

Reduction of Peak Input Currents during Charge Pump Boosting in Monolithically Integrated High-Voltage Generators

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Abstract : This paper describes two methods for the reduction of the peak input current during the boosting of Dickson charge pumps. Both methods are implemented in the fully integrated Dickson charge pumps of a high-voltage display driver chip for smart-card applications. Experimental results reveal good correspondence with Spice simulations and show a reduction of the peak input current by a factor of 6 during boosting

Keywords : bi-stable display driver, Dickson charge pump, high-voltage generator, peak current reduction, sub-pump boosting, variable frequency boosting

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