

Title (en)
IN x?Ga 1-x?P STOP-ETCH LAYER FOR SELECTIVE RECESS OF GALLIUM ARSENIDE-BASED EPTITAXIAL FIELD EFFECT TRANSISTORS AND PROCESS THEREFOR

Title (de)
INXGA1-XP ÄTZSTOPPSCHICHT FÜR SELEKTIF GEFORMTEN GRABEN VON EPITAXIALEN FELDEFFEKTTRANSISTOREN BASIERT AUF GALLIUMARSENID UND DIESBEZÜGLICHES HERSTELLUNGSVERFAHREN

Title (fr)
COUCHE DE CONTACT DE GRAVURE IN x?Ga 1-x?P POUR LA CREATION SELECTIVE D'EVIDEMENTS DANS LA FABRICATION DE TRANSISTORS A EFFETS DE CHAMP EPITAXIAUX DE TYPE GA-AR

Publication
EP 1034569 A2 20000913 (EN)

Application
EP 98960406 A 19981123

Priority
• US 9825011 W 19981123
• US 6653997 P 19971126
• US 12114498 A 19980723

Abstract (en)
[origin: WO9927586A2] The present invention is drawn to an InxGa1-xP etch-stop layer for improving the uniformity of devices across an epitaxial wafer incorporating a high-low-high MESFET structure. The range of permissible values of x will vary as a function of the thickness of the etch-stop layer. To this end, preferably x is on the order of 0.5 in order to maintain lattice match with the GaAs substrate. Also, a novel process for selective recess etching of GaAs field-effect transistors is disclosed. The present invention envisions the use of a relatively thin (10-30 Angstrom) layer of the InxGa1-xP material to effect the selective recess etching of the material to a point where a relatively uniform thickness of n material remaining above the channel layer is realized.

IPC 1-7
H01L 29/812; **H01L 21/338**

IPC 8 full level
H01L 21/285 (2006.01); **H01L 21/306** (2006.01); **H01L 21/338** (2006.01); **H01L 29/812** (2006.01)

CPC (source: EP KR)
H01L 21/18 (2013.01 - KR); **H01L 21/28587** (2013.01 - EP); **H01L 21/30612** (2013.01 - EP); **H01L 29/66863** (2013.01 - EP); **H01L 29/8128** (2013.01 - EP)

Citation (search report)
See references of WO 9927586A2

Designated contracting state (EPC)
DE FR GB IT NL SE

DOCDB simple family (publication)
WO 9927586 A2 19990603; **WO 9927586 A3 19991014**; AU 1600799 A 19990615; CA 2311564 A1 19990603; EP 1034569 A2 20000913; JP 2001524759 A 20011204; KR 20010052109 A 20010625

DOCDB simple family (application)
US 9825011 W 19981123; AU 1600799 A 19981123; CA 2311564 A 19981123; EP 98960406 A 19981123; JP 2000522629 A 19981123; KR 20007005795 A 20000526