

11-18-98

12-01-1998  
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FORM PTO-1596  
1-31-92

HEET

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

Docket No.: 49657-197

PATENTS

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereto:

1. Name of Conveying Party(ies):  
Takaharu TSUJI, Tsukasa OOISHI, Hiroshi KATO, Shigeki TOMISHIMA, and Hiroki SHIMANO

2. Name and address of receiving party(ies):  
Name: Mitsubishi Denki Kabushiki Kaisha  
Address: 2-3, Marunouchi 2-chome, Chiyoda-ku  
TOKYO 100-8310, JAPAN

JCS11 U.S. PTO  
09/195212  
11/16/98

Additional name(s) of conveying party(ies) attached?  Yes

3. Nature of Conveyance:  
 Assignment  Merger  
 Security Agreement  Change of Name  
 Other

Execution Date: October 14, 1998

Additional name(s) & address(es) attached?  Yes

4. Application number(s) or patent number(s):

If the document is being filed together with a new application, the execution date of the application is: October 14, 1998

A. Patent Application No(s).

B. Patent No(s).

Additional numbers attached?  Yes

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: MCDERMOTT, WILL & EMERY  
Internal Address:

Street Address: 99 Canal Center Plaza, Suite 300

City: Alexandria State: VA Zip: 22314

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41) \$40.00

Enclosed  
 Authorized to be charged to deposit account

8. Deposit account number:  
500417

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9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Stephen A. Becker, 26,527

November 18, 1998

Name and Registration No. of Person Signing

Signature

Date

Total number of pages comprising cover sheet: 1

CMB No. 0851-0011 (exp. 4/94)

11/27/1998 JWATKINS 00000184 500417 09195212

01 FC:581

40.00 CH

PATENT  
REEL: 9602 FRAME: 0729

Docket No..

ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

(1) Takaharu TSUJI(2) Tsukasa OOISHI(3) Hiroshi KATO(4) Shigeki TOMISHIMA(5) Hiroki SHIMANO

(6) \_\_\_\_\_

who have made a certain new and useful invention, hereby sell, assign and transfer unto

Mitsubishi Denki Kabushiki Kaisha of2-3, Marunouchi 2-chome, Chiyoda-ku, TOKYO 100-8310 JAPAN

its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

SEMICONDUCTOR MEMORY DEVICE CAPABLE OF HIGH SPEED OPERATION AND INCLUDING REDUNDANT CELLS

(a) for which an application for United States Letters Patent was filed on \_\_\_\_\_, and identified by United States Serial No. \_\_\_\_\_; or

(b) for which an application for United States Letters Patent was executed on October 14, 1998

and the undersigned hereby authorize and request the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefor and any and all extensions, divisions, reissues, substitutes, renewals, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agree that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE:

AND the undersigned hereby agree to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

SIGNED on the dates indicated aside our signatures:

## INVENTORS

## DATE SIGNED

1) Takaharu Tsuji

Name: Takaharu TSUJI

October 14, 19982) Tsukasa Oishi

Name: Tsukasa OOISHI

October 14, 19983) Hiroshi Kato

Name: Hiroshi KATO

October 14, 19984) Shigeki Tomishima

Name: Shigeki TOMISHIMA

October 14, 19985) Hiroki Shimano

Name: Hiroki SHIMANO

October 14, 1998

6) \_\_\_\_\_

Name: