



CS5090E:

CS5090E is a 5V input, maximum 1.5A charging current, supports dual-cell lithium battery series application, and is a boost charging management IC for lithium-ion batteries.

CS5090E integrates power MOS and adopts asynchronous switch architecture, so that it only requires very few peripheral devices when applied, which can effectively reduce the overall solution size and reduce BOM cost. The operating frequency of CS5090E's boost switch charging converter is 500 KHz and the conversion efficiency is 90%.

CS5090E has an input voltage of 5V and a built-in adaptive loop, which can intelligently adjust the charging current to prevent the adapter output from being pulled down, and can match all adapters. CS5090E provides a small ESOP8L package type for customers to choose, and its rated operating temperature range is -40 degrees to 85 degrees.

Main functions of CS5090E:

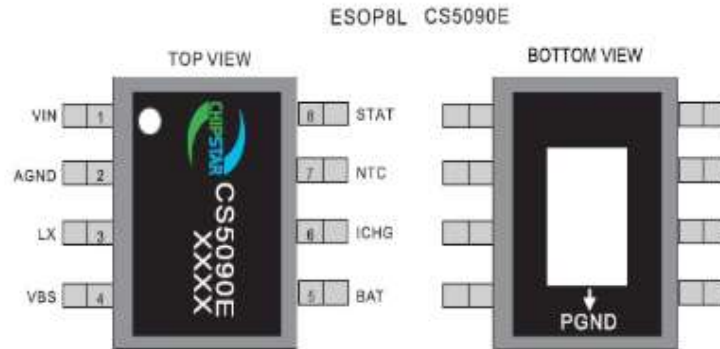
Charging current control: This IC precisely controls the charging current to prevent damage to the battery due to excessive current.

Charging voltage control: It also controls the charging voltage to prevent overcharging and damage to the battery.

Overcharge protection: In the event of conditions such as short circuit or overload, this IC automatically cuts off the charging current to protect the battery and circuit from damage.

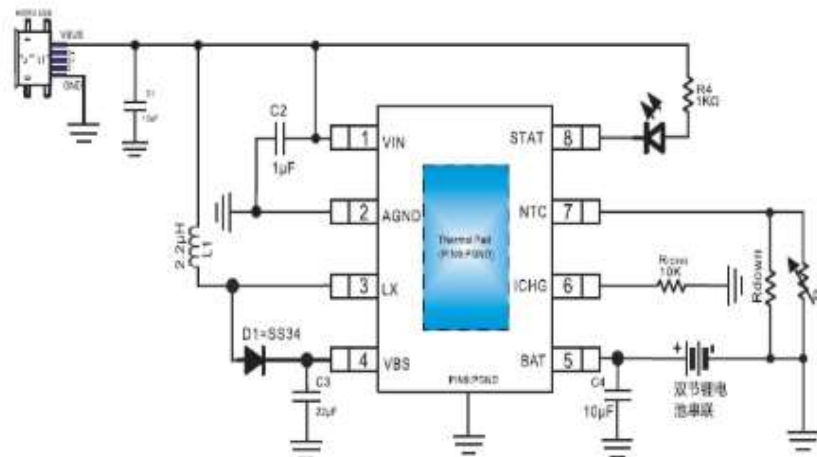
Over discharge protection: It also prevents the battery from being over discharged to extend the useful life of the battery.

Float charge mode: After the battery reaches full voltage, it goes into float charge mode to keep the battery at a constant voltage.



| CS5090E管脚 | 说明 | 输入/输出 | 功能 |
|-------------|------|-------|---------------------------|
| 1 | VIN | 电源 | 电源 |
| 2 | AGND | 地 | 模拟地 |
| 3 | LX | 输入 | 开关节点,电感连接端 |
| 4 | VBS | 输出 | Boost升压输出端 |
| 5 | BAT | 电源 | 电池连接端 |
| 6 | ICHG | 输入 | 充电电流控制端口,通过与GND连接电阻大小控制电流 |
| 7 | NTC | 输入 | 热敏电阻输入端,通过外接热敏电阻检测电池温度 |
| 8 | STAT | 输出 | 充电状态指示端口 |
| Thermal PAD | PGND | 地 | 功率地 |

典型应用图



CS5090E applications:

Lithium battery chargers: It is used in lithium battery chargers for various types of devices such as smartphones, tablets, smart watches, Bluetooth speakers, etc.

Power banks: Used in portable power banks to charge various devices.

Portable electronics: Used in many portable electronics that use lithium batteries as an internal component to manage battery charging.