

Title (en)

REFERENCE VOLTAGE GENERATING DEVICE

Publication

**EP 0097338 A3 19841024 (EN)**

Application

**EP 83105935 A 19830616**

Priority

JP 10375682 A 19820618

Abstract (en)

[origin: EP0097338A2] A reference voltage generating device comprises a first MOS transistor whose gate electrode (3011) is formed of an N-type semiconductor of a semiconductive material and a second MOS transistor whose gate electrode (3021) is formed of an intrinsic semiconductor (3021) of the same semiconductor material. In the device, the voltage corresponding to the difference between the Fermi energy levels of the semiconductors (3011, 3021) is derived utilizing the threshold voltage difference ( $V_{th1} - V_{thn+}$ ) between the first and second MOS transistors.

IPC 1-7

**G05F 3/20**

IPC 8 full level

**H01L 27/04** (2006.01); **G05F 3/24** (2006.01); **H01L 21/822** (2006.01); **H01L 29/78** (2006.01)

CPC (source: EP)

**G05F 3/245** (2013.01); **G05F 3/247** (2013.01)

Citation (search report)

- [X] US 4206946 A 19800610 - MAERTENS DONALD E [US]
- [A] GB 2016801 A 19790926 - HITACHI LTD
- [AD] US 4170818 A 19791016 - ASHKIN PETER B [US], et al
- [AD] DE 2951835 A1 19800710 - CENTRE ELECTRON HORLOGER
- [Y] ELECTRONIC ENGINEERING, vol. 52, no. 638, May 1980, pages 65-85, London, GB; M.A. REHMAN: "Integrated circuit voltage reference"
- [AD] IEEE JOURNAL OF SOLID-STATE CIRCUITS, vol. SC-15, no. 3, June 1980, pages 264-269, IEEE, New York, US; H.J. OGUEY et al.: "MOS voltage reference based on polysilicon gate work function difference"

Cited by

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