Moltech Power Systems, Inc.
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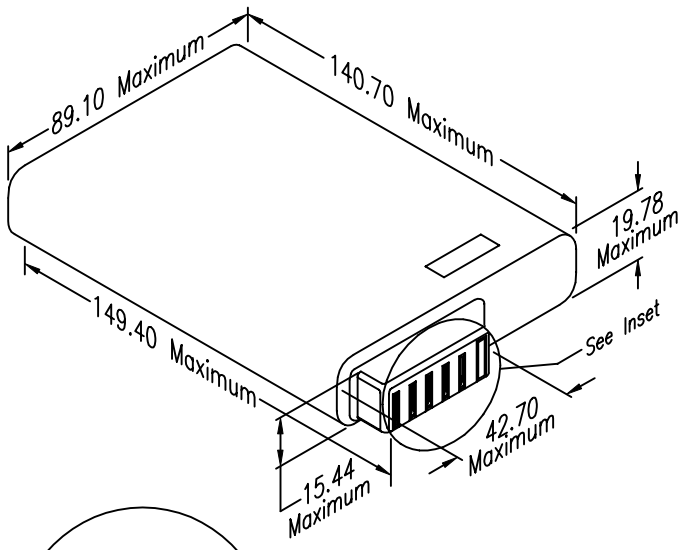
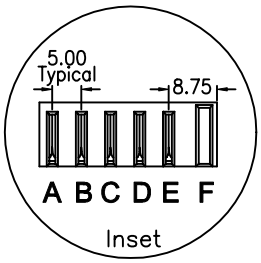
Alachua, FL 32615
www.moltechpower.com

Engineering Data

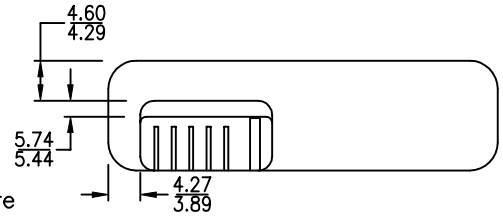
MOLTECH NO. NJ1020

Rechargeable 12.0V
Nickel-Metal Hydride





Terminals
A – Negative
B – Temperature
C – Data
D – Clock
E – Positive
F – Key



Mating Connector:
Manufacturer – AMP
Part Number – 787422-100

Chemical System: Nickel Metal Hydride (NiMH)

Battery Voltage: 12 Volts
Typical Weight: 590 grams (20.9 oz.)
Volume: 261 cubic centimeters (16.4 cubic inch)
Terminals: Recessed
Rated Capacity (to 10.0 Volt)[1]**:** 3850 mAhr
(Based on 0.1C charge rate for 15–16 hours and 0.2C discharge rate)
Cells: Ten, 4/3A size cells
Capable of communicating with host device via SMBus v 1.0 or later.

Dimensions (mm)

Millimeters	Inches
3.89	.153
4.27	.168
4.29	.169
4.60	.181
5.00	.197
5.44	.214
5.74	.226
8.75	.344
15.44	.608
19.78	.779
42.70	1.681
89.10	3.508
140.70	5.539
149.40	5.882

Capacity	**Typical @ 0.2C rate discharge**	3850 mAhr
	Minimum @ 0.2C rate discharge	3500 mAhr
	Minimum @ 3.0A rate discharge	3000 mAhr
Effective Internal Resistance	**Maximum**	499 milliohms
	Typical	365 milliohms
Internal Impedance	**1000 Hz @ Full Charge, Typical**	259 milliohms
	1000 Hz @ Full Discharge, Typical	335 milliohms
Maximum Discharge Current	**Continuous**	3.0A
	Momentary (1 second) @ 20°C	20A
Charging[1]	**Minimum Charge Rate (mA)**	150
	Time Required (hr)	36 – 48
	Maximum Charge Rate (mA)[2]	3000
	Time Required (hr)	1.2 – 1.5
	Minimum Overcharge (mA)	50
	Maximum Overcharge (mA)	100
Temperature		**Min. Max.**
	Storage (°C)	−20 +35
	Discharge (°C)	−20 +60
	Charge (°C)	0 +55

Note: [1]SMBus chargers are recommended with this battery to ensure optimum performance.
[2]Maximum charge rate requires charge control to terminate charging or switch to an acceptable overcharge rate when pack reaches full charge.

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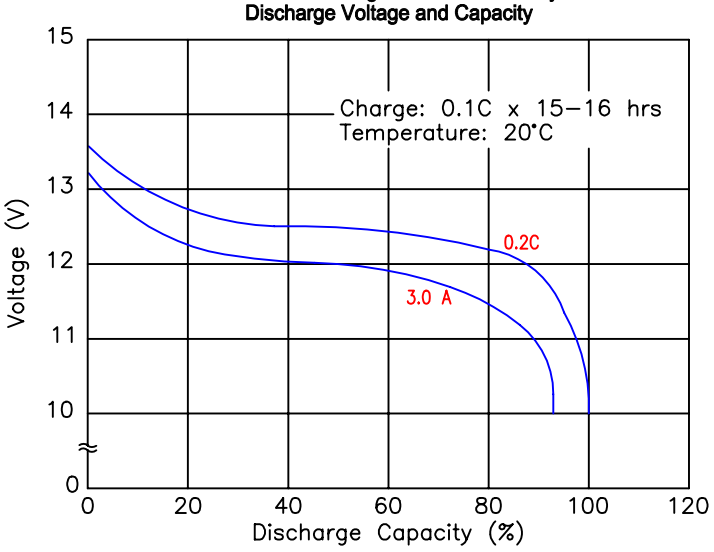
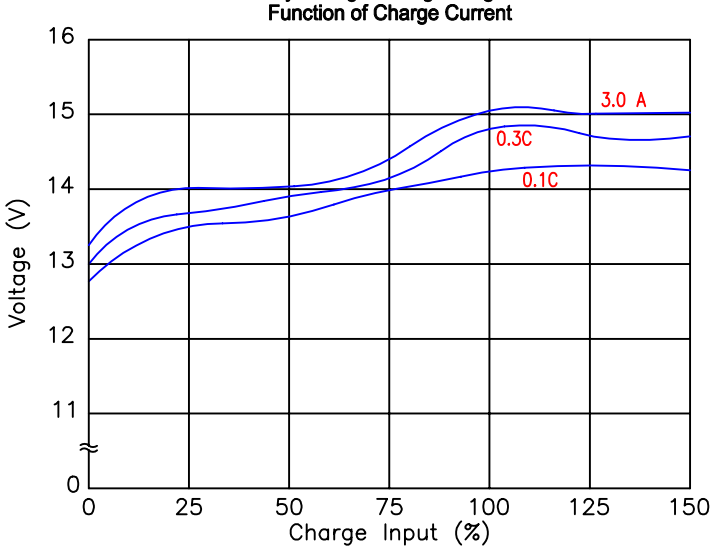
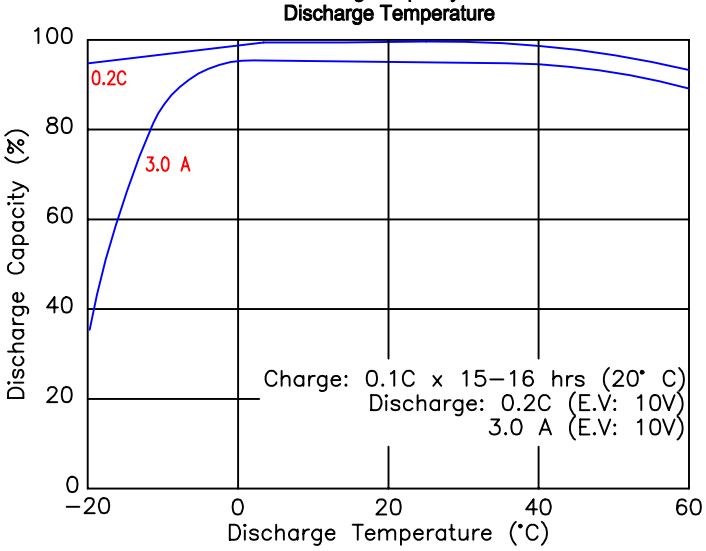
Effect of Discharge Current on Battery Discharge Voltage and Capacity



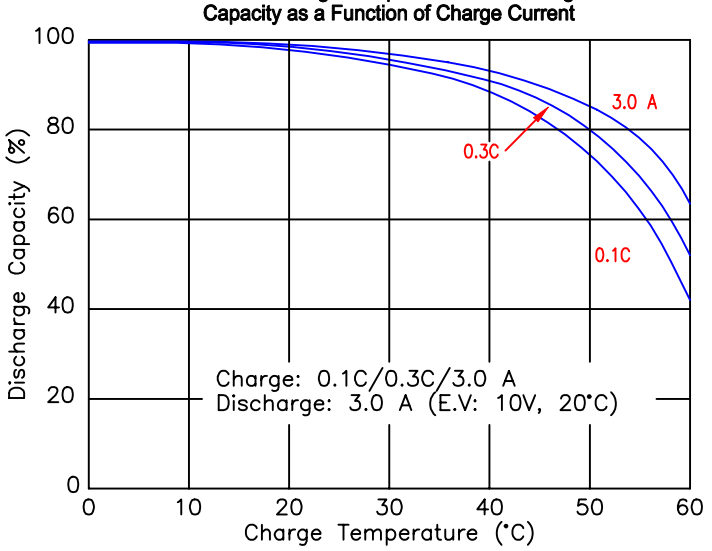
Battery Voltage During Charge as a Function of Charge Current



Discharge Capacity vs. Discharge Temperature



Effect of Charge Temperature on Discharge Capacity as a Function of Charge Current



IMPORTANT NOTICE

This data sheet contains information specific to batteries manufactured at time of its publication. Please contact your Moltech representative for most current information. Contents herein do not constitute a warranty.