Title (en)

Methods and circuits for providing stable current and voltage references based on currents flowing through ultra-thin dielectric layer components

Title (de)

Verfahren und Schaltungen zur Bereitstellung stabiler Strom- und Spannungsreferenzen auf Grundlage von durch ultradünne dielektrische Schichtkomponenten fließenden Strömen

Title (fr)

Procédés et circuits pour la fourniture de références stables de tension et de courant basées sur des courants s'écoulant à travers des composants de couche diélectrique ultra-mince

Publication

EP 2592521 A2 20130515 (EN)

Application

EP 12007509 A 20121105

Priority

US 201161555309 P 20111103

Abstract (en)

Low-power circuits for providing stable voltage and current references rely on currents flowing through ultra-thin dielectric layer components for operation. A current reference circuit includes driving circuitry operative to apply a voltage to the first terminal of the component with respect to the second terminal of the component in order to cause a current to flow through the dielectric layer, and sources a reference output current that is based on the current flow through the dielectric layer in response to the applied voltage. A voltage reference circuit includes a current source which applies a current to the ultra-thin dielectric layer component, and maintains an output node at a stable reference output voltage level based on the voltage across the ultra-thin dielectric layer component in response to the current flow through the dielectric layer.

IPC 8 full level

G05F 3/24 (2006.01)

CPC (source: EP)

G05F 3/24 (2013.01)

Citation (applicant)

- VADIM IVANOV ET AL., ESSCIRC, 2011
- "Analog Circuits in Ultra-Deep-Submicron CMOS", IEEE JOURNAL OF SOLID STATE CIRCUITS, vol. 40, no. 1, January 2005 (2005-01-01), pages 132 - 143

Cited by

CN112014628A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2592521 A2 20130515; **EP 2592521 A3 20131120**; **EP 2592521 B1 20210310**; CN 103149964 A 20130612; CN 103149964 B 20161026; TW 201324072 A 20130616; TW I570536 B 20170211

DOCDB simple family (application)

EP 12007509 A 20121105; CN 201210436580 A 20121105; TW 101140823 A 20121102