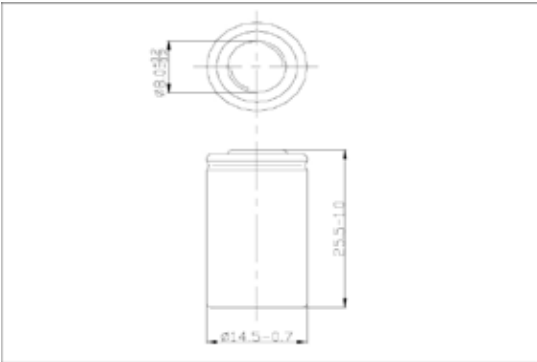


X1/2AA600

Specifications of single cell

Nominal voltage		1.2 V	
Capacity		0.2 C Discharge	1.0 C Discharge
	Minimum	300 min	57 min
	Typical	315 min	60 min
Dimensions	Diameter	mm	
		14.5 ^{-0.7}	
	Height	25.5 ^{-1.0}	
Weight (approximately)		gram	
		11.5	
Internal Impedance at 1000 Hz		50 mΩ (max) After Charge	
Charge	Standard	60 mA (0.1 C) × 15 h	
	Rapid	600 mA (1.0 C) × 1.1 h	
Ambient temperature	Charge	Standard	°C
			0°C to 40°C
	Rapid		0°C to 40°C
		Discharge	-20°C to 50°C
	Storage		-20°C to 30°C

Dimensions with tube (unit mm)

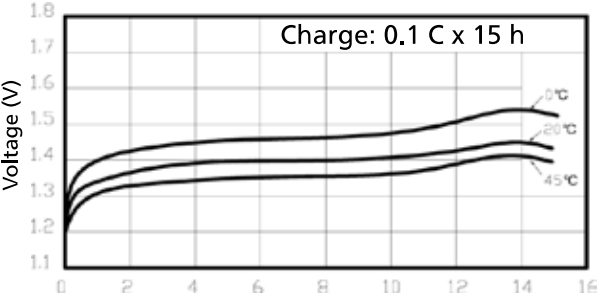


Note:

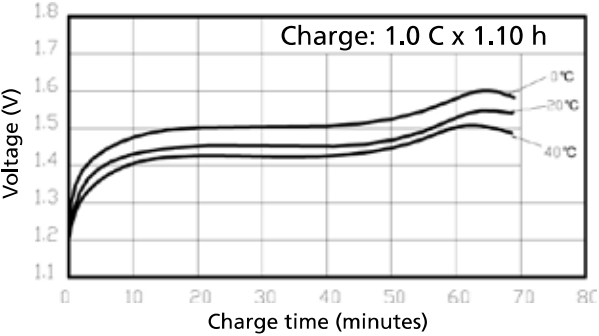
- 1. Nominal capacity, rated at 0.2 C 20°C.
- 2. Average capacity, for reference only.
- 3. Weight and internal impedance are for reference.
- 4. Standard according as IEC of test cycle life.

Typical characteristics

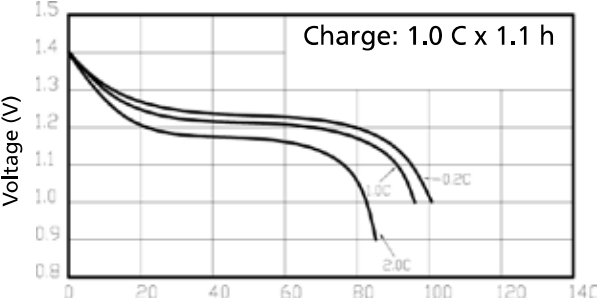
Standard charge characteristics



Rapid charge characteristics

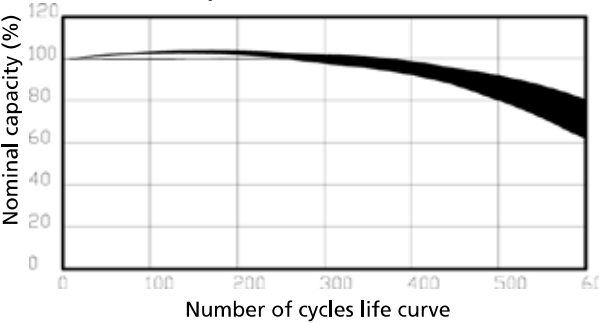


Discharge characteristics

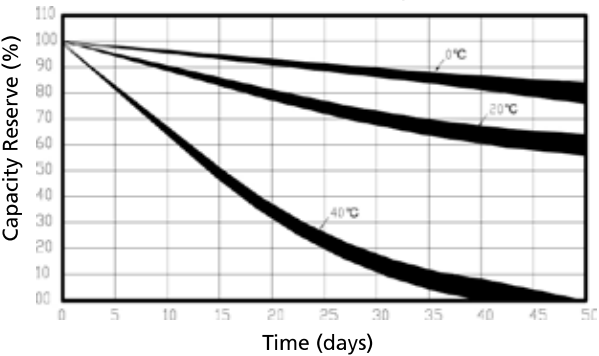


Discharge capacity (%)

Cycle life characteristics



Charge retention curves of Ni-MH cylindrical cell at various storage temperature



1. RATINGS

Description	Unit	Specification	Condition
Nominal Voltage	V	1.2	Unit pack
Typical Capacity	min	315	Standard Charge/Discharge
Nominal Capacity	mAh	600	Standard Charge/Discharge
Minimum Capacity	min	300	Standard Charge/Discharge
Standard Charge	mA	450 (0.1 C)	Ta = 0~40°C (see note)
	hour	15	
Fast Charge	mA	60 (0.1 C)	-ΔV = 5 mV/cell Timer cutoff = 110 % input capacity Temp. cutoff = 40~45°C dT/dt = 0.8°C/min (0.5 to 1.0 C); 0.8~1°C/min (1 C)
	hour	15	
Trickle Charge	mA	30 (0.05 C)~60 (0.1 C)	Ta = 0~40°C (see note 1)
Discharge Cut-off Voltage	V	1.0	Unit cell
Maximum Discharging Current	mA	1200 (2.0 C)	Ta = 0~50°C 0.9 V/cell cut off
Storage Temperature	°C	-20~+25 (within 1 year) -20~+30 (within 3 month) -20~+40 (within 1 month) -20~+50 (within 1 week)	*
Typical Weight	g	11.5 approx.	*

2. PERFORMANCE

Test	Unit	Specification	Condition	Remarks
Capacity	min	≥ 300	Standard Charge/Discharge	Up to 3 cycles are allowed.
Open circuit Voltage (OCV)	V	≥ 1.25	Within 1 h after standard charge	Unit pack
Internal Impedance (Ri)	mΩ	≤ 50	Upon fully charge at 1 kHz	*
High Rate Dis-charge (1.0 C)	min	≥ 57	Standard Charge/rest 30 min discharge at 1.0 C to 1.0 V	Up to 3 cycles are allowed.
High Rate Dis-charge (2.0 C)	min	N/A	Standard Charge/rest 30 min discharge at 2.0 C to 0.9 V	Up to 3 cycles are allowed.
Low Temperature Discharge	min	≥ 240	Standard Charge, Storage: 24 h at 0 ± 2°C 0.2 C discharge at 0 ± 2°C	1.0 V/cell Cut-off
Overcharge	N/A	No conspicuous deformation and/or leakage	0.1 C charge for 48 h	*
Charge reserve	min	≥ 180 min	Standard charge Storage: 28 days, Standard discharge (0.2 C)	1.0 V/cell Cut-off
IEC Cycle Life Test	Cycle	≥ 500	IEC61951-2(2003)7.4.1.1	*
Humidity	N/A	No leakage	Standard charged, stand for 14 days at 33 ± 3°C and 80 ± 5% of relative humidity.	*

External Short Circuit	N/A	No fire and no explosion	After standard charge, short-circuit the cell at 20°C ± 5°C until the cell temperature returns to ambient temperature (cross section of the wire or connector should be more than 0.75 mm²).	*
Safety Device Operation	N/A	No explosion	Forced discharge at 0.2 C to a final voltage of 0 V, then the current be increased to 1 C and forced discharge continue for 60 min.	Leakage of electrolyte and Deformation are acceptable.
Free falling (drop)	N/A	$\Delta V < 0.02$ V/cell $\Delta Ri < 5$ %/cell	Charge at 0.1 C for 16 h, and then leave for 24 h, check battery before/after drop. Height: 50 cm Thickness of wooden board: 30 mm Direction is not specified. Test for 3 times.	*

3. APPEND:

Table 5-Endurance in cycles

Cycle number	Charge	Stand in Charged condition	Discharge
1	0.1 C _t A for 16 h	None	0.25 C _t A for 2 h 20 min ²⁾
2 to 48	0.25 C _t A for 3 h 10 min	None	0.25 C _t A for 2 h 20 min ²⁾
49	0.25 C _t A for 3 h 10 min	None	0.25 C _t A to 1.0 V/cell
50	0.1 C _t A for 16 h	1 h to 4 h	0.2 C ₅ A to 1.0 V/cell
<ul style="list-style-type: none">It is permissible to allow sufficient open-circuit rest time after the completion of discharge at cycle 50, so as to start cycle 51 at an exact two-week interval. A similar procedure may be adopted at cycles 100, 150, 200, 250, 300, 350, 400 and 450.If cell discharge voltage drops below 1.0 V/cell, discharge may be discontinued.			