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FORM PTC 1596  
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U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

Docket No.: 49657-506

101218560

To the Honorable Commissioner of Patent.

and original documents or copy thereto:

1. Name of Conveying Parties:  
Takaaki KAWAHARA, Mikio YAMAMUKA, Tsuyoshi  
HORIKAWA, Masayoshi TARUTANI, Takehiko SATO, and  
Shigeru MATSUNO

2. Name and address of receiving party:  
Name: Mitsubishi Denki Kabushiki Kaisha

Address: 2-3, Marunouchi 2-chome  
Chiyoda-ku  
Tokyo 100-8310, JAPAN

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

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

Execution Date: September 14, 1999

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

4. Application number(s) or patent number(s): 09 444 297  
If the document is being filed together with a new application, the execution date of the application is: September 14, 1999

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: 600 13<sup>th</sup> Street, N.W.

City: Washington State: DC Zip: 20005

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 22, 1999

Name and Registration No. of Person Signing

Signature

Date

Total number of pages comprising cover sheet: 1

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

JC564 U.S. PTO  
09/444297  
11/22/99

12/07/1999 DMGUYEN 00000110 500417 09444297

01 FC:581 40.00 CH

PATENT  
REEL: 010420 FRAME: 0215

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) Takaaki KAWAHARA (4) Masayoshi TARUTANI (7) \_\_\_\_\_
- (2) Mikio YAMAMUKA (5) Takehiko SATO (8) \_\_\_\_\_
- (3) Tsuyoshi HORIKAWA (6) Shigeru MATSUNO (9) \_\_\_\_\_

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

Mitsubishi Denki Kabushiki Kaisha of  
2-3, 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

METHOD OF FORMING HIGH DIELECTRIC CONSTANT THIN FILM AND  
METHOD OF MANUFACTURING SEMICONDUCTOR DEVICE

(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 September 14, 1999.

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) Takaaki Kawahara \_\_\_\_\_  
Name: Takaaki KAWAHARA September 14, 1999
- 2) Mikio Yamamuka \_\_\_\_\_  
Name: Mikio YAMAMUKA September 14, 1999
- 3) Tsuyoshi Horikawa \_\_\_\_\_  
Name: Tsuyoshi HORIKAWA September 14, 1999
- 4) Masayoshi Tarutani \_\_\_\_\_  
Name: Masayoshi TARUTANI September 14, 1999
- 5) Takehiko Sato \_\_\_\_\_  
Name: Takehiko SATO September 14, 1999
- 6) Shigeru Matsuno \_\_\_\_\_  
Name: Shigeru MATSUNO September 14, 1999
- 7) \_\_\_\_\_  
Name: \_\_\_\_\_
- 8) \_\_\_\_\_  
Name: \_\_\_\_\_
- 9) \_\_\_\_\_  
Name: \_\_\_\_\_