

ABSTRACT

The present application relates to the technical field of lithium batteries, and provides a lithium-ion battery, a charging method, and a lithium-ion battery system; the lithium-ion battery includes a case, a cell, and an electrolyte solution; the cell includes a positive electrode plate, a negative electrode plate, and a separator; a negative electrode active material includes graphite; a positive electrode active material includes lithium-containing phosphate and a carbon layer located on a surface of the lithium-containing phosphate; the thickness of an active material layer on one surface of the negative electrode plate is 50-95 μm ; the thickness of an active material layer on one surface of the positive electrode plate is 60-105 μm ; Dv50 of the negative electrode active material is 10-30 μm ; a graphitization degree of the negative electrode active material is greater than or equal to 90%; a capacity of the lithium-ion battery is shown as $500\text{Ah} < L \leq 700\text{Ah}$, and an actual gas storage space v of the lithium-ion battery is $>190\text{cm}^3$; an explosion-proof valve of the lithium-ion battery will not be forced open under normal use conditions, the lithium-ion battery has the capability of resisting high-temperature abnormalities, and the risk of scrapping of the lithium-ion battery due to that the explosion-proof valve is forced open can be reduced.

FIG. 1