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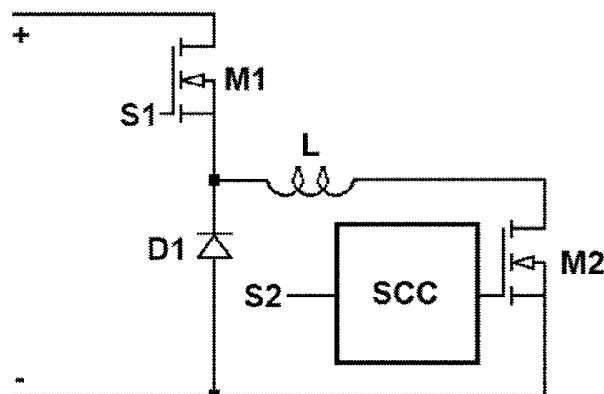


Fig. 1

(57) **Abstract:** The present invention discloses a system for controlling an inductor freewheeling voltage comprising a first switch, a second switch, a first diode, an inductor. The first switch is connected such that, in open state, it will connect a first terminal of the inductor with a power bus and that the first switch is controlled by a first control signal. A first terminal of the first diode is connected to a ground, and a second terminal of the first diode is connected to the first terminal of the inductor. The first diode is connected such that it allows an electric current to pass from the ground to the first terminal of the inductor. The second switch connected such that, in open state, it will connect a second terminal of the inductor with the ground. The system further comprises a switch control circuit, which is configured to be controlled with a second control signal, delivered to an input terminal of the switch control circuit, such that in a first state of the second control signal the switch control circuit keeps the second switch open and in a second state of the second control signal the switch control circuit keeps the second switch such that there is a voltage drop across the second switch.

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