Category: Current Source	CIRCUIT IDEAS FOR DESIGNERS	Schematic no. cs_11003.0

Current Source Mirror

Description

This current source can be built within a single IC package. The high input gate impedance of Q1 and Q2 eliminates any gate leakage current considerations in most cases, resulting in equal gate voltages of Q1 and Q2. Substantially all of the I_{SET} current becomes the drain current of Q1. Drain current of Q2 is mirrored to that of drain current of Q3. Again, very low gate leakage currents of Q3 and Q4 assures that gate voltages of Q3 and Q4 are equal. When drain voltage of Q4 is at drain voltage of Q3, drain current of Q4 (I_{SOURCE}) is equal to drain current of Q3. Efforts should be made to set drain voltage values of Q1 and Q2 as close to each other possible. Likewise, drain voltages of Q3 should be equal to that of Q4. If these voltages are significantly different from each other, then a cascode current source configuration should be considered.

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