### 10/03/2017 504576465

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4623176

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
MASATOSHI WATARAI	09/14/2017
MASANORI HATAKEYAMA	09/13/2017
TAKUYA KUSAKA	09/19/2017
KAZUNORI MASUDA	09/14/2017
MASATO ENDO	09/13/2017
KOICHI FUKUDA	09/14/2017
MASATO SUGAWARA	09/18/2017

### **RECEIVING PARTY DATA**

Name:	TOSHIBA MEMORY CORPORATION
Street Address:	1-1, SHIBAURA 1-CHOME
City:	MINATO-KU, TOKYO
State/Country:	JAPAN

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15667977

### **CORRESPONDENCE DATA**

Fax Number: (703)413-2220

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

(703) 413-3000 Phone:

mvukovic@oblon.com Email:

**Correspondent Name:** OBLON, ET AL. Address Line 1: 1940 DUKE STREET

Address Line 4: ALEXANDRIA, VIRGINIA 22314

ATTORNEY DOCKET NUMBER:	506055US
NAME OF SUBMITTER:	MARA VUKOVIC
SIGNATURE:	/Mara Vukovic/
DATE SIGNED:	10/03/2017
	This document serves as an Oath/Declaration (37 CFR 1.63).

**PATENT REEL: 043761 FRAME: 0058** 

504576465

# Total Attachments: 7 source=506055USASSN#page1.tif source=506055USASSN#page2.tif source=506055USASSN#page3.tif source=506055USASSN#page4.tif source=506055USASSN#page5.tif source=506055USASSN#page6.tif source=506055USASSN#page7.tif

Title of SEMICONDUCTOR DEVICE Invention
As the below named inventor, I hereby declare that:
This declaration The attached application, or
is directed to: United States application or PCT international application number 15/667,977  filed on August 3, 2017
The above-identified application was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
WHEREAS, Toshiba Memory Corporation  (hereinafter referred to as "ASSIGNEE") having places of business at: 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;
NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.
I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.
Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.
LEGAL NAME OF INVENTOR
Inventor: Masatoshi WATARAI Date: September 14, 2017
Signature Wasatoshi Watarai

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

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As the below name	d inventor, I hereby declare that:
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any and all foreign assignee of my ent (his) successors an	ize and request the Patent Office Officials in the United States and its territorial possessions and a countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the ire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its id assigns, to the full end of the term for which said Letters Patent may be granted, as fully and e would have been held by me had this Assignment and sale not been made.
respecting said in continuation, subst all of said Letters possible to aid said	that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me vention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, itute, renewal and reissue applications, execute all necessary assignment papers to cause any and Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything d ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said alted States and its territorial possessions and in any and all foreign countries.
	viedge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 ment of not more than five (5) years, or both.
LEGAL NAME O	FINVENTOR
Inventor: Masano	ori HATAKEYAMA Date: September 13, 2017
Signatura: M	usanor: ITATAKFYAMA

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW

1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

Title of SEMICONDUCTOR DEVICE	
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As the below named inventor, I hereby declare that:	
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WHEREAS, Toshiba Memory Corporation (hereinafter referred to as "ASSIGNEE") having places of business at: 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;	
NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.	
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Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.	
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.	
LEGAL NAME OF INVENTOR	
Inventor: Takuya KUSAKA Date: September 19, 2017	
Signature: Takuya KUSAKA	

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.

ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

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I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.	
LEGAL NAME OF	FINVENTOR
Inventor: Kazuno	ri MASUDA Date: Sep. 14, 2017
Signature: 2	Comori masuar

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.

ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

Title of SEMICONDUCTOR DEVICE Invention
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LEGAL NAME OF INVENTOR
Inventor: Masato ENDO Date: September 13, 20
Signature: hosata Endo

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LEGAL NAME O	FINVENTOR	
Inventor: Koichi		Date: Sep. 14, 2017
Signature:	ordi Toludon	

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.

ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

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LEGAL NAME OF	INVENTOR
Inventor: Masato	SUGAWARA Date: September 18, 2017
Signature:	Masato Syzawara

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

> **PATENT** REEL: 043761 FRAME: 0066

**RECORDED: 10/03/2017**