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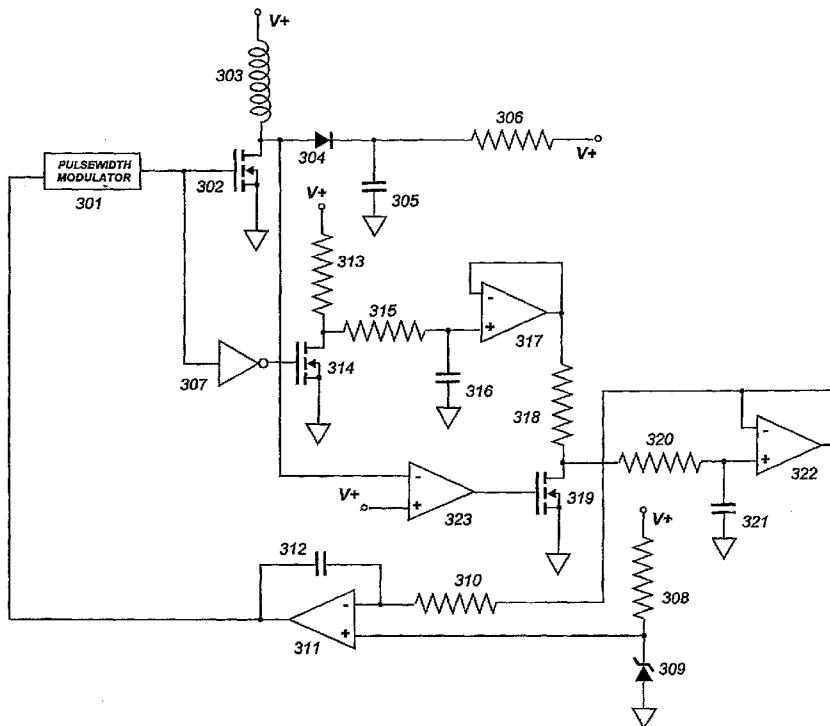
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(54) Title: IMPROVED METHOD OF DETECTING SWITCHING POWER SUPPLY OUTPUT CURRENT



(57) Abstract: A method and apparatus for detecting output current in switching power supplies forgoes the need for any resistor or other components in series with the load. A method according to the invention includes the steps of inferring the peak current through the inductor as a function of input voltage and inductor charge time, and deriving the current available to the load based upon the flyback voltage during discharge of the inductor. Although a disclosed example is based upon a buck/boost topology, other converter topologies are anticipated. In terms of apparatus, in a switching power supply of the type wherein a switching device is used to charge an inductor that discharges to a load, the invention provides devices arranged for detecting output current without the need for a resistor or other component in series with the load. In the preferred embodiment,

these devices include electrical components operative to generate a signal indicative of peak inductor current, and a switch for switching the signal to provide a waveform, the integral of which is proportional to peak inductor current multiplied by the duty cycle of the discharge of the inductor. Circuitry is further used for comparing the waveform to a fixed reference so as to output a signal indicative of load current.

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