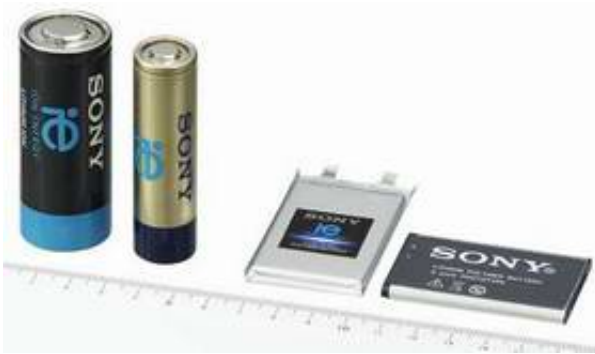


# New Lithium Ion Batteries With Industry's Highest Level of Energy Density

December 9 2004

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[Sony](#) Corporation announces the new line-up of lithium ion batteries, with industry's highest level of energy density, responding to the needs for high capacity and large current in secondary batteries for mobile products. Shipment will start from December 2004 onwards.

Accomplishment of higher capacities in secondary batteries continue to be required from the market, due to higher performance and enhanced features in mobile products such as note PCs, digital video cameras and mobile phones. At Sony, commercialization of the world's first high power density, small size, light weight and long life lithium ion battery was announced in 1991 and, in 1999, lithium ion polymer battery with flexibility in shape and enhanced safety was announced, further responding to such needs. As a result, the world-wide market size of

lithium ion batteries (including lithium ion polymer batteries) has grown to a market of 1.2 Billion units.

In the cylindrical lithium ion battery and the lithium ion polymer battery announced today, industry's highest level of energy density has been accomplished, enabling long hours of operation in mobile products.

In the cylindrical lithium ion battery, , in a cylindrical standard size of diameter 18mm and height of 65mm standard size, maintaining the same level of charging/discharging characteristics, industry's highest level of high capacity with 2550mAh (which is 6% increase from the conventional battery) has been accomplished, further adding power (i.e. "Stamina") to the operation of note PCs and digital video cameras requiring high power.

In the Lithium ion polymer battery, , characteristics such as high freedom in the ease of product design (in which the battery is to be used) and high level of safety from the polymer construction have been maintained and 830mAh (9%increase from Sony's conventional model, with the same size) have been realized, supporting long hours of operation in small portable products such as mobile phones.

In addition, targeting the expansion of business in the mobile phone market as well as expansion of lithium ion battery market, new models, the S Pack and V Cell, VT Cell Series are introduced.

S Pack is a lithium ion polymer battery pack dedicated to mobile phone use, where high efficiency is realized in a limited spacing from the convergence of the two technologies, lithium ion polymer and packaging.

In the V Cell and VT Cell Series, the challenge of large current discharge has been accomplished, enabling use of lithium ion batteries in power tools, cleaners, motor assisted bicycle where lithium ion batteries were not used in the past, leading to market expansion of high-power cylindrical lithium ion batteries.

Sony will continue making progress on technology development of batteries with respect to various aspects, such as safety, reliability in high performance, high capacity and consciousness to the environment, and by introducing new lithium ion battery line-up Sony will target to expand its battery business as well as the market.

- Main Characteristics of industry's maximum capacity Cylindrical Lithium Ion (G8 Series)

From the change to 'Can' and the cathode structure, high level of charging has become possible, leading to 6% increase\* in capacity compared to conventional battery. Also, due to the fact that the change is focused on structural changes, the curve of discharge is negligible compared to the conventional cell, enabling usage of the in the same battery pack as the conventional one.

\*2550mAh (comparison with conventional cell:2400mAh)

- Main Characteristics of industry's maximum capacity Lithium Ion Polymer (A8 Series)

By slimming of the external structure, 9% increase of the capacity has been accomplished, compared to the conventional battery. As it is of a higher capacity when compared to a same size rectangular lithium ion battery, it is appropriate for new generation mobile phones for multimedia purposes.

\*830mAh (comparison with conventional same size battery : 760mAh)

- Main Characteristics of New Concept Battery Pack (S Pack)

Utilizing the characteristics of lithium ion batteries (no leakage, less swelling), the battery pack has been simplified, reducing the number of parts. Also, by using a stronger external film as it is as the exterior pack, maximum space efficiency has been achieved in the final products, which is the battery pack.

- High power Cylindrical Lithium Ion battery (V Cell, VT Cell Series)

By using Nickel/Manganese mixture in the positive electrode, stability in high temperature conditions have been achieved, also achieving safe usage with high level of current, this being the characteristics of V/VT series. By the combination with high-voltage, which is the characteristics of lithium ion batteries, usage in the high-power output application field (such as power tools, cleaners, motor assisted bicycles) will be ideal, where conventionally Nickel-Cadmium, Nickel-Hydrogen batteries were used. In the 18650V cell, maximum output of 10A, and in the 6650VT cell, maximum output of 50A have been achieved.

Citation: New Lithium Ion Batteries With Industry's Highest Level of Energy Density (2004, December 9) retrieved 23 April 2024 from <https://phys.org/news/2004-12-lithium-ion-batteries-industry-highest.html>

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