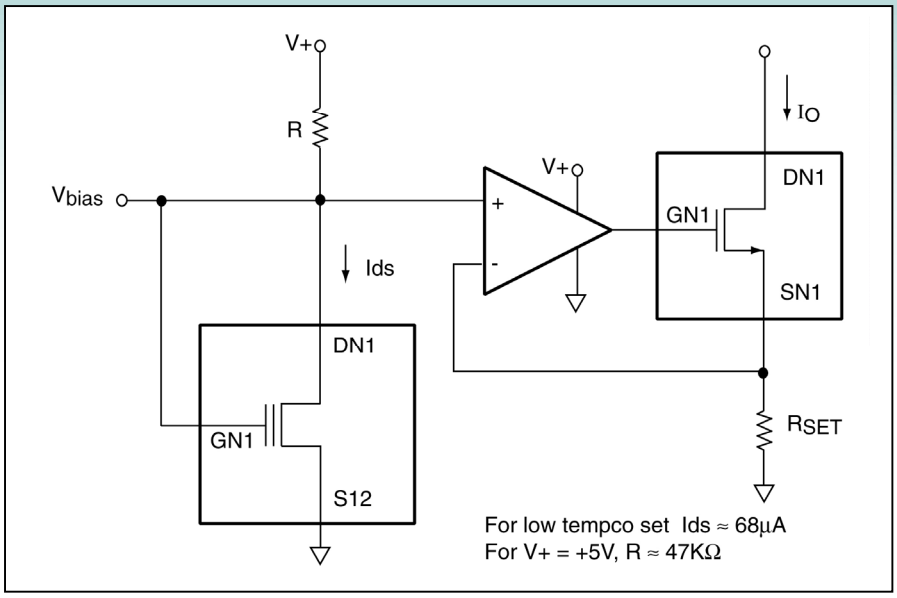
Category: Current Source **CIRCUIT IDEAS FOR DESIGNERS** Schematic no. cs_11006.0

Buffered Current Source



Description

This current source is a voltage to current converter where VIBES 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 RSET. The current output IO is directly determined by the equation: IO = VBIAS/RSET. This current source can supply very low currents accurately. Optionally, VBIAS 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.

Recommended Components

Current output devices: ½ ALD1102, ¼ ALD1106, ½ ALD1116
Op Amps: ALD1721, ALD1701, ALD1706, ALD1726, ALD1702
Voltage setting MOSFET devices: ½ ALD1102, ¼ ALD1106, ½ ALD1116

Other Related Circuit Ideas

Schematic no. cs_11002.0 Cascode Current Source