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## METHOD TO SHUT DOWN BATTERY POWER SUPPLY WHEN BACK-COVER IS REMOVED

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**Method to shut down battery power supply when back-cover is removed**

Disclosed is a method to automatically shut down systems’ main battery power supply when back cover is lifted. By removing the battery power, the system is cut off from its power source thus eliminate the possibility of shorting. Once the back cover is replaced back, the system should resume to its normal operation mode.

There are two methods that can achieve this behavior. Method one is to use the back cover as a conductive path for the motherboard. Please refer to Figure one below.

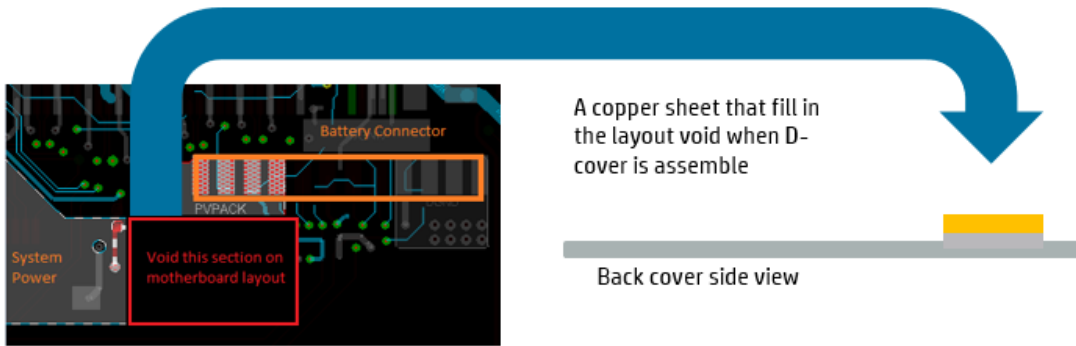


Figure 1 Back Cover as Conductive Path

Method two takes advantage of ICs to monitors changes between motherboard and back cover. Once a drastic change is detected, it will notify system’s EC to stop charging from its power source. Please refer to diagram 2 for flow chart. There are currently many IC available to detect distance. For example, a Pressure Monitoring IC can be placed under a central screw. As soon as this IC detects a change in its pressure reading, it will notify EC controller. Once the reading has exceeded a threshold value, EC will ask charger IC to stop supplying power to the system. Similar, this pressure IC can be change to ultrasonic sonar sensor, eddy current sensor, capacitive distance sensor or laser sensor. Any sensors with the capability to detect distance can be implement in this case.

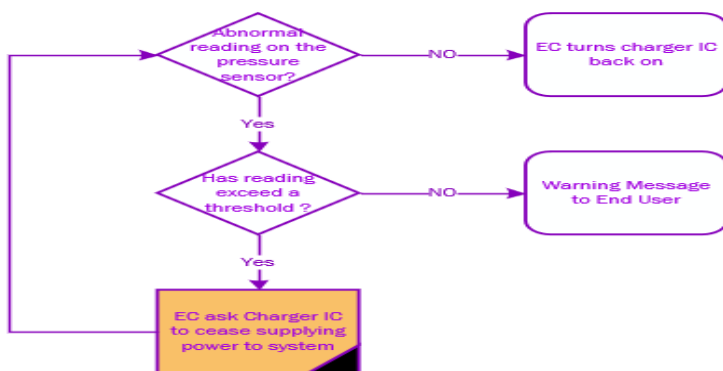


Figure 2 Battery Shutdown Flowchart

Figure

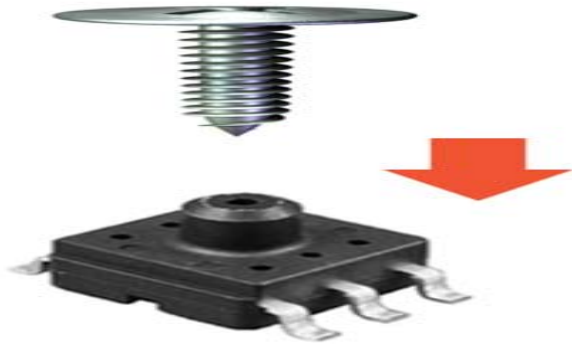


Figure 3 Screws on pressure sensor

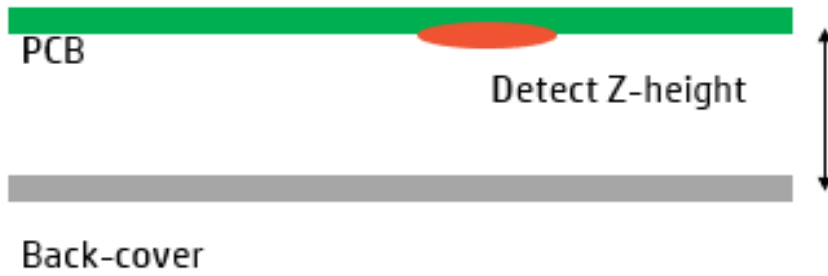


Figure 4 Sensors on PCB to detect Z height change

*Disclosed by Cheng-Kai Chen, Alex Chou and Isa Cheng, HP Inc.*