

Category: Current Source



CIRCUIT IDEAS FOR DESIGNERS

Schematic no. cs_11002.0

Cascode Current Source



Description

In cases where the basic current source needs to be more stable over a large output voltage range, a higher output impedance current source may be desired. This is accomplished by putting two current sources in "cascade" to each other as shown. N channel cascode current source uses 4 N channel MOSFETs. The set current is given by the equation: ISET = (V + - VGD1 - VGD3)/ RSET. ISOURCE is equal to ISET for output voltages exceeding VGD1 + VGD3. ISOURCE is a "sink" current to Ground. In the example given in the schematic, if VT = 1.0V, and V+ = 5.0V, then ISOURCE is equal to 3/RSET. A P-channel current source works in the same manner, except that ISOURCE is a "source" current from V+ instead.

Recommended Components

N channel: 2 x ALD1101, ALD1106, ALD1108xx, 2 x ALD1103, 2 x ALD1105 P channel: 2 x ALD1102, ALD1107, 2 x ALD1103, 2 x ALD1105

Other Related Circuit Ideas

Schematic no. cs_11007.0 High Output Impedance Current Source

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