ABSTRACT

DYNAMICALLY ADJUSTABLE DECOUPLING CAPACITANCE TO REDUCE GATE LEAKAGE CURRENT

A new method to reduce switching noise on an integrated circuit device is achieved. The method comprises providing an integrated circuit device comprising a power supply, a ground, and a plurality of switchable capacitors. Each switchable capacitor is connected from the power supply to ground. The operating mode of the integrated circuit device is tracked. An optimal capacitance value is selected based on the operating mode. A set of switchable capacitors from the plurality of switchable capacitors is selected to thereby connect the optimal capacitance value from the power supply to ground.

(FIG. 6)