

201001

Energizer

Engineering Data

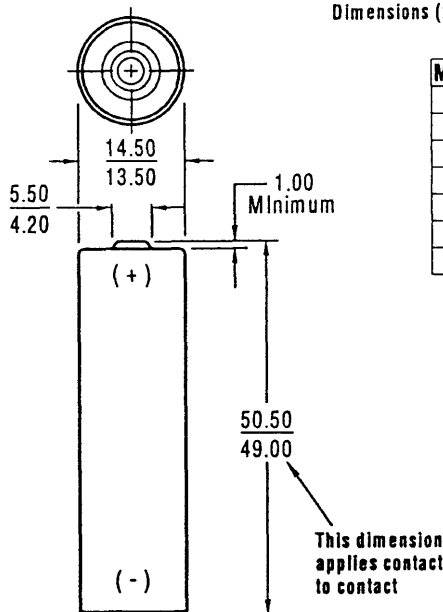
Engineering Data

EVEREADY NO. HR6

AA

Rechargeable 1.2V
Nickel-Metal Hydride

Dimensions (mm)



Millimeters	Inches
1.00	.039
4.20	.165
5.50	.217
13.50	.531
14.50	.571
49.00	1.929
50.50	1.988

Chemical System: Nickel-Metal Hydride (NiMH)

Designations: Not Assigned
Battery Voltage: 1.2 Volts
Average Weight: 27 grams (.95 oz.)
Volume: 8.3 cubic centimeters (0.51 cubic inch)
Terminals: Flat Contact
Rated Capacity (to 1.0 Volt): 1,200 mAh
(Based on 240 mA (0.2C) discharge rate)
Maximum Charge Rate: 240 mA
Jacket: Plastic Sleeve

Internal Resistance

The internal resistance of the cell varies with state of charge, as follows:

Cell Charged	Cell 1/2 Discharged
30 milliohms	40 milliohms
(Tolerance of $\pm 20\%$ applies to above values)	

AC Impedance (No Load)

The impedance of the charged cell varies with frequency, as follows:

Frequency (Hz)	Impedance (milliohms) (for charged cell)
1000	12

Note: Above values based on AC current set at 1.0 ampere.
Value tolerances are $\pm 20\%$.

Operating and Storage Temperatures

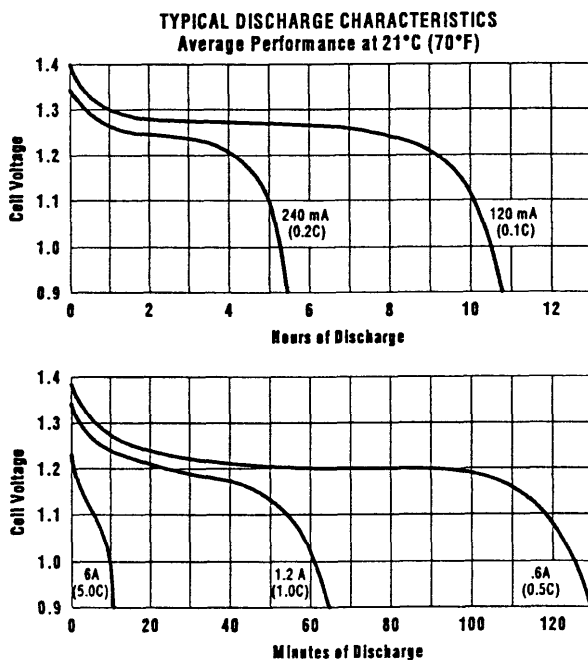
Ranges of temperature applicable to operation of the HR6 cells are:

Charge @ 0.1C: 32°F to 122°F (0°C to 50°C)
Discharge @ 0.1C: -4°F to 122°F (-20°C to 50°C)
Storage: -40°F to 140°F (-40°C to 60°C) (6 Months Max.)
-4°F to 95°F (-20°C to 35°C) (2 Years Max.)

Operating at extreme temperature will significantly effect service and cycle life.

IMPORTANT NOTICE

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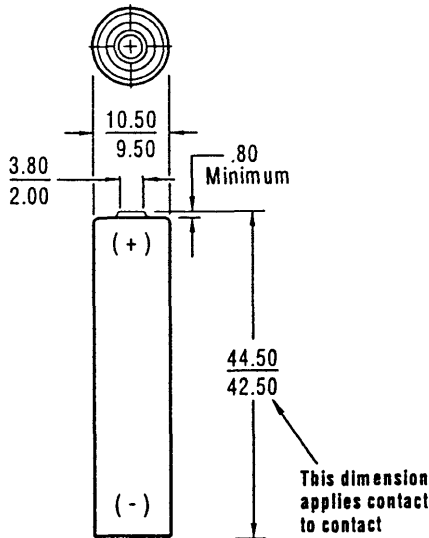
Engineering Data

EVEREADY NO. HR03

AAA

Rechargeable 1.2V
Nickel-Metal Hydride

Dimensions (mm)



Millimeters	Inches
8.0	.031
2.00	.079
3.80	.150
9.50	.374
10.50	.413
42.50	1.673
44.50	1.752

Chemical System: Nickel-Metal Hydride (NiMH)

Designations: Not Assigned

Battery Voltage: 1.2 Volts

Average Weight: 12 grams (.42 oz.)

Volume: 3.8 cubic centimeters (.23 cubic inch)

Terminals: Flat Contact

Rated Capacity (to 1.0 Volt): 550 mAh
(Based on 110 mA (0.2C) discharge rate)

Maximum Charge Rate: 110 mA

Jacket: Plastic Sleeve

Internal Resistance

The internal resistance of the cell varies with state of charge, as follows:

Cell Charged	Cell 1/2 Discharged
100 milliohms	120 milliohms
(Tolerance of $\pm 20\%$ applies to above values)	

AC Impedance (No Load)

The impedance of the charged cell varies with frequency, as follows:

Frequency (Hz)	Impedance (milliohms) (for charged cell)
1000	35

Note: Above values based on AC current set at 1.0 ampere.
Value tolerances are $\pm 20\%$.

Operating and Storage Temperatures

Ranges of temperature applicable to operation of the HR03 cells are:

Charge @ 0.1C: 32°F to 122°F (0°C to 50°C)

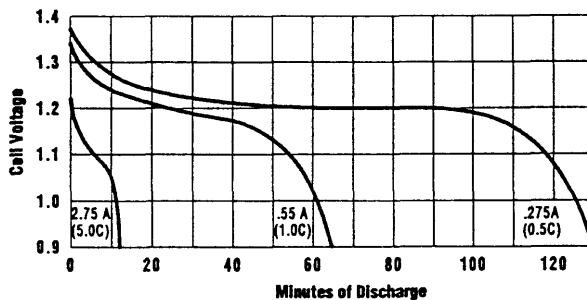
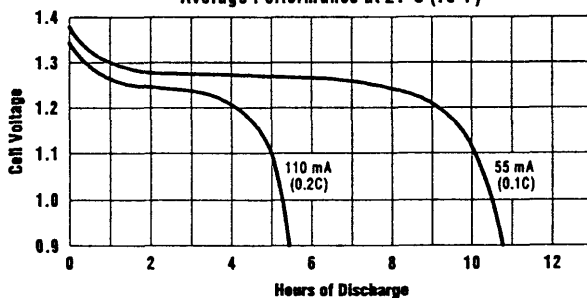
Discharge @ 0.1C: -4°F to 122°F (-20°C to 50°C)

Storage: -40°F to 140°F (-40°C to 60°C) (6 Months Max.)

-4°F to 95°F (-20°C to 35°C) (2 Years Max.)

Operating at extreme temperature will significantly effect service and cycle life.

TYPICAL DISCHARGE CHARACTERISTICS
Average Performance at 21°C (70°F)



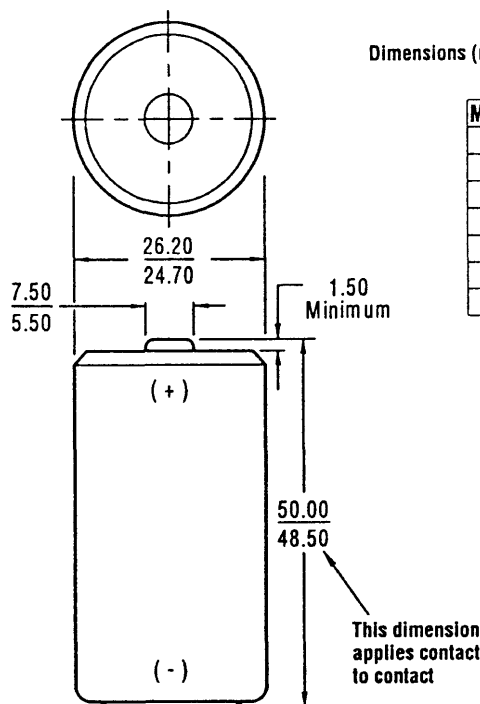
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Engineering Data

EVEREADY NO. HR14

C
Rechargeable 1.2V
Nickel-Metal Hydride



Dimensions (mm)

Millimeters	Inches
1.50	.059
5.50	.217
7.50	.295
24.70	.972
26.20	1.031
48.50	1.909
50.00	1.968

Chemical System: Nickel-Metal Hydride (NiMH)

Designations: Not Assigned
Battery Voltage: 1.2 Volts
Average Weight: 60 grams (2.1 oz.)
Volume: 26.9 cubic centimeters (1.64 cubic inch)
Terminals: Flat Contact
Rated Capacity (to 1.0 Volt): 2.2 Ah
 (Based on .440 A (0.2C) discharge rate)
Maximum Charge Rate: 440 mA
Jacket: Plastic

Internal Resistance

The internal resistance of the cell varies with state of charge, as follows:

Cell Charged	Cell 1/2 Discharged
11 milliohms	21 milliohms

(Tolerance of $\pm 20\%$ applies to above values)

AC Impedance (No Load)

The impedance of the charged cell varies with frequency, as follows:

Frequency (Hz)	Impedance (milliohms) (for charged cell)
1000	9

Note: Above values based on AC current set at 1.0 ampere.
 Value tolerances are $\pm 20\%$.

Operating and Storage Temperatures

Ranges of temperature applicable to operation of the HR14 cells are:

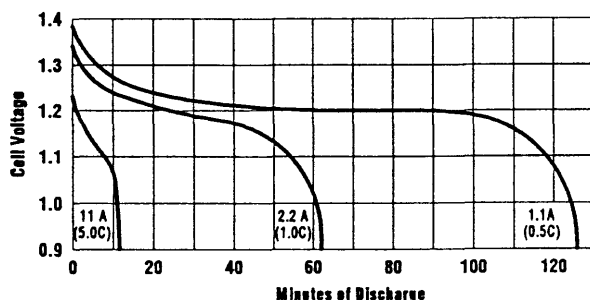
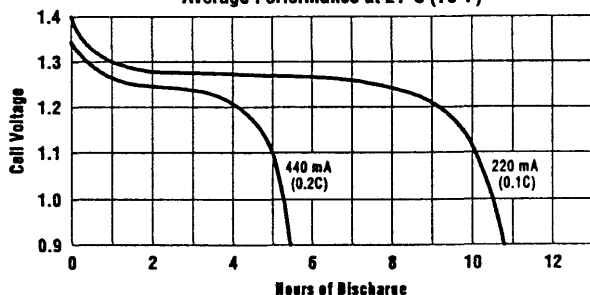
Charge @ 0.1C: 32°F to 122°F (0°C to 50°C)
 Discharge @ 0.1C: -4°F to 122°F (-20°C to 50°C)
 Storage: -40°F to 140°F (-40°C to 60°C) (6 Months Max.)
 -4°F to 95°F (-20°C to 35°C) (2 Years Max.)

Operating at extreme temperature will significantly effect service and cycle life.

IMPORTANT NOTICE

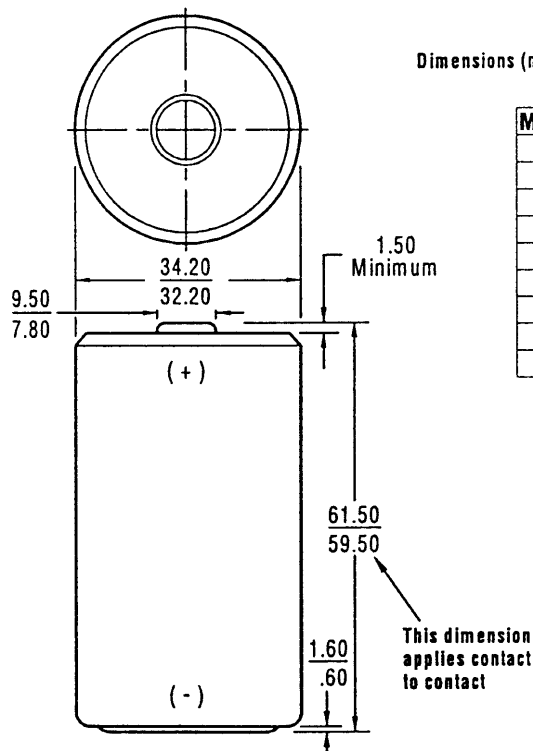
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TYPICAL DISCHARGE CHARACTERISTICS
 Average Performance at 21°C (70°F)



Engineering Data

EVEREADY NO. HR20



Dimensions (mm)

Millimeters	Inches
.60	.024
1.50	.059
1.60	.063
7.80	.307
9.50	.374
32.20	1.268
34.20	1.346
59.50	2.342
61.50	2.421

Chemical System: Nickel-Metal Hydride (NiMH)

Designations: Not Assigned

Battery Voltage: 1.2 Volts

Average Weight: 73 grams (2.6 oz.)

Volume: 56.5 cubic centimeters (3.45 cubic inch)

Terminals: Flat Contact

Rated Capacity (to 1.0 Volt): 2.2 Ah
(Based on .440 A (0.2C) discharge rate)

Maximum Charge Rate: 440 mA

Jacket: Plastic

Internal Resistance

The internal resistance of the cell varies with state of charge, as follows:

Cell Charged	Cell 1/2 Discharged
11 milliohms	21 milliohms

(Tolerance of $\pm 20\%$ applies to above values)

AC Impedance (No Load)

The impedance of the charged cell varies with frequency, as follows:

Frequency (Hz)	Impedance (milliohms) (for charged cell)
1000	9

Note: Above values based on AC current set at 1.0 ampere.
Value tolerances are $\pm 20\%$.

Operating and Storage Temperatures

Ranges of temperature applicable to operation of the HR20 cells are:

Charge @ 0.1C: 32°F to 122°F (0°C to 50°C)

Discharge @ 0.1C: -4°F to 122°F (-20°C to 50°C)

Storage: -40°F to 140°F (-40°C to 60°C) (6 Months Max.)

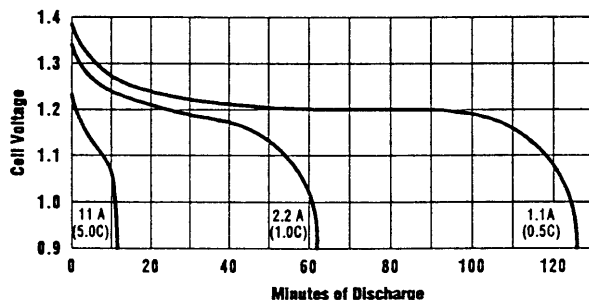
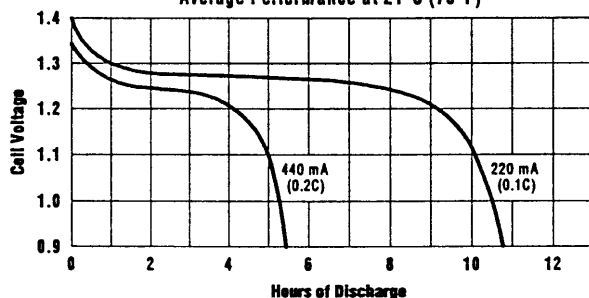
-4°F to 95°F (-20°C to 35°C) (2 Years Max.)

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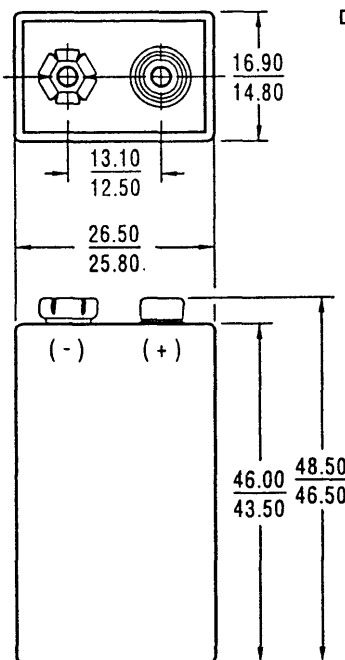
TYPICAL DISCHARGE CHARACTERISTICS
Average Performance at 21°C (70°F)



Engineering Data

EVEREADY NO. HR22

Rechargeable 9V
Nickel-Metal Hydride



Dimensions (mm)

Millimeters	Inches
12.50	.492
13.10	.516
14.80	.583
16.90	.665
25.80	1.016
26.50	1.043
43.50	1.713
46.00	1.811
46.50	1.831
48.50	1.909

Chemical System: Nickel-Metal Hydride (NiMH)

Designations: Not Assigned
 Battery Voltage: 8.4 Volts
 Average Weight: 47 grams (1.65 oz.)
 Volume: 21.7 cubic centimeters (1.32 cubic inch)
 Terminals: Flat Contact
 Rated Capacity (to 6.0 Volt): 150 mAh
 (Based on 30 mA (0.2C) discharge rate)
 Maximum Charge Rate: 30 mA
 Jacket: Plastic

Internal Resistance

The internal resistance of a HR22 battery varies with state of charge, as follows:

Cell Charged	Cell 1/2 Discharged
1000 milliohms	1500 milliohms

(Tolerance of $\pm 20\%$ applies to above values)

AC Impedance (No Load)

The impedance of the charged HR22 varies with frequency, as follows:

Frequency (Hz)	Impedance (milliohms) (for charged cell)
1000	950

Note: Above values based on AC current set at 1.0 ampere.
 Value tolerances are $\pm 20\%$.

Operating and Storage Temperatures

Ranges of temperature applicable to operation of the HR22 cells are:

Charge @ 0.1C: 32°F to 122°F (0°C to 50°C)
 Discharge @ 0.1C: -4°F to 122°F (-20°C to 50°C)
 Storage: -40°F to 140°F (-40°C to 60°C) (6 Months Max.)
 -4°F to 95°F (-20°C to 35°C) (2 Years Max.)

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TYPICAL DISCHARGE CHARACTERISTICS
 Average Performance at 21°C (70°F)

