505038635 08/07/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5085386

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
RYOSUKE SAWABE	07/05/2018
SHIGERU KINOSHITA	06/25/2018
KENTA YAMADA	07/05/2018
HIROKAZU ISHIGAKI	07/06/2018

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:	16003763

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.

Phone: (703) 413-3000

Email: egemechu@oblon.com

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

Address Line 4: ALEXANDRIA, VIRGINIA 22314

ATTORNEY DOCKET NUMBER:	514305US
NAME OF SUBMITTER:	EMUSHET GEMECHU
SIGNATURE:	/EMUSHET GEMECHU/
DATE SIGNED:	08/07/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 4

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Title of Invention	SEMICONDUCTOR DEVICE AND METHOD FOR MANUFACTURING THE SAME
As the below name	d inventor, I hereby declare that:
This declaration	The attached application, or
is directed to:	United States application or PCT international application number 16/003,763 filed on June 8, 2018
The above-identifie	d application was made or authorized to be made by me.
I believe that I am t	the original inventor or an original joint inventor of a claimed invention in the application.
(hereinafter referred Japan, is desirous	hiba Memory Corporation d to as "ASSIGNEE") having places of business at: 1-1, Shibaura 1-chome, Minato-ku, Tokyo, of acquiring the entire right, title and interest in and to said invention and in and to any Letters granted therefore in the United States and its territorial possessions and in any and all foreign
acknowledged, and said ASSIGNEE, the and in all foreign cother relevant Inter- interest in and to a	FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby for other good and valuable consideration, I, by these presents do sell, assign and transfer unto the full and exclusive right to the said invention in the United States and its territorial possessions countries (including the right to claim priority under the terms of the International Convention and mational Treaties and Arrangements from the aforesaid application) and the entire right, title and may and all Letters Patent which may be granted therefor in the United States and its territorial and any and all foreign countries and in and to any and all divisions, reissues, continuations, mewals thereof.
any and all foreign assignee of my enti (his) successors and	ze 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 d assigns, to the full end of the term for which said Letters Patent may be granted, as fully and a 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.	
	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 OF	FINVENTOR
Inventor: Ryosuk	te SAWABE Date: July 5, 2018
Signature: Ryn	cuke Sayabo.

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

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(hereinafter referre	hiba Memory Corporation d to as "ASSIGNEE") having places of business at: 1-1, Shibaura 1-chome, Minato-ku, Tokyo, of acquiring the entire right, title and interest in and to said invention and in and to any Letters granted therefore in the United States and its territorial possessions and in any and all foreign
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respecting said in continuation, substail 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 ited 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: Shigen	KINOSHITA Date: June 25, 2018
Signature:	seru Kinoshita

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
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WHEREAS, Tosi (hereinafter referred Japan, is desirous	hiba Memory Corporation d to as "ASSIGNEE") having places of business at: 1-1. Shibaura 1-chome, Minato-ku, Tokyo, of acquiring the entire right, title and interest in and to said invention and in and to any Letters granted therefore in the United States and its territorial possessions and in any and all foreign
said ASSIGNEE, the and in all foreign co- other relevant Interminterest in and to an	FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby for other good and valuable consideration, I, by these presents do sell, assign and transfer unto the full and exclusive right to the said invention in the United States and its territorial possessions countries (including the right to claim priority under the terms of the International Convention and national Treaties and Arrangements from the aforesaid application) and the entire right, title and may and all Letters Patent which may be granted therefor in the United States and its territorial any and all foreign countries and in and to any and all divisions, reissues, continuations, newals thereof.
assignee of my entire (his) successors and	ze and request the Patent Office Officials in the United States and its territorial possessions and countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the re right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its I assigns, to the full end of the term for which said Letters Patent may be granted, as fully and would have been held by me had this Assignment and sale not been made.
Further, I agree a respecting said invocentinuation, substituall of said Letters I possible to aid said invention in the Unit	that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me ention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, bute, 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 ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said ted States and its territorial possessions and in any and all foreign countries.
oy rine or imprisonn	edge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 nent of not more than five (5) years, or both.
LEGAL NAME OF	INVENTOR
Inventor: Kenta Y	AMADA Date: July 5, 2018
Signature: Kento	Yamada

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

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Title of

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This declaration [The attached application, or
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acknowledged, and said ASSIGNEE, the and in all foreign conter relevant Inter- interest in and to a	FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby for other good and valuable consideration, I, by these presents do sell, assign and transfer unto he full and exclusive right to the said invention in the United States and its territorial possessions countries (including the right to claim priority under the terms of the International Convention and national Treaties and Arrangements from the aforesaid application) and the entire right, title and my and all Letters Patent which may be granted therefor in the United States and its territorial any and all foreign countries and in and to any and all divisions, reissues, continuations, newals 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.	
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by fine or imprison	riedge 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 OF	•
Inventor: Hirokaz	zu ISHIGAKI Date: July 6, 2018
Signature: 1	irokazu Ishigaki

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

PATENT REEL: 046567 FRAME: 0497

RECORDED: 08/07/2018