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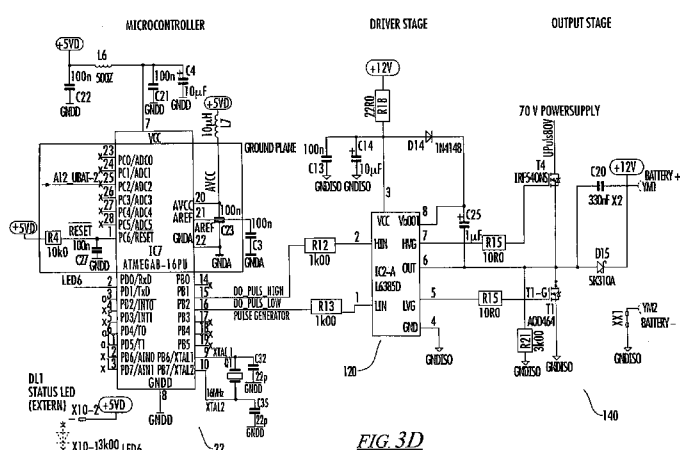
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(54) Title: BIPOLAR OVERVOLTAGE BATTERY PULSER AND METHOD



(57) Abstract: A bipolar overvoltage battery pulser and method are provided that apply a positive pulse voltage and a negative pulse voltage alternately across the terminals of a battery. The object of the bipolar overvoltage battery pulser and method is to increase the cycle lifetime and capacity of storage batteries, such as lead acid batteries. The rise times for the leading edges of the positive pulses and for the trailing edges of the negative pulses are short compared to the ionic relaxation time in the electrochemical solution. Alternating between the positive and negative pulses gives each new pulse an equal starting condition without realizing any memory effect that otherwise may result if the last applied pulse was of the same polarity, which reduces the extent of overvoltage that may be applied to the battery and decrease the highest useable pulse cycling frequencies that could be achieved without experiencing pulse overlapping. The shape, type and timing of the pulses may be adjusted to create overvoltage pulses having high duration and amplitude.