Patent Overview

Thermally Dissipative Electrochemical Cell – Patent # 10,164,304

Key Features

- The Thermally Dissipative Electrochemical Cell improves heat dissipation.
- The invention includes at least one thermally conductive plate, at least two electrode components, and a casing.
- The casing is categorized by a cell length.
- Each thermally conductive plate is perpendicular to the cell length, interposed between two electrode components, electrically conductive and electrically connected to the two electrode components between while the thermally conductive plate is interposed.
- Compared to other approaches, the invention has greater success in keeping a cell in good thermal communication with the surrounding environment.
- The invention improves safety and reliability of a cell and makes thermal management of the cell less challenging.

Technical Information

- Conventional secondary electrochemical (Lithium-ion) cell device includes electrode assembly, battery case, end caps, electrolyte, and mandrel.
- The electrode assembly includes an anode, insulating separator, cathode, positive electrode tab, negative electrode tab, first insulator layer, and second insulator layer.
- The anode layer, insulating separator layer, and cathode layer are rolled up together to form the electrode jellyroll.
- The battery case includes a side wall and bottom wall, and is made of an electrically conductive material, such as metal.