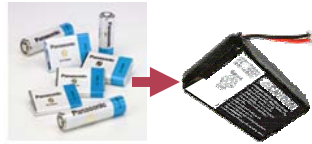


**Applications**

**Rose Knows: Battery Chemistries**

Confused about which battery chemistry is most appropriate for your application? Rose Electronics works with all major cell chemistries (and several new ones) and has been providing technical expertise to the portable marketplace for over 40 years! Get the information you need to make the most correct, informed decision for your product application. Call on Rose Electronics, your best [technical resource](#) for batteries. From sealed lead acid to Ni-Cd to Ni-MH to Lithium Ion, Rose is ready to help you.



**BUILD A BATTERY**

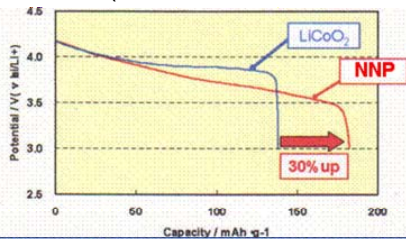
Need to go from cells to a custom lithium ion battery pack? See which battery configuration option is the best suited for your application! Go to the [Rose Electronics website](#) and check out our new [battery builder](#) to create your custom pack today!

**Products**

**NNP Series Lithium Ion from Panasonic**

Panasonic now offers a new lower voltage, higher capacity li-ion cell chemistry. The new NNP series achieves higher energy density by utilizing a LiNiCoAlO<sub>2</sub> cathode (versus the traditional LiCoO<sub>2</sub>) and a graphite

anode. The NNP cell has a more sloping discharge curve; note the cutoff voltage moves down to 2.5V from 3.0V. The 4.2V charge remains the same.



Discharge voltage of NNP is 0.15V lower than LiCoO<sub>2</sub>; however, capacity is 30% higher

**Did you know?**

All lithium primary and lithium rechargeable batteries are considered Hazardous Goods, to be transported as Class 9. However, there are exceptions to these regulations if batteries and/or cells are below a certain level of lithium content. [Contact Rose](#) for the latest information.

**Rose Knows Batteries - Technology Notes**

**Focus on Lithium Ion Transportation—New Rules Pending**

New rules are pending for the UN Model Hazardous Materials Transportation Regulations for shipping lithium primary and rechargeable batteries. The 15th Edition Amendments are planned to include new names to distinguish lithium metal and lithium ion batteries; a new Watt hour required marking; packaging enhancements; and marking and documentation enhancements. There will be more stringent marking, packaging, and shipping paper requirements for nearly all packages containing small, excepted cells and batteries. There will be a new entry and UN number for "lithium ion batteries", and the entry for "lithium batteries" will be changed to "lithium metal batteries". This will have a significant impact on all shippers of lithium metal batteries and lithium ion batteries and equipment packed with or containing lithium cells or batteries. The effective date for the new changes are January 1, 2009.



**About Rose Electronics**

Rose is a leading supplier of batteries and power solutions for the **GPS mobile systems, medical device, industrial field service equipment** and **enterprise storage solution** marketplaces. Rose has earned the trust, respect and loyalty of some of the most demanding OEMs. Call us at 1-800-632-4789 or visit [www.rosebatteries.com](http://www.rosebatteries.com).

Make sure you know the latest transport rules for lithium batteries. Visit [www.rosebatteries.com](http://www.rosebatteries.com)

Thank you for reading the Rose Batteries eNewsletter