

Title (en)
Integrated constant-current source.

Title (de)
Integrierte Konstantstromquelle.

Title (fr)
Source de courant constant intégrée.

Publication
EP 0169388 A1 19860129 (DE)

Application
EP 85107776 A 19850624

Priority
DE 3426166 A 19840716

Abstract (en)
[origin: US4651083A] An integrated constant-current source having an operational amplifier with an inverting input to which a reference voltage is feedable, and an output; a first stage to which the output is coupled and by which the output voltage of the operational amplifier is converted to a first current, the first stage being in a circuit wherein a reference resistor is connected from which, for coupling a voltage dropping across the reference resistor, the reference resistor is coupled to a non-inverting input of the operational amplifier; and a second stage coupled to the output of the operational amplifier for converting the output voltage of the operational amplifier to a second current, the second stage being in a circuit wherein a current reflector is connected for supplying an output current which is constant in a first approximation, the integrated constant current source includes a third stage coupled to the output of the operational amplifier and converting the output voltage thereof into another current, the third stage being in a circuit wherein another current reflector is connected, and another stage coupled to the reference resistor, the other current reflector conducting reflected current and having a stage thereof connected in a circuit wherein the other stage coupled to the reference resistor is also connected.

Abstract (de)
Integrierte Konstantstromquelle mit einem Operationsverstärker (OP) zum Vergleich einer Referenzspannung (Uref) mit einem von dessen Ausgangssignal abgeleiteten Vergleichssignal zur Konstanthaltung eines von einem ersten Stromspiegel (T3,T4) aus dem Operationsverstärker-Ausgangssignal abgeleiteten Ausgangsströms (Ia), bei der zur Eliminierung von durch die Basisströme sowie des Early-Effektes von Transistoren (T3,T4) des ersten Stromspiegels (T3,T4) bedingten Schwankungen des Ausgangsströms (Ia) ein zweiter Stromspiegel (T7,T8) vorgesehen ist, in den ein vom Vergleichssignal abgeleiteter Fehlerstrom einspeisbar ist und der mit dem den Ausgangsstrom (Ia) liefernden ersten Stromspiegel (T3,T4) über einen Spannungsfolger (OP1) gekoppelt ist.

IPC 1-7
G05F 1/56

IPC 8 full level
G05F 1/56 (2006.01)

CPC (source: EP KR US)
G05F 1/56 (2013.01 - KR); **G05F 1/561** (2013.01 - EP US)

Citation (search report)
• [A] DE 2844745 A1 19800424 - KUSCHNER JURIJ KONSTANTINOVITS
• [A] DE 3136780 A1 19830331 - SIEMENS AG [DE]

Cited by
EP0268345A3; DE102005022612A1; EP0388802A3; DE10145034A1; DE10145034B4; US7740465B2; US6657479B2

Designated contracting state (EPC)
AT CH DE FR GB IT LI NL

DOCDB simple family (publication)
EP 0169388 A1 19860129; EP 0169388 B1 19880928; AT E37619 T1 19881015; DE 3565328 D1 19881103; JP S6136816 A 19860221; KR 860001374 A 19860226; US 4651083 A 19870317

DOCDB simple family (application)
EP 85107776 A 19850624; AT 85107776 T 19850624; DE 3565328 T 19850624; JP 15586685 A 19850715; KR 850004763 A 19850703; US 75486385 A 19850712