

LITHIUM BATTERIES

5518832

APPARATUS FOR SIMULATING HIGH BATTERY TEMPERATURE USED IN RECHARGING LITHIUM ION CELLS

Fernandez Jose M; Houghton Michael W; Nakanishi Matthew M Lawrenceville, GA, UNITED STATES assigned to Motorola Inc

A battery includes a device used for simulating a high temperature condition of a thermistor located in battery. The battery includes a charging node, temperature node and ground node. A control circuit is used with lithium ion cell to measure voltage of lithium ion cell. Control circuit produces a control signal when a desired voltage is reached during recharging. The control signal works with a high voltage switch, thermistor, diode and resistor to control the voltage on temperature node. Any change in voltage on temperature node may then be detected by an attached charging system to allow it to change its mode of operation.

5518837

LITHIUM/METAL SULFIDE CELL POSITIVE TERMINAL FEEDTHRU ASSEMBLIES

Pulley Christopher J; Specht Steven J; Barlow Geoffrey Shaker Hts, OH, UNITED STATEE assigned to Westinghouse Electric Corporation

An improved positive terminal feedthru for a lithium/metal sulfide battery cell is provided which permits electrical access to the positive terminal of the battery cell from outside the case. The positive terminal feedthru assembly includes a first annular compressible seal which is provided about the positive feedthru and abuts the positive terminal. A first bushing is provided around the positive feedthru adjacent to the first compressible seal. A second annular compressible seal is provided about the positive feedthru between the first bushing and the battery case. A second annular bushing is provided about the positive feedthru adjacent the opposite side of the case from the second compressible

seal. An annular washer is provided around the positive feedthru adjacent the second annular bushing. This washer maintains a compressive load on the first and second compressible seals to account for expansion and contraction due to temperature cycling.

5518840

ELECTRODE PLATE FOR AN ELECTROCHEMICAL CELL AND HAVING A METAL FOAM TYPE SUPPORT, AND A METHOD OF OBTAINING SUCH AN ELECTRODE

Verhoog Roelof; Precigout Claude; Stewart Donald Bordeaux, FRANCE assigned to Saft

The electrode plate includes an active portion that is pasted with active material, and a plate head that is made up of three layers of compressed metal foam comprising: a non-pasted portion of height G of the support of the electrode plate; and two strips of non-pasted metal foam of height R on either side of the non-pasted portion of height G of the support and also extending for an overlap height h2 over the pasted portion of the support. The plate head includes a zone of reduced thickness including a portion that is maximally compressed, and a transitional portion between said maximally compressed portion and the remainder of the electrode which is of thickness e2. A portion of said plate head forms a connection tab. The method of obtaining the electrode consists in simultaneously rolling all three layers of metal foam in the plate head, and then in cutting matter away from the plates so as to obtain respective connection tabs.

5518842

INVERSE SPINEL COMPOUNDS AS CATHODES FOR LITHIUM BATTERIES

Fey George T; Dahn Jeffrey R Tao Yuan, CHINA (TAIWAN) assigned to Moli Energy (1990) Limited

High voltage lithium batteries can be made using lithium transition metal oxides having an inverse spinel structure as a cathode material wherein lithium atoms occupy up to half of the 16d sites, oxygen atoms occupy the 32e