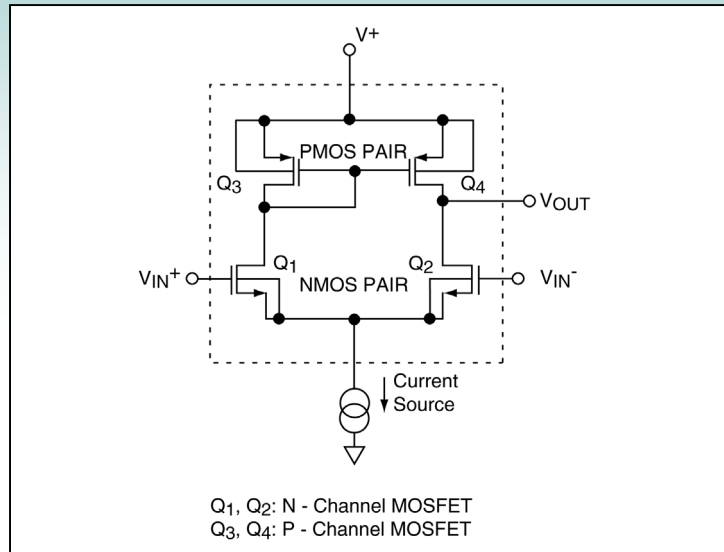




Discrete Differential Amplifier



Description

This is a version of a discrete differential amplifier consisting of an N channel matched-pair MOSFET Array and a P channel matched-pair MOSFET Array. Whenever a circuit required for an application cannot be met by an existing component available as an IC function such as an operational amplifier or a voltage comparator, a discrete circuit version would have to be designed and built. This differential amplifier is biased by a separate external N-channel current source (see current source cs-series circuits). With this type of differential circuit, it is possible to set each individual circuit parameters separately to produce a more optimized differential amplifier circuit for many types of specialized situations and applications. As an example, a differential amplifier operating at less than 1V supply can be constructed. As a second example, an amplifier with the current bias tweaked to run on trickle supply current of mere nano-amperes can be implemented using discrete MOSFET components.

Recommended Components

N channel: ALD1101, ALD1116, 1/2 ALD1106, ALD1108xx

P channel: ALD1102, ALD1117, 1/2 ALD1107

Either N or P channel or both: 1/2 each of ALD1103, ALD1105

Other Related Circuit Ideas

[Schematic no. amp_27006.0 Low Voltage Instrumentation Amplifier](#)