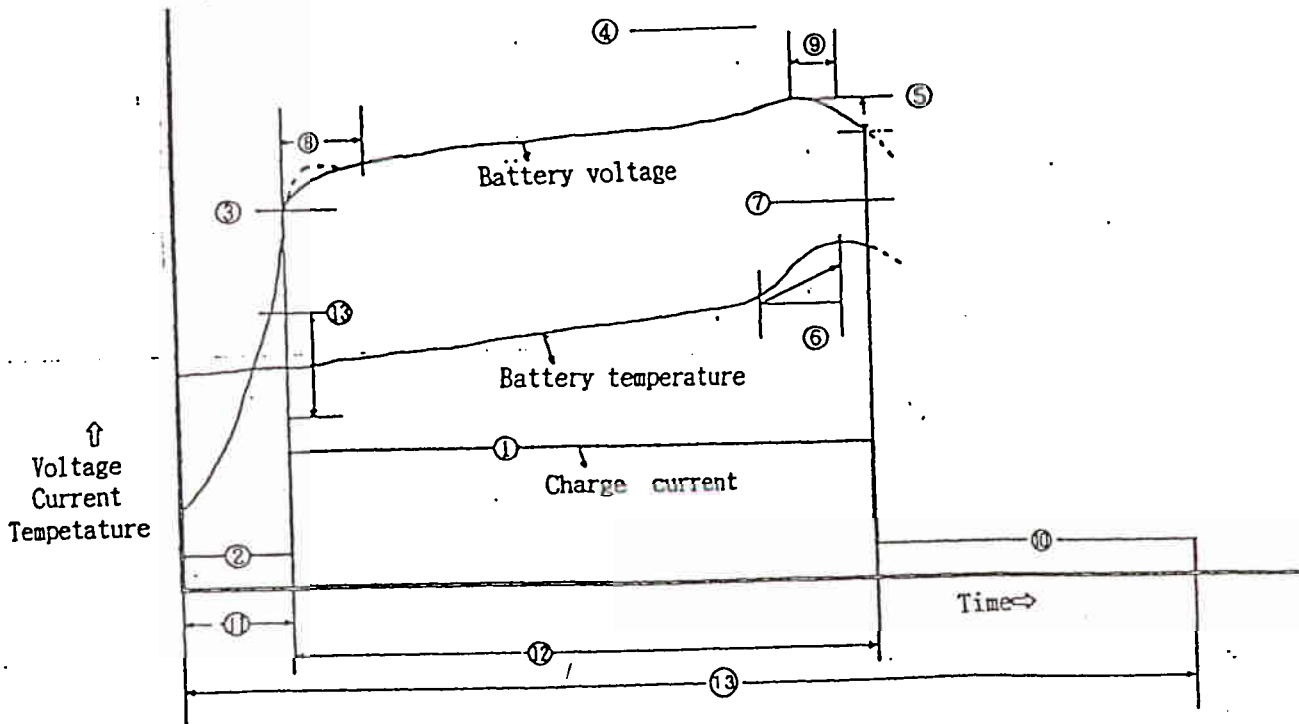
CONTROL
SYSTEM

-ΔV CUT-OFF; -ΔV=5~10mV/CELL
 (ΔT/Δt CUT OFF; 1~2°C/min.)
 AND
 T-CONTROL ; T=50°C
 AND
 RAPID CHARGE TIMER; 75~90min.
 AND
 TOTAL TIMER; 10~20hours (TRICKLE CHARGE)

Ni-MH BATTERY; Example on rapid charging system.

1. Basic charging system

- | | |
|----------------------------------------------------------------------|--------------------------------------------------------------|
| ①Rapid charge current | : max. 1 CmA |
| ②Charge current to voltage for rapid charge | : 0. 2~0. 3 CmA |
| ③Start voltage of rapid charge | : above about 0. 8 V/cell |
| ④Upper limit voltage(to additional charge) | : 1. 8 V/cell |
| ⑤Value of minus Delta V(-ΔV) | : 5~10 mV/cell |
| ⑥Temperature increase rate(dT/dt) | : 1~2 degree C/min. |
| (This value depends on each appliances. Matching test is important.) | |
| ⑦Upper limit temperature(TC0) | : Cylindrical: 55 degree C
Prismatic and AAA: 50 degree C |
| ⑧Initial non-detection timer of minus Delta V | : 5~10 min. |
| ⑨Peak Timer | : 5~10 min |
| ⑩Additional charge current | : 1/20~1/30 CmA |
| ⑪Transfer timer to rapid charge | : 60 min. |
| ⑫Total rapid charge Timer | : 90 min. |
| ⑬Total charge timer | : 10~20 hours |
| ⑭Ambient temperature of rapid charge | : 0~40 degree C |



2. Basic Pack Circuit

