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(54) Voltage loss compensation for dc-dc converters

(57) A DC-DC converter (100) having an input node receiving an input voltage  $V_{IN}$  and an output that provides power to a load circuit. A pulse width modulation (PWM) unit (201) is coupled to chop  $V_{IN}$  into a square wave under control of a  $V_{DRIVE}$  signal. An output stage (207) converts the chopped  $V_{IN}$  to an output voltage  $V_{OUT}$  coupled to an output node (203). A parasitic im-

pedance is coupled between the output node (203) and the load circuit as a result of resistance in the circuit board wiring and I/O pins. A reference voltage generator provides a voltage  $V_{REF}$  while an offset voltage generator provides a compensation voltage representing a voltage drop across the parasitic impedance ( $V_{LDR}$ ). A comparator unit receives  $V_{OUT}$ ,  $V_{REF}$ , and  $V_{LDR}$  and is coupled to the PWM unit to provide the  $V_{DRIVE}$  signal.

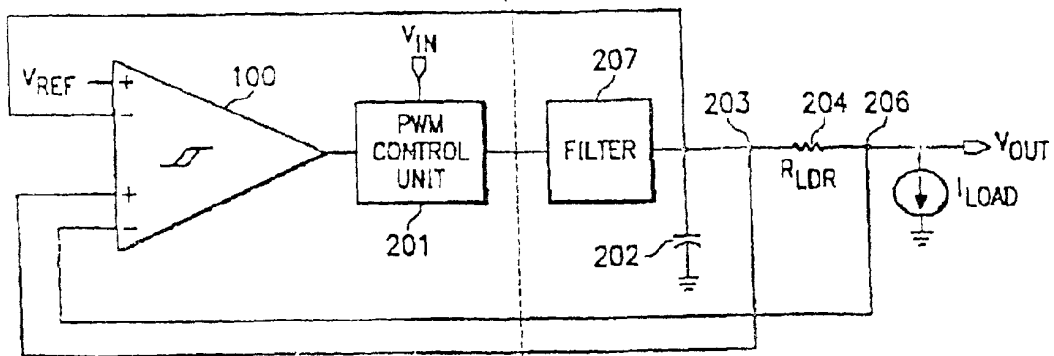


FIG. 2



