Description

This current source is a voltage to current converter where \( V_{\text{BIAS}} \) is the voltage that set the voltage for the converter. This voltage is mirrored via the op amp to the inverting input and applied across the current setting resistor \( R_{\text{SET}} \). The current output \( I_0 \) is directly determined by the equation: \( I_0 = \frac{V_{\text{BIAS}}}{R_{\text{SET}}} \). This current source can supply very low currents accurately. Optionally, \( V_{\text{BIAS}} \) can also be set precisely by using an EPAD(R) MOSFET such as the ALD1108E. To increase current output, the current output MOSFET can be built by parallel connection of \( n \) number of MOSFETs (all the drain terminals connected to each other, all the sources connected together and all gates shorted together). Alternatively, a power MOSFET can be employed to boost current output.

For full schematic diagram and notes, please register and login at aldinc.com