Category: Current Source	**CIRCUIT IDEAS FOR DESIGNERS**	Schematic no. cs_11001.0

Basic Current Source

Description

Basic N-channel current source is shown as Q1 and Q2, with Q1 diode-connected. For this circuit the gate leakage currents of Q1 and Q2 are very low when compared to the drain currents, and can be neglected. The drain current of Q1 is then equal to drain current of Q2. The current source setting current is given by $I_{SET} = (V+ - VGD1) / R_{SET}$. The output current I_{SOURCE} is equal to I_{SET} when the output voltage is at VGD2 = VGD1. Likewise the basic P-channel current source using Q3 and Q4 provides an I_{SOURCE} that is set by R_{SET}. Note that the polarity of the currents is different for the two different current sources.

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