



Technical Specification

Model:JPNA3A800

1. Scope

This specification is suitable for the performance of following Jeff Power Nickel-Alkaline cylindrical cell and its stack-up battery packs:

Model: JPNA3A800

Size: AAA

2. Ratings

Nominal Voltage		1.2V
Nominal Capacity		800 mAh
Standard Charge		75mA(0.1C)×16hrs
Rapid Charge(with - ΔV control system)		750 mA(1C)×2hrs - ΔV=5mV
Trickle Charge current		35mA
Discharge cut-off Voltage		1.0V
Maximum continuous discharge current		1500mA
Temperature Range for Operation	Standard charge	0 ~ +45°C
	Rapid charge	0 ~ +40°C
	Trickle Charge	0 ~ +45°C
	Discharge	-20 ~ +65°C
Temperature Range for Storage	Within 1 years	-20 ~ 35°C
Humidity for operation and storage		Max 85%
Dimension	Diameter	10.0±0.5mm
	Height	44.5±0.5 mm (Button Top dia3.6mm x 1.5mm)
Outgoing Charge State		Max. 90% charged before shipment
Approx weight		13g

3. Performance and Test Methods

Unless specially stated, tests should be carried out within one month of delivery under the following conditions:

Ambient Temperature: 20±5°C.

Ambient Humidity: 65±20%.



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Test Item	Test Conditions				Requirements
1.Standard Charge	Charge is conducted continuously for 16 hours at the constant current of 75mA after pre-discharge at the constant current of 150mA up to an cut-off voltage of 1.0V.				
2.Open-circuit Voltage	Voltage between terminals of the charged battery specified in item (1) is measured after rest for 1 hour.				$\geq 1.25V$
3. Capacity	Discharge time of the charged battery specified in item (1) is measured at 150mA up to an cut-off voltage of 1.0V after rest for 30 minutes. If the discharge time doesn't reach the specified value, the test may be carried out further twice, up to three times in total.				≥ 290 minutes
4. Capacity (high-rate Discharge)	Discharge time of the charged battery specified in item (1) is measured at 750mA up to an cut-off voltage of 1.0V after rest for 30 minutes. If the discharge time doesn't reach the specified value, the test may be carried ort further twice, up to three times in total.				≥ 48 minutes
5. Cycle Life	Cycle No.	Charge	Rest	Discharge	≥ 300 cycles
	1	75mA×16h	None	188mA×140min	
	2-49	188 mA×190min	None	188 mA×140min	
	49	188 mA×190min	None	188 mA×1.0V	
	50	75 mA×16h	1 h	150 mA×1.0V	
Cycles 1 to 50 shall be repeated until the discharge duration on any 50 th cycle becomes less than 3h. Note :refer to IEC 61436 (1998)					
6. Charge Retention (at 20°C±5°C)	-Standard Charge as 1. -Store with open circuit for 28days -discharge at 0.2C until 1.0V				≥ 246 minutes
7. Charge Retention (at 20°C±5°C)	-Standard Charge as 1. -Store with open circuit for 3months -discharge at 0.2C until 1.0V				≥ 240 minutes
8. Charge Retention (at 20°C±5°C)	-Standard Charge as 1. -Store with open circuit for 6months -discharge at 0.2C until 1.0V				≥ 225 minutes
9. Charge Retention (at 20°C±5°C)	-Standard Charge as 1. -Store with open circuit for 12months -discharge at 0.2C until 1.0V				≥ 210 minutes



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10. Internal Resistance	The battery is measured at 1000Hz with charge state.	$\leq 45m\Omega$
11. Over-charge	Charge is conducted continuously for 48 hours at 75mA after the capacity test specified in item (4).	No deformation and leakage
12. Over-discharge	Discharge is conducted with a 1.0Ω /cell load for 24 hours.	No external deformation
13. Humidity	The charged battery is stored for 10 days at $33\pm 3\text{ }^{\circ}\text{C}$ and $80\pm 5\%$ of relative humidity.	No electrolyte leakage
14. Safety Valve Operation	Forced discharge is conducted for 30 minutes at a constant current of 150mA after pre-discharge at a constant current of 150mA up to 0V.	Not explode or disrupt*
15. External Short-circuit	The charged battery specified in item (1) is short-circuited for 1 hour.	Not explode*
15. Drop Test	The battery is subjected to a drop, which has a height of 45cm(17.7 inches) to an oak board of 10mm or more thick in a voluntary axis respectively 3 times.	Mechanically and electrically normal
Note: Electrolyte leakage and deformation of battery by abuse tests are acceptable.		

4. Suggestions & Cautions:

4.1 Charge batteries prior to use

- I. Do not disassemble batteries
- II. Do not Short circuit terminals
- III. Do not Throw of into fire or immerse in water
- IV. Do not direct soldering
- V. Do not use with inverse polarities
- VI. Slow charge and discharge a few cycles before use after long term storage
- VII. Avoid mix use old and new batteries together
- VIII. Charge with approved chargers
- IX. Consult specialist before assembling batteries