The present invention relates generally to semiconductor circuits, and more particularly to semiconductor circuits having interconnected field effect transistors, methods of designing such circuits, and data structures representing such circuits.
before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 10 July 2008
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

INV. H01L27/11 H01L21/8244

According to International Patent Classification (IPC) or to both national classification and IPC

B. RELEVANT SEARCHED DOCUMENTS

Minimum documentation searched (classification system followed by classification symbols)

H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication where appropriate of the relevant passages</th>
<th>Relevant to claim No</th>
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<tr>
<td>X</td>
<td>EP 0 193 842 A (IBM [US]) 10 September 1986 (1986-09-10) page 8, line 16 - page 10, line 3; figures 5-7</td>
<td>1-3,22</td>
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<td>A</td>
<td>US 4 064 525 A (KANO GOTA ET AL) 20 December 1977 (1977-12-20) column 5, line 37 - column 6, line 26; figure 5</td>
<td>1-11, 22-25</td>
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</table>

Further documents are listed in the continuation of Box C

See patent family annex

Date of the actual completion of the international search: 12 March 2008

Date of mailing of the international search report: 20/05/2008

Name and mailing address of the ISA/
European Patent Office P B 5818 Patentlaan 2 NL - 2280 HV RUISWijk Tel (+31-70) 340-2040, Tx 31 651 epo nl, Fax (+31-70) 340-3016

Authorized officer: Franche, Vincent
INTERNATIONAL SEARCH REPORT

Box No. H Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons-

1. [ ] Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. [ ] Claims Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. [ ] Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6(4)(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This international Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. [ ] As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. [ ] As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. [ ] As only some of the required additional search fees were timely paid by the applicant, this International search report covers only those claims for which fees were paid, specifically claims Nos.: 1-11, 22-25

4. [ ] No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-11, 22-25

Remark on Protest

[ ] The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee

[ ] The additional search fees were accompanied by the applicants protest but the applicable protest fee was not paid within the time limit specified in the invitation.

[ ] No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (2)) (April 2005)
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11, 22-25

A semiconductor device and a method of manufacturing thereof, comprising:
two diffusion regions and two conductive lines, wherein the first conductive line has a portion in contact with the first diffusion region being doped to an opposite conductivity type as the first diffusion region and the second conductive line has a portion in contact with the first diffusion region being doped to a same conductivity type as the first diffusion region.

2. claims: 12-21

A semiconductor device comprising two JFETs.

3. claims: 26-30

A method of manufacturing a semiconductor device, comprising:
two conductive lines having a sub-area having the same doping type as an intersected active area.
### INTERNATIONAL SEARCH REPORT

**International application No:** PCT/US2007/082781

<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
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<tbody>
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<td>EP 0193842 A</td>
<td>10-09-1986</td>
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Form PCT/ISA/210 (patent family annex) (April 2005)