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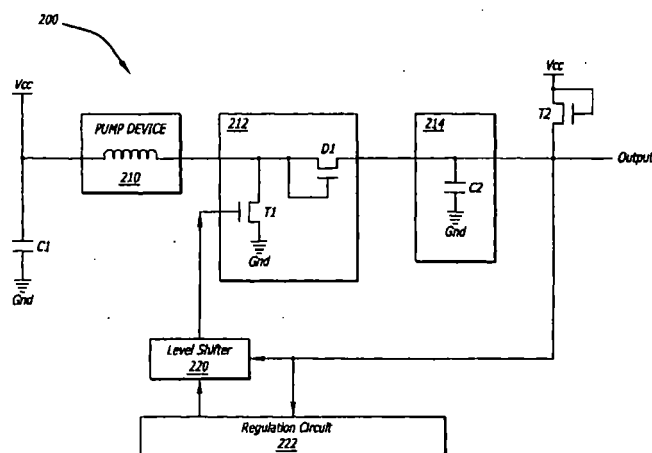
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(54) Title: REGULATOR DESIGN FOR INDUCTIVE BOOSTER PUMP USING PULSE WIDTH MODULATION TECHNIQUE



(57) Abstract: A DC voltage boost circuit including a regulation circuit that produces a pulse width modulated control signal for regulating the output of the DC voltage boost circuit. Various embodiments of regulation circuits are disclosed. In one embodiment, the regulation circuit includes a waveform generator for generating a triangular waveform and a comparator for producing the pulse width modulated control signal by comparing the triangular waveform with a voltage that varies proportional to the booster output voltage. In another embodiment, the regulation circuit includes a waveform generator for generating a sawtooth waveform whose rise time varies inversely with the booster output voltage and a comparator for producing the pulse width modulated control signal by comparing the modulated sawtooth waveform with a substantially constant voltage. Yet, in another embodiment, the regulation circuit includes a counter for generating a count that sequentially cycles in response to a clock signal, wherein the counter is reset in response to change in the booster output voltage, and a logic circuit for generating the pulse width modulated control signal from the count.

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