What is claimed is:

1. A button-type lithium ion battery, characterized by comprising:

a metal housing (31);

a cell (9, 18), received in the metal housing (31);

a terminal (6, 15), disposed on an outside of the metal housing (31);

at least one first electrode tab (10, 19), arranged on the cell (9, 18) and electrically connected to the metal housing (31);

at least one second electrode tab (4, 13), arranged on the cell (9, 18) and electrically connected to the terminal (6, 15); and

an insulating member (5, 14) disposed between the metal housing (31) and the terminal (6, 15);

wherein the insulating member (5, 14) is insulating and sealing the metal housing (31) and the terminal (6, 15); a polarity of the at least one first electrode tab (10, 19) is opposite to that of the at least one second electrode tab (4, 13); a polarity of the metal housing (31) is opposite to that of the terminal (6, 15); the metal housing (31) and the terminal (6, 15) are sealed to the insulating member (5, 14) by means of heat or adhesion; a first insulating layer (21, 22) is arranged between the at least one second electrode tab (4, 13) and the metal housing (31).

2. The button-type lithium ion battery according to claim 1, wherein an outer surface of the metal housing (31) contacting the insulating member (5, 14), and an outer surface of the terminal (6, 15) contacting the insulating member (5, 14) are both surface-treated with metal passivation or complexation.

3. The button-type lithium ion battery according to claim 1, wherein a second insulating layer is arranged on a portion of outer surfaces of the at least one second electrode tab (4, 13) toward the metal housing (31).

4. The button-type lithium ion battery according to claim 1, wherein the metal housing (31) comprises a metal shell (1, 12), and a cover plate (2, 11) disposed at a side of the metal shell (1, 12) and sealing connected to the metal shell (1, 12); the cell (9, 18) is received in the metal shell (1, 12); the at least one first electrode tab (10, 19) is electrically connected to the metal shell (1, 12) or the cover plate (2, 11); the terminal (6, 15) is disposed on an outer side of the metal shell (1, 12) or the cover plate (2, 11), and insulating and sealing the metal shell (1, 12) or the cover plate (2, 11) via the insulating member (5, 14).

5. The button-type lithium ion battery according to claim 4, wherein a safety vent (3, 20) is arranged on an inner or outer surface of the metal shell (1, 12), the cover plate (2, 11) or the terminal (6, 15) to vent an internal overpressure.

6. The button-type lithium ion battery according to claim 4, wherein an injection hole (7, 16) is defined on a surface of the metal shell (1, 12) or the cover plate (2, 11); a cover sheet (8, 17) is arranged on an outside of the metal shell (1, 12) or the cover plate (2, 11) for sealing the injection hole (7, 16).

7. The button-type lithium ion battery according to claim 6, wherein a safety vent (3, 20) is arranged on an inner or outer surface of the cover sheet (8, 17) to vent an internal overpressure.

8. The button-type lithium ion battery according to claim 5, wherein the safety vent (3, 20) is configured to relieve an exhaust pressure.

9. The button-type lithium ion battery according to claim 7, wherein the safety vent (3, 20) is configured to relieve an exhaust pressure.

10. The button-type lithium ion battery according to claim 1, wherein the insulating member (5, 14) is made of non-metallic materials comprising one or more of polypropylene, polyethylene, polyetheretherketone, polyfluoroalkoxy, nylon, or epoxy resins.

11. The button-type lithium ion battery according to claim 1, wherein the cell (9, 18) is a winding structure, or a stacking structure stacked in a continuously cycling sequence of cathodes, separators and anodes; the separators are made into a bag type, enclosing the cathodes or the anodes; the cathodes are connected in parallel with each other; the anodes are connected in parallel with each other.