混合电动汽车用高功率型锂离子电池

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摘要：研制了 40 Ah 混合电动汽车(HEV)用高功率型锂离子动力电池。放电测试结果显示：电池大电流输出能力良好，最大脉冲功率达 898 W/kg。电池循环 200 次(25 ℃，1 C)的容量保持率大于 90%，表现出优异的循环性能；电池-20 ℃与 55 ℃的 1 C 放电容量分别为常温下的 96.63%和 103%，具有良好的温度适应能力。安全测试显示：电池具有较强的抗过充能力。

关键词：高功率锂离子电池；混合电动汽车；脉冲功率
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High-power Li-ion batteries for hybrid electric vehicles

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Abstract: 40 Ah high-power Li-ion batteries were developed. Discharge test showed that it could be discharged with high current and the maximum discharge pulse power of the battery was 898 W/kg. After 200 cycles at 25 ℃with 1 *C* rate ,the battery retained 95% of its initial capacity. The discharge capacity at -20 ℃ and 55 ℃ retained 96.63% and 103% of its capacity at normal temperature , it had good adaptability for temperature. Overcharge behavior of the battery was studied and it had strong tolerance to overcharging.

Key words: high-power Li-ion battery；hybrid electric vehicles(HEV)；pulse power