

Title (en)
FIELD EFFECT TRANSISTOR HAVING A DOPED GATE ELECTRODE WITH REDUCED GATE DEPLETION AND METHOD OF FORMING THE TRANSISTOR

Title (de)
FELDEFFEKTTRANSISTOR MIT DOTIERTER GATE-ELEKTRODE MIT VERRINGERTER GATE-VERARMUNG UND VERFAHREN ZUR HERSTELLUNG DES TRANSISTORS

Title (fr)
TRANSISTOR A EFFET DE CHAMP MUNI D'UNE ELECTRODE GACHETTE DOPEE PRESENTANT UNE DEPLETION DE GACHETTE REDUITE ET PROCEDE DE FORMATION DUDIT TRANSISTOR

Publication
EP 1649506 A1 20060426 (EN)

Application
EP 04754333 A 20040604

Priority
• US 2004017705 W 20040604
• DE 10335103 A 20030731
• US 79085204 A 20040302

Abstract (en)
[origin: WO2005017992A1] By forming an implantation mask (220) prior to the definition of the drain and the source areas (208), an effective decoupling of the gate dopant concentration from that of the drain and source concentrations is achieved. Moreover, after removal of the implantation mask (220), the lateral dimension of the gate electrode (205) may be defined by well-established sidewall spacer (207) techniques, thereby providing a scaling advantage with respect to conventional approaches based on photolithography and anisotropic etching.

IPC 1-7
H01L 21/336; **H01L 29/49**; **H01L 29/786**

IPC 8 full level
H01L 21/336 (2006.01); **H01L 29/49** (2006.01); **H01L 29/786** (2006.01)

CPC (source: EP KR)
H01L 21/18 (2013.01 - KR); **H01L 29/4908** (2013.01 - EP); **H01L 29/66545** (2013.01 - EP); **H01L 29/66553** (2013.01 - EP); **H01L 29/66621** (2013.01 - EP); **H01L 29/66628** (2013.01 - EP); **H01L 29/78618** (2013.01 - EP)

Citation (search report)
See references of WO 2005017992A1

Designated contracting state (EPC)
DE GB

DOCDB simple family (publication)
WO 2005017992 A1 20050224; EP 1649506 A1 20060426; JP 2007500936 A 20070118; KR 101180976 B1 20120907; KR 20060054407 A 20060522

DOCDB simple family (application)
US 2004017705 W 20040604; EP 04754333 A 20040604; JP 2006521819 A 20040604; KR 20067002206 A 20040604