PROTECTIVE MAIN BOARD FOR BATTERY CELL, ELECTRONIC TERMINAL AND METHOD FOR ASSEMBLING BATTERY CELL OF ELECTRONIC TERMINAL

The present invention relates to a protective main board for a battery cell, an electronic terminal and a method for assembling a battery cell of an electronic terminal. The protective main board (100) for a battery cell includes a main board body (101) and a conducting component (102), the main board body is provided with a main board circuit (103) and a protection circuit (104) configured to protect the battery cell, and the protection circuit (104) is connected with the main board circuit (103); and the conducting component (102) is arranged on the main board body (101), and includes a first conducting part (1021) and a second conducting part (1022), the main board body is provided with a main board circuit (103) and a protection circuit (104) configured to protect the battery cell, and the protection circuit (104) is connected with the main board circuit (103); and the conducting component (102) is arranged on the main board body (101), and includes a first conducting part (1021) and a second conducting part (1022), and the battery cell is electrically connected with the protection circuit (104) through the first conducting part and the second conducting part respectively.

Figure 1
The present invention generally relates to a terminal technology, and more particularly, to a protective main board for a battery cell, an electronic terminal and a method for assembling a battery cell of an electronic terminal.

BACKGROUND

A protective main board is usually a rectangular circuit board on which a main circuit, i.e. a main board circuit, forming an electronic terminal is mounted, and a bearing body configured to bear the circuit in the main board body may be a Printed Circuit Board (PCB). A protection circuit at least includes a circuit such as an overcharge protection circuit, an over-discharge protection circuit, a charging and discharging temperature protection circuit and a short-circuit protection circuit, and is configured to protect a battery cell.

SUMMARY

Accordingly, embodiments of the present invention provide a protective main board for a battery cell, an electronic terminal and a method for assembling a battery cell of an electronic terminal in accordance with claims which follow.

According to a first aspect of embodiment, the invention relates to a protective main board for a battery cell, which may include:

- a protective main board, each of two positive and negative tabs of the battery cell is connected with one of the two steel sheets respectively, and a connector is arranged at one end of the protective board, which is connected with a battery connector on the main board of an electronic terminal. No technical problem raised.

- A protection circuit at least includes a circuit such as an overcharge protection circuit, an over-discharge protection circuit, a charging and discharging temperature protection circuit and a short-circuit protection circuit, and is configured to protect a battery cell.
According to a particular embodiment, according to the protective main board for a battery cell, the first conducting part may be a steel sheet, and the second conducting part may be a steel sheet.

According to a second aspect of embodiment, the invention relates to an electronic terminal, which may include the protective main board mentioned in any one of the abovementioned embodiments and further include a battery cell, in which:

the battery cell may include a first tab and a second tab, and the first tab and the second tab may be arranged on the same side of the battery cell respectively; and

the first tab may be electrically connected with a first conducting part, and the second tab may be electrically connected with a second conducting part.

The advantages and technical effects of the electronic terminal according to the invention correspond to those of the protective main board for a battery cell casing presented above.

According to a particular embodiment, according to the electronic terminal, the condition that the first tab is electrically connected with the first conducting part and the second tab is electrically connected with the second conducting part may include: a second welding layer is arranged on the protection circuit, the first tab is electrically connected with the first conducting part through the second welding layer, and the second tab is electrically connected with the second conducting part through the second welding layer.

According to a particular embodiment, according to the electronic terminal, the condition that the first tab is electrically connected with the first conducting part and the second tab is electrically connected with the second conducting part may include that: a second threaded structure is arranged on the protection circuit, the first tab is electrically connected with the first conducting part through the second threaded structure, and the second tab is electrically connected with the second conducting part through the second threaded structure.

According to a particular embodiment, according to the electronic terminal, the second threaded structure may include: at least two second screws and at least two second gaskets, and the second screws may be positioned on upper surfaces of the second gaskets.

According to a particular embodiment, the electronic terminal may further include:

a conductive connecting layer arranged respectively on the first conducting part and the second conducting part, the battery cell may be electrically connected with the first conducting part and the second conducting part through the conductive connecting layer, and the conductive connecting layer may be a conductive adhesive tape.

According to a third aspect of embodiment, the invention relates to a method for assembling a battery cell of an electronic terminal, which may include:

integrating a protection circuit configured to protect the battery cell into a main board body;

arranging a conducting component on the main board body, the conducting component comprising a first conducting part and a second conducting part; and

electrically connecting the battery cell with the protection circuit through the first conducting part and the second conducting part.

According to a particular embodiment, according to the method for assembling a battery cell of an electronic terminal, electrically connecting the battery cell with the protection circuit through the first conducting part and the second conducting part may include:

forming a first tab and a second tab on the battery cell, and forming a second welding layer on the protection circuit;

electrically connecting the first tab with the first conducting part through the second welding layer, and electrically connecting the second tab with the second conducting part through the second welding layer.

According to a particular embodiment, according to the method for assembling a battery cell of an electronic terminal, electrically connecting the battery cell with the protection circuit through the first conducting part and the second conducting part may include:

arranging a second threaded structure on the protection circuit;

electrically connecting the first tab with the first conducting part through the second threaded structure; and

electrically connecting the second tab with the second conducting part through the second threaded structure.

According to a particular embodiment, according to the method for assembling a battery cell of an electronic terminal, electrically connecting the battery cell with the protection circuit through the first conducting part and the second conducting part may include:

arranging a conductive connecting layer on the first conducting part and the second conducting part; and

electrically connecting the battery cell with the first conducting part and the second conducting part through the conductive connecting layer, the con-
BRIEF DESCRIPTION OF THE DRAWINGS

[0024] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments consistent with the present invention and, together with the specification, serve to explain the principles of the present invention.

Fig. 1 is a structure diagram of a protective main board for a battery cell, according to an exemplary embodiment.

Fig. 2A is a structure diagram of an electronic terminal, according to an exemplary embodiment.

Fig. 2B is a structure diagram of a battery cell, according to an exemplary embodiment.

Fig. 3A is a position and structure diagram before a battery cell is connected with a conducting component, according to another exemplary embodiment.

Fig. 3B is a position and structure diagram after a battery cell is connected with a conducting component, according to another exemplary embodiment.

Fig. 4A is a structure diagram before a battery cell is connected with a conducting component, according to another exemplary embodiment.

Fig. 4B is a structure diagram after a battery cell is connected with a conducting component, according to another exemplary embodiment.

Fig. 4C is an enlarged structure diagram of position M in Fig. 4B.

Fig. 5 is a structure diagram after a battery cell is connected with a conducting component, according to another exemplary embodiment.

Fig. 6 is a flow chart showing a method for assembling a battery cell of an electronic terminal, according to an exemplary embodiment.

Fig. 7A is a flow chart showing production of an electronic terminal in a conventional art.

Fig. 7B is a flow chart showing production of a battery cell for an electronic terminal, according to an exemplary embodiment.

DETAILED DESCRIPTION

[0025] Reference will now be made in detail to exemplary embodiments, examples of which are illustrated in the accompanying drawings. The following description refers to the accompanying drawings in which the same numbers in different drawings represent the same or similar elements unless otherwise represented. The implementations set forth in the following description of exemplary embodiments do not represent all implementations consistent with the present invention. Instead, they are merely examples of devices and methods consistent with some aspects related to the present invention as recited in the appended claims.

[0026] In the conventional art, after a battery cell is produced by a manufacturer of the battery cell, the battery cell is delivered to a packaging plant to be packaged into a battery pack, that is, two steel sheets are arranged on a protective board by virtue of a (Surface Mount Technology SMT) during the process in the packaging plant, the battery cell being provided with two tabs, i.e. a first tab and a second tab respectively, and the two tabs of the battery cell are welded and fixed together with the two steel sheets in a laser welding manner to combine the battery cell and the protective board to form the battery pack. Specifically, the protective board is configured to protect the battery core, some protection circuits such as an overcharge protection circuit, an over-discharge protection circuit, a charging and discharging temperature protection circuit and a short-circuit protection circuit are arranged on the protective board, the two steel sheets are arranged on the protective board, and each of the two tabs of the battery cell is connected with one steel sheet. Then, the battery pack is transported to an electronic terminal assembling plant to be assembled with a main board of the electronic terminal to finally form a battery for the electronic terminal.

[0027] First of all, some nouns involved in the embodiment of the present invention will be explained.

[0028] A main board body is usually a rectangular circuit board on which a main circuit, i.e. a main board circuit, forming an electronic terminal is mounted, and a bearing body configured to bear the circuit in the main board body may be a Printed Circuit Board (PCB).

[0029] A protection circuit at least includes a circuit such as an overcharge protection circuit, an over-discharge protection circuit, a charging and discharging temperature protection circuit and a short-circuit protection circuit, and is configured to protect a battery cell.

[0030] Referring to Fig. 1, the main board 100 includes a main board body 101 and a conducting component 102.

[0031] Herein, a main board circuit 103 and a protection circuit 104 configured to protect the battery cell are arranged on the main board body 101, and the protection circuit 104 is connected with the main board circuit 103; and the conducting component 102 includes a first conducting part 1021 and a second conducting part 1022.

[0032] The main board circuit 103 of the embodiment may include various chips and connecting lines, and respective structures of the main board circuit 103 and the conductive connecting layer being a conductive adhesive tape.
A bearing body of the main board body 101 of the embodiment may be a PCB, and various chips and connecting lines are arranged on the PCB. Since there are more circuits on the main board body 101, the main board body 101 is usually divided into multiple layers of PCBs, corresponding circuits are arranged on each layer of PCB to reduce an area occupied by the main board body 101, and in such a manner, there is more or less an idle space where no circuits are arranged on the main board body 101. In the embodiment, the protection circuit 104 which is originally arranged on the protective board is arranged in the idle space, so that the idle space of the main board body 101 is fully utilized. Of course, the protection circuit 104 may also be arranged at a position where a battery connector is originally arranged on the main board body 101 in the embodiment, which may specifically be set according to a practical requirement and will not be elaborated herein.

Optionally, the first conducting part 1021 and second conducting part 1022 of the conducting component 102 are steel sheets. The conducting component 102 is configured to be connected with the battery cell to further connect the battery cell with the main board 100 not through the protective board but directly.

A connecting manner for the conducting component 102 and the main board body 101 may be welding or threaded connection. When the connecting manner is welding connection, the main board 100 further includes a first welding layer (not shown in the figure) arranged on the protection circuit 104, and the first conducting part 1021 and the second conducting part 1022 are electrically connected with the protection circuit 104 through the first welding layer. When the connecting manner is threaded connection, the main board further includes a first threaded structure (not shown in the figure) arranged on one side of an outer surface of the protection circuit 104, the first conducting part 1021 and the second conducting part 1022 are electrically connected with the protection circuit 104 through the first threaded structure, the first threaded structure may include at least two first screws and at least two first gaskets, and the first screws are positioned on upper surfaces of the first gaskets.

In addition, the conducting component 102 may be arranged on the main board body 101 in an SMT manner in the embodiment, and the SMT manner is the most popular technology and process in the present electronic assembling industry, and will not be elaborated.

According to the embodiment, the protection circuit 104 on the protective board is arranged on the main board 100, then the battery cell may be directly transported to a terminal assembling plant without the step of manufacturing the protective board for a battery cell to protect the battery cell by a packaging plant in the conventional art after being delivered from a manufacturer, and the terminal assembling plant integrates the protective board to the main board of the terminal, so that an intermediate transportation process is shortened, a production cycle of an electronic terminal product is further shortened, and cost is reduced.

According to the embodiment, the battery cell for the electronic terminal is required to be provided with the protection circuit on the basis of a safety requirement, the protection circuit 104 is integrated to the main board body 101 to form the main board 100 so that the main board 100 can be directly connected with the battery cell, in this way, not only may a space occupied by the protective board be saved to enlarge a size of the battery cell and thus increase electric capacity, but also the transportation process may be shortened to shorten the production cycle of the electronic terminal product and reduce the cost. In addition, electric power consumption caused by passing of electric power provided by the battery cell through the protective board and a connector in a process for the electric power to reach the main board from the battery cell may further be avoided as much as possible, and a utilization rate of the electric power may be increased.

Fig. 2A is a structure diagram of an electronic terminal, according to an exemplary embodiment. Referring to Fig. 2A, the electronic terminal includes the main board 100 of the abovementioned embodiment, and further includes a battery cell 200, and the battery cell 200 is connected with a conducting component 102. Fig. 2B is a structure diagram of a battery cell, the battery cell 200 includes a first tab 2001 and a second tab 2002, the first tab 2001 and the second tab 2002 are arranged on a same side of the battery cell 200 respectively, the first tab 2001 is electrically connected with a first conducting part 1021, and the second tab 2002 is electrically connected with a second conducting part 1022.

A connecting manner for a battery cell 200 and a conducting component 102 may be specifically described below.

Manner 1: welding

Fig. 3A is a position and structure diagram before a battery cell 200 is connected with a conducting component, and Fig. 3B is a position and structure diagram after the battery cell is connected with the conducting component. A distance between the first conducting part 1021 and second conducting part 1022 of the embodiment is equal to a distance between the first tab 2001 and second tab 2002 of the battery cell.

In the embodiment, the condition that the first tab 2001 is electrically connected with the first conducting
part 1021 and the second tab 2002 is electrically connected with the second conducting part 1022 includes that: a second welding layer 303 is arranged on a protection circuit 104, the first tab 2001 is electrically connected with the first conducting part 1021 through the second welding layer 303, and the second tab 2002 is electrically connected with the second conducting part 1022 through the second welding layer. As shown in Fig. 3B, the second welding layer 303 is formed after welding.

Manner 2: threaded connection through a first threaded structure

[0043] Fig. 4A is a structure diagram before a battery cell 200 is connected with a conducting component; Fig. 4B is an enlarged structure diagram of position M in Fig. 4A. 

[0044] In the embodiment, the condition that the first tab 2001 is electrically connected with the first conducting part 1021 and the second tab 2002 is electrically connected with the second conducting part 1022 includes that: a second threaded structure is arranged on the protection circuit 104, the first tab 2001 is electrically connected with the first conducting part 1021 through the second threaded structure, and the second tab 2002 is electrically connected with the second conducting part 1022 through the second threaded structure, herein first connecting holes 402 are formed in both the first conducting part 1021 and the second conducting part 1022, second connecting holes 404 are formed in both the first tab 2001 and the second tab 2002, the second threaded structure of the embodiment may include at least two second screws 405 and at least two second gaskets 406, and the second screws 405 are positioned on upper surfaces of the second gaskets 406. As shown in Fig. 4B, the two second screws 405 may penetrate through the first connecting holes 402 and the second connecting holes 404 to further fixedly connect the conducting component with the battery cell respectively, and the second gaskets 406 may be arranged between the second screws 405 and the steel sheets. 

[0045] Optionally, the second screws 405 of the embodiment may be insulating screws, and the second gaskets 406 may be insulating gaskets, so that influence of electrical connection between the second screws 405 and other parts on quality of the electronic terminal is avoided.

[0046] In such a threaded connecting manner, the battery cell 200 may be detachably connected with the main board 100 to further facilitate assembling or maintenance of the electronic terminal.

Manner 3: conductive adhesion

[0047] As shown in Fig. 5, a conductive connecting layer 501 is arranged above the first conducting part 1021 and the second conducting part 1022, the battery cell 200 is electrically connected with the first conducting part 1021 and the second conducting part 1022 through the conductive connecting layer 501, and the conductive connecting layer 501 is a conductive adhesive tape.

[0048] Another manner of clamping connection through a clamp and the like may be adopted to implement connection between the conducting component and the battery cell, may specifically be selected according to a practical requirement, and will not be elaborated herein.

[0049] According to the embodiment, the battery cell for the electronic terminal is required to be provided with the protection circuit on the basis of a safety requirement, the protection circuit is integrated to the main board body to form the main board so that the main board can be directly connected with the battery cell, in this way, not only may a space occupied by the protective board be saved to enlarge a size of the battery cell and thus increase electric capacity, but also a transportation process may be shortened to shorten a production cycle of an electronic terminal product and reduce cost. In addition, electric power consumption caused by passing of electric power provided by the battery cell through the protective board and a connector in a process for the electric power to reach the main board from the battery cell may further be avoided as much as possible, and a utilization rate of the electric power may be increased.

Embodiment 3

[0050] The embodiment provides a method for assembling a battery cell of an electronic terminal. Fig. 6 is a flow chart showing a method for assembling a battery cell of an electronic terminal, according to an exemplary embodiment. As shown in Fig. 6, the method for assembling a battery cell of an electronic terminal includes the following steps.

[0051] Step S601: a protection circuit configured to protect the battery cell is integrated to a main board body.

[0052] The battery cell may be directly sent to a terminal assembling plant after being produced by a manufacturer of the battery cell.

[0053] A bearing body of the main board body may be a PCB, and various chips and connecting lines are arranged on the PCB. Since there are more circuits on the main board body, the main board body is usually divided into multiple layers of PCBs, corresponding circuits are arranged on each layer of PCB to reduce an area occupied by the main board body, and in such a manner, there is more or less an idle space where no circuits are arranged on the main board body. In the embodiment, the protection circuit which is originally arranged on a protective board is arranged in the idle space, so that the idle space of the main board body may be fully utilized. Of course, the protection circuit may also be arranged at a position where a battery connector is originally arranged on the main board body in the embodiment, which may specifically be set according to a practical require-
Step S602: a conducting component is arranged on the main board body, the conducting component including a first conducting part and a second conducting part.

Specifically, the conducting component may be arranged on the main board body in an SMT manner, and of course, a welding or threaded connecting manner may also be adopted to arrange the conducting component on the main board body, may specifically be set according to a practical requirement, and will not be elaborated.

A first conducting part is a steel sheet and a second conducting part is a metal wire, which may specifically be selected according to a practical requirement.

Specifically, the conducting component may be arranged on the main board body in an SMT manner, and of course, a welding or threaded connecting manner may also be adopted to arrange the conducting component on the main board body, may specifically be set according to a practical requirement, and will not be elaborated.

A first conducting part is a steel sheet and a second conducting part is a metal wire, which may specifically be selected according to a practical requirement.

Step S603: the battery cell is electrically connected with the protection circuit through the first conducting part and the second conducting part.

Step S603 may be implemented by the following specific steps.

Manner 1:

- A first tab and a second tab are formed on the battery cell, and a second welding layer is formed on the protection circuit;
- The first tab is electrically connected with the first conducting part through the second welding layer; and
- The second tab is electrically connected with the second conducting part through the second welding layer.

Manner 2:

- A second threaded structure is formed on the protection circuit;
- The first tab is electrically connected with the first conducting part through the second threaded structure; and
- The second tab is electrically connected with the second conducting part through the second threaded structure.

Manner 3:

- A conductive connecting layer is arranged on the first conducting part and the second conducting part; and
- The battery cell is connected with the first conducting part and the second conducting part through the conductive connecting layer, the conductive connecting layer being a conductive adhesive tape.

Of course, clamping with a clamp and another manner may also be adopted to implement connection between the battery cell and the conducting component, and will not be elaborated.

Fig. 7A is a flow chart showing production of an electronic terminal in the conventional art. A battery cell 7102 is produced from a raw material 7101 in a battery cell factory 710 at first, then the battery cell 7102 is transported to a packaging plant 711, the battery cell 7102 is packaged by a protective board 7111 and a cladding material 7112 to form a battery 7113 in the packaging plant 711, the battery 7113 is transported to a terminal assembling plant 712, and the battery 7113 is electrically connected with a main board 7121 and assembled with another material 7122 to form an electronic terminal 7123 in the terminal assembling plant 712. That is, three places, i.e. the battery cell factory 710, the packaging plant 711, and the terminal assembling plant 712, are required by production of the electronic terminal in the conventional art.

Fig. 7B is a flow chart showing production of a battery cell for an electronic terminal, according to an exemplary embodiment. A battery cell 7102 is produced from a raw material 7101 in a battery cell factory 710 at first, then the battery cell 7102 is directly transported to a terminal assembling plant 720, and the battery cell 7102 is electrically connected with a main board 7201 integrated with a protection circuit and is assembled with another material 7202 to form an electronic terminal 7203 in the terminal assembling plant 720. That is, two places, i.e. the battery cell factory 710 and the terminal assembling plant 720, are required by production of the electronic terminal in the embodiment, and an intermediate packaging plant 711 is eliminated, so that transportation and storage times may be reduced, and a material preparation cycle for materials such as the protective board may be reduced.

According to the embodiment, the battery cell for the electronic terminal is required to be provided with the protection circuit on the basis of a safety requirement, the protection circuit is integrated to the main board body to form the main board so that the main board can be directly connected with the battery cell, in this way, not only may a space occupied by the protective board be saved to enlarge a size of the battery cell and thus increase electric capacity, but also a transportation proc-
Other embodiments of the present invention will be apparent to those skilled in the art from consideration of the specification and practice of the present invention. This application is intended to cover any variations, uses, or adaptations of the present invention following the general principles thereof and including such departures from the present invention as come within known or customary practice in the art. It is intended that the scope of the present invention only be limited by the appended claims.

Claims

1. A protective main board (100) for a battery cell, comprising:

   a main board body (101), provided with a main board circuit (103) and a protection circuit (104) configured to protect the battery cell; and
   a conducting component (102), arranged on the main board body (101) and comprising a first conducting part (1021) and a second conducting part (1022), the battery cell being electrically connected with the protection circuit (104) through the first conducting part (1021) and the second conducting part (1022).

2. The protective main board (100) for a battery cell according to claim 1, further comprising a first welding layer arranged on the protection circuit (104), wherein the first conducting part (1021) and the second conducting part (1022) are electrically connected with the protection circuit (104) through the first threaded structure.

3. The protective main board (100) for a battery cell according to claim 1, further comprising a first threaded structure arranged on an outer surface of the protection circuit (104), wherein the first conducting part (1021) and the second conducting part (1022) are electrically connected with the protection circuit (104) through the first threaded structure.

4. The protective main board (100) for a battery cell according to claim 3, wherein the first threaded structure comprises: at least two first screws and at least two first gaskets, and the first screws are positioned on upper surfaces of the first gaskets.

5. The protective main board (100) for a battery cell according to claim 1, wherein the first conducting part (1021) is a steel sheet, and the second conducting part (1022) is a steel sheet.

6. An electronic terminal, comprising the main board (100) according to any one of claims 1 to 5 and further comprising a battery cell (200) having a first tab (2001) and a second tab (2002), wherein the first tab (2001) and the second tab (2002) are arranged on a same side of the battery cell (200) respectively; and the first tab (2001) is electrically connected with the first conducting part (1021), and the second tab (2002) is electrically connected with the second conducting part (1022).

7. The electronic terminal according to claim 6, wherein the condition that the first tab (2001) is electrically connected with the first conducting part (1021) and the second tab (2002) is electrically connected with the second conducting part (1022) comprises: a second welding layer (303) is arranged on the protection circuit (104), the first tab (2001) is electrically connected with the first conducting part (1021) through the second welding layer (303), and the second tab (2002) is electrically connected with the second conducting part (1022) through the second welding layer (303).

8. The electronic terminal according to claim 6, wherein the condition that the first tab (2001) is electrically connected with the first conducting part (1021) and the second tab (2002) is electrically connected with the second conducting part (1022) comprises: a second threaded structure is arranged on the protection circuit (104), the first tab (2001) is electrically connected with the first conducting part (1021) through the second threaded structure, and the second tab (2002) is electrically connected with the second conducting part (1022) through the second threaded structure.

9. The electronic terminal according to claim 8, wherein the second threaded structure comprises: at least two second screws (405) and at least two second gaskets (406), and the second screws (405) are positioned on upper surfaces of the second gaskets (406).

10. The electronic terminal according to claim 6, further
comprising:

a conductive connecting layer (501) arranged respectively on the first conducting part (1021) and the second conducting part (1022), wherein the battery cell (200) is electrically connected with the first conducting part (1021) and the second conducting part (1022) through the conductive connecting layer (501), and the conductive connecting layer (501) is a conductive adhesive tape.

11. A method for assembling a battery cell of an electronic terminal, comprising:

integrating (S601) a protection circuit configured to protect the battery cell to a main board body; arranging (S602) a conducting component on the main board body, the conducting component comprising a first conducting part and a second conducting part; and electrically connecting (S603) the battery cell with the protection circuit through the first conducting part and the second conducting part.

12. The method for assembling a battery cell of an electronic terminal according to claim 11, wherein electrically connecting (S603) the battery cell with the protection circuit through the first conducting part and the second conducting part comprises:

forming a first tab and a second tab on the battery cell, and forming a second welding layer on the protection circuit; electrically connecting the first tab with the first conducting part through the second welding layer; and electrically connecting the second tab with the second conducting part through the second welding layer.

13. The method for assembling a battery cell of an electronic terminal according to claim 11, wherein electrically connecting (S603) the battery cell with the protection circuit through the first conducting part and the second conducting part comprises:

arranging a second threaded structure on the protection circuit; electrically connecting the first tab with the first conducting part through the second threaded structure; and electrically connecting the second tab with the second conducting part through the second threaded structure.

14. The method for assembling a battery cell of an electronic terminal according to claim 11, wherein electrically connecting (S603) the battery cell with the protection circuit through the first conducting part and the second conducting part comprises:

arranging a conductive connecting layer on the first conducting part and the second conducting part; and electrically connecting the battery cell with the first conducting part and the second conducting part through the conductive connecting layer, the conductive connecting layer being a conductive adhesive tape.
a protection circuit configured to protect a battery cell is integrated to a main board body

a conducting component is arranged on the main board body, the conducting component including a first conducting part and a second conducting part

the battery cell is electrically connected with the protection circuit through the first conducting part and the second conducting part
### DOCUMENTS CONSIDERED TO BE RELEVANT

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The present search report has been drawn up for all claims.

### PLACE OF SEARCH

- **Munich**

**Date of completion of the search:** 4 May 2017

**Examiner:** Kelly, Michael
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**The present search report has been drawn up for all claims**

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