

PSRR Enhanced LDO Regulator Using Noise Sensing Circuit

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Abstract : In this paper, we presented the LDO (low-dropout) regulator which enhanced the PSRR by applying the constant current source generation technique through the BGR (Band Gap Reference) to form the noise sensing circuit. The current source through the BGR has a constant current value even if the applied voltage varies. Then, the noise sensing circuit, which is composed of the current source through the BGR, operated between the error amplifier and the pass transistor gate of the LDO regulator. As a result, the LDO regulator has a PSRR of -68.2 dB at 1k Hz, -45.85 dB at 1 MHz and -45 dB at 10 MHz. the other performance of the proposed LDO was maintained at the same level of the conventional LDO regulator.

Keywords : LDO regulator, noise sensing circuit, current reference, pass transistor

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