Abstract

The Low-Dropout voltage regulators are significant part of VLSI design integrated chips and are used to provide steady supply voltage to noise sensitive analog/RF circuit blocks. It belongs to class of linear regulators designed to minimize the saturation of output pass transistor and its drive requirements. A capacitor-less low-dropout regulator with improved performance push–pull power transistor is described in the paper. The proposed LDO is stable over a wide range of load current and implemented in 65-nm CMOS process technology. The simulation illustrates that the regulator is able to convert VIN of 0.65V-1.5V to output voltage of 0.5V. This LDO achieves power supply rejection of >40dB at 1 kHz operating frequency. It consumes a quiescent current less than 10 uA. It is capable of delivering a maximum load current of 70 mA with a dropout voltage of less than 220 mV.

References

Low Power Dropout Regulators with Efficiently Controlled Transient Response


Index Terms

Computer Science

Power Electronics

Keywords

Low dropout, regulators, low quiescent current, enhanced, capacitor-less.