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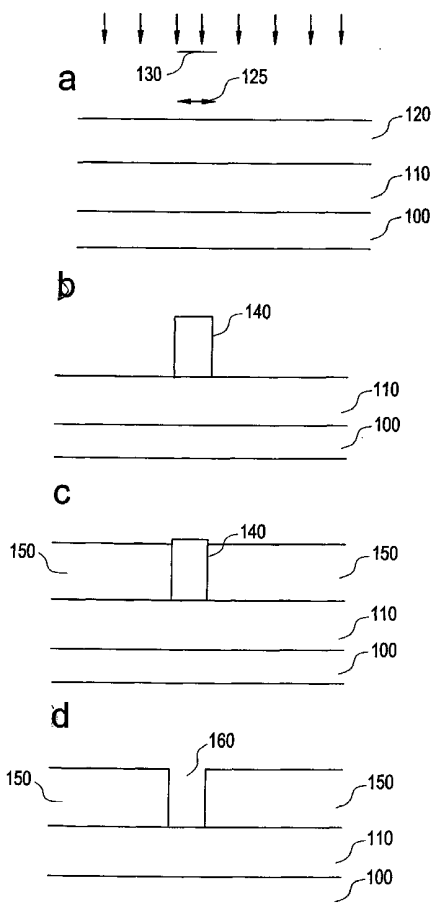
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(54) Title: BRIGHT FIELD IMAGE REVERSAL FOR CONTACT HOLE PATTERNING



(57) Abstract: A method of forming a small contact hole (160) uses a bright field mask (130) to form a small cylinder (140) in a positive resist layer (120) after exposure and developing. A negative resist layer (150) is formed around the small cylinder, and then etched or polished back to leave a top portion of the small cylinder exposed above the negative resist layer. The negative resist layer and the small cylinder (positive resist) are flood exposed to light, and then subject to a developer. What remains is a small contact hole (160) located where the small cylinder was previously located.



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patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/46129

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01L21/027

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

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L G03F

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)

PAJ, EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 012, no. 268 (E-638), 27 July 1988 (1988-07-27) & JP 63 051639 A (NEC CORP), 4 March 1988 (1988-03-04) abstract	1-10
Y	US 5 157 002 A (MOON SEUNG C) 20 October 1992 (1992-10-20) the whole document	1-10
A	PATENT ABSTRACTS OF JAPAN vol. 015, no. 351 (E-1108), 5 September 1991 (1991-09-05) & JP 03 136233 A (MITSUBISHI ELECTRIC CORP), 11 June 1991 (1991-06-11) abstract	1-10

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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- \*&\* document member of the same patent family

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

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			JP 2004664 C	20-12-1995
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JP 03136233	A	11-06-1991	NONE	