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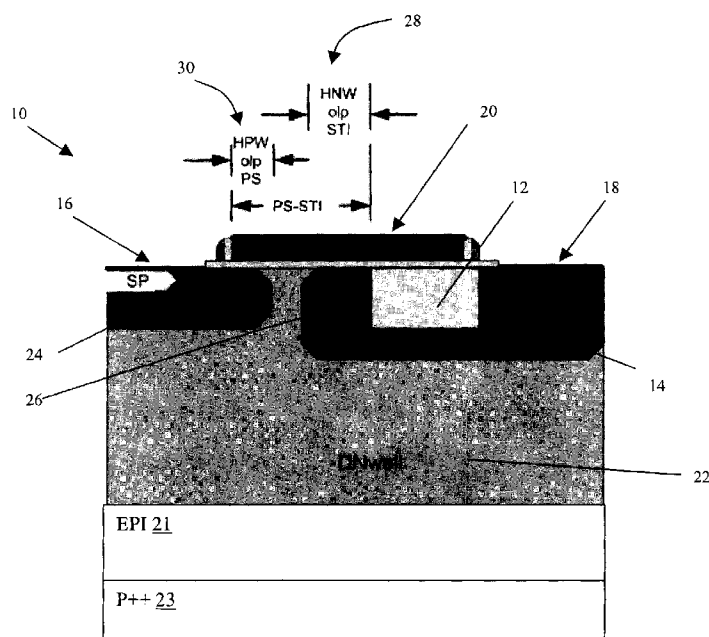
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[Continued on next page]

(54) Title: ASYMMETRIC HIGH VOLTAGE MOS DEVICE AND METHOD OF FABRICATION



(57) Abstract: An asymmetric semiconductor device (10) and method of forming the same in which 25V devices can be fabricated in processes with gate oxide thicknesses designed for 2.75 or 5.5V maximum operation. The device includes: a shallow trench isolation (STI) region (12) that forms a dielectric between a drain region (18) and a gate region (20) of a unit cell to allow for high voltage operation; and an n-type well (14) and a p-type well (24) patterned within the unit cell.

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/171103 A1 (SPADEA G) 21 November 2002 (2002-11-21) paragraph [0027] - paragraph [0029]; figure 3 paragraph [0021] ----- -/--	1-20

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ZITOUNI M ET AL: "A NEW LATERAL DMOSFET STRUCTURE WITH EXTREMELY REDUCED ON-RESISTANCE AND ENHANCED BREAKDOWN VOLTAGE" PROCEEDINGS OF THE 8TH EUROPEAN CONFERENCE ON POWER ELECTRONICS AND APPLICATIONS (EPE '99), LAUSANNE, CH, SEPTEMBER 7 - 9, 1999, 7 September 1999 (1999-09-07), pages 1-9, XP000890316 EPE ASSOCIATION, BRUSSELS, BE ISBN: 90-75815-04-2 paragraph 5. LUDMOS structure 5; figure 10 introduction; paragraph 1. LUDMOS structure 1; figure 1 -----	1-20
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P,X	US 2005/112822 A1 (LITWIN A) 26 May 2005 (2005-05-26) paragraph [0034] - paragraph [0051]; figure 3 -----	1,3,7, 10,15,19
P,X	US 2005/236666 A1 (WANG B) 27 October 2005 (2005-10-27) paragraph [0019] - paragraph [0022]; figure 2 -----	1,3,7

INTERNATIONAL SEARCH REPORT

Information on patent family members

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