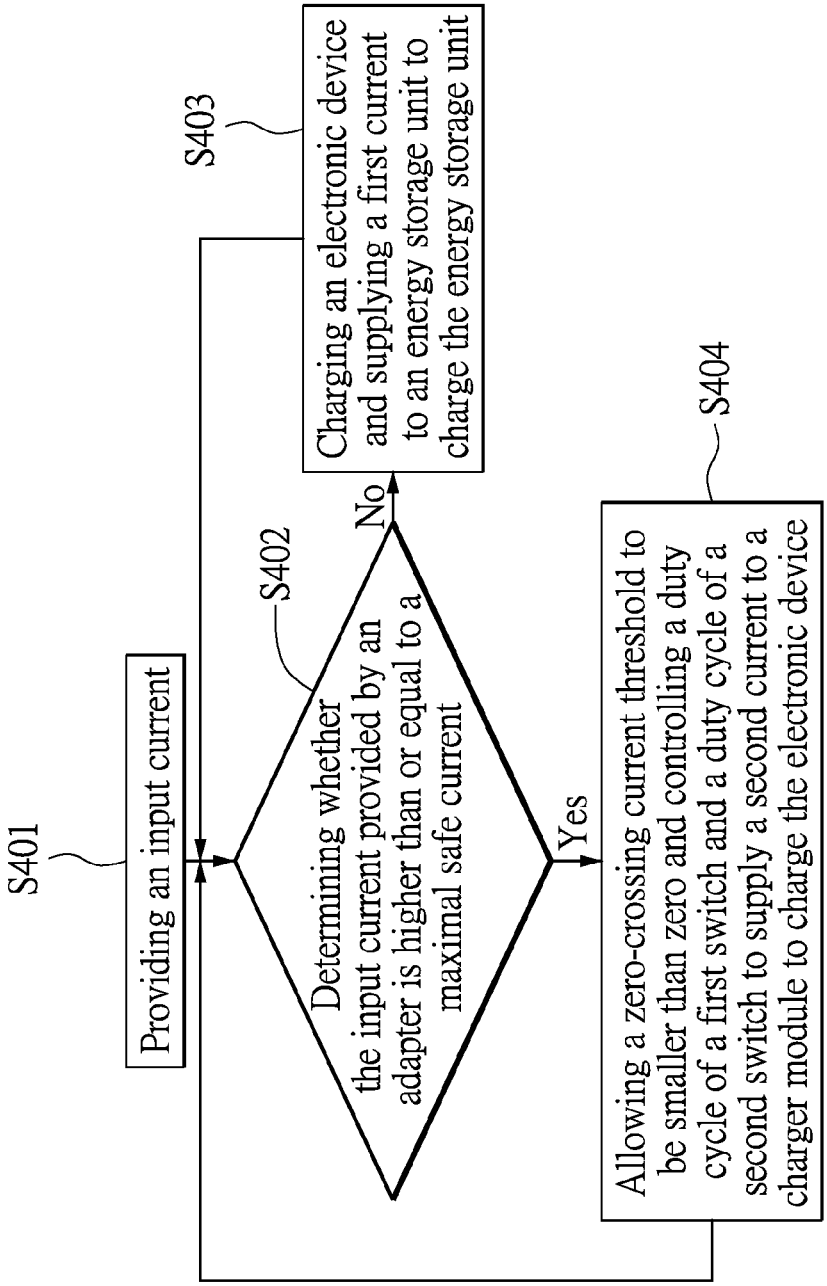
S401
Providing an input current
S402
Determining whether the input current provided by an adapter is higher than or equal to a maximal safe current
No
S403
Charging an electronic device and supplying a first current to an energy storage unit to charge the energy storage unit
Yes
S404
Allowing a zero-crossing current threshold to be smaller than zero and controlling a duty cycle of a first switch and a duty cycle of a second switch to supply a second current to a charger module to charge the electronic device

FIG.4