



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: $I_{SET} = (V+ - V_{GD1} - V_{GD3}) / R_{SET}$. I_{SOURCE} is equal to I_{SET} for output voltages exceeding $V_{GD1} + V_{GD3}$. I_{SOURCE} is a "sink" current to Ground. In the example given in the schematic, if $V_T = 1.0V$, and $V+ = 5.0V$, then I_{SOURCE} is equal to $3/R_{SET}$. A P-channel current source works in the same manner, except that I_{SOURCE} is a "source" current from $V+$ instead.

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