

Title (en)

FIELD EFFECT TRANSISTOR, CIRCUIT ARRANGEMENT AND METHOD FOR PRODUCTION OF A FIELD EFFECT TRANSISTOR

Title (de)

FELDEFFEKTTRANSISTOR, SCHALTUNGSANORDNUNG UND VERFAHREN ZUM HERSTELLEN EINES FELDEFFEKTTRANSISTORS

Title (fr)

TRANSISTOR A EFFET DE CHAMP, CIRCUIT, ET PROCEDE DE FABRICATION D'UN TEL TRANSISTOR A EFFET DE CHAMP

Publication

**EP 1305834 A1 20030502 (DE)**

Application

**EP 01960126 A 20010719**

Priority

- DE 0102708 W 20010719
- DE 10036897 A 20000728

Abstract (en)

[origin: DE10036897C1] Field effect transistor comprises a gate region (104) between a source region (102) and a drain region (110). The gate region contains a conducting material provided with a passage with a nano-element electrically coupled with the source region and the drain region. The nano-element is arranged and structured in such a way that it can be controlled via gate region and it forms a channel region. An Independent claim is also included for a process for the production of the field effect transistor. Preferred Features: The nano-element is a nano-tube and/or nano-wire. The gate region is a conducting layer. The nano-wire is a silicon nano-wire. The nano-tube is a carbon nano-tube. The nano-element has a heterostructure with an electrically insulating region between a first metallic region and a second metallic region.

IPC 1-7

**H01L 51/20**; **H01L 29/775**; **H01L 21/335**

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

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