# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6450167

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
YASUHIRO OKAMOTO	04/08/2019
NOBUO MACHIDA	04/30/2019
KENICHI HISADA	04/09/2019

## **RECEIVING PARTY DATA**

Name:	RENESAS ELECTRONICS CORPORATION	
Street Address:	2-24, TOYOSU 3-CHOME, KOTO-KU	
City:	TOKYO	
State/Country:	JAPAN	
Postal Code:	135-0061	

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	17121143

## CORRESPONDENCE DATA

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**Correspondent Name:** TOMOKI TANIDA

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ATTORNEY DOCKET NUMBER:	067237-1909	
NAME OF SUBMITTER:	RENELL FEIMSTER FOR TOMOKI TANIDA	
SIGNATURE:	/Renell Feimster for Tomoki Tanida/	
DATE SIGNED:	12/15/2020	

## **Total Attachments: 6**

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> **PATENT** REEL: 054648 FRAME: 0855 506403411



PATENT REEL: 054648 FRAME: 0856

Docket No.: Only After Sept 16, 2012

#### ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, Renesas Electronics Corporation of 2-24, Toyosu 3-chome, Koutou-ku, Tokyo 135-0061, Japan, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assigner(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, including the right to claim priority under 35 USC 119, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States application when called upon to do so by the assignee.

the assignee.		·
(Legalization not required for recording	g but is	prima facie evidence of execution under 35 USC 261)
As the below named inventor, I hereby	declar	e that:
This assignment with declaration is directed to:	$\boxtimes$	The attached application, or
		United States Application or PCT International Application Number
		filed on
The application is entitled:		
		SEMICONDUCTOR DEVICE
The above identified application was m	ade or	was authorized to be made by me.
I believe that I am the original inventor	oran	original joint inventor of a claimed invention in the application.
I have reviewed and understand the co	ntents	of the application for which this assignment with declaration is being submitted.
I am aware of the duty to disclose to t	he Offic	ce all information known to me to be material to patentability as defined in 37 CFR 1.56.
I hereby acknowledge that any willful for imprisonment of not more than five		atement made in this assignment with declaration is punishable under 18 USC 1001 by fine rs, or both.
Authorization To Permit Access To A	pplicat	ion by Participating Office
(JPO), the Korean Intellectual Property property offices in which a foreign app patent application. See 37 CFR 1.14(c)	y Office lication and (h	s the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual claiming priority to the above-identified application is filed access to the above-identified ). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, or preign application claiming priority to the above-identified application is filed to have
identified patent application-as-filed, 2	) any fe	will be provided to a copy of the application—as-filed with respect to: 1) the above— oreign application to which the above—identified application claims priority under 35 USC that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the above—

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Office.

identified patent application, and 3) any U.S. application-as-filed from which benefit is sought in the above-identified patent application.

PATENT R180168
REEL: 054648 FRAME: 0857

Legal Name of Inventor	Yasuhiro OKAMO	то	
Inventor's Signature	Jasaline	· Praw D	Date April 8th, 2019
Legal Name of Additional I	nventor, If Any	Nobue MACHIDA	·
Inventor's Signature	*******************************	,	Date
Legal Name of Additional I	nventor, If Any	Kenichi HISADA	
Inventor's Signature			Date

Docket No.: Only After Sept 16, 2012

#### ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, Renesas Electronics Corporation of 2-24, Toyosu 3-chome, Koutou-ku, Tokyo 135-0061, Japan, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, including the right to claim priority under 35 USC 119, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States application when called upon to do so by the assignee.

(Legalization not required for recording but is prima facie evidence of execution under 35 USC 261) As the below named inventor, I hereby declare that: This assignment with declaration is The attached application, or directed to: United States Application or PCT International Application Number filed on The application is entitled: SEMICONDUCTOR DEVICE The above identified application was made or was 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. I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted. I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56. I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. Authorization To Permit Access To Application by Participating Office If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the above-identified application is filed access to the above-identified patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, or other intellectual property office in which a foreign application claiming priority to the above-identified application is filed to have access to the application. In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the application-as-filed with respect to: 1) the aboveidentified patent application-as-filed, 2) any foreign application to which the above-identified application claims priority under 35 USC 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the above-

identified patent application, and 3) any U.S. application-as-filed from which benefit is sought in the above-identified patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Office.

> R180168 **PATENT** REEL: 054648 FRAME: 0859

Legal Name of Inventor Tasuniro UKANI	010		~~~~~~~~~~		
Inventor's Signature		Date_		***************************************	P
Legal Name of Additional Inventor, If Any	Nobuo MACHIDA			***********	EX
Inventor's Signature Votu	o Machida	Date_	April	30	2019
Legal Name of Additional Inventor, If Any	Kenichi HISADA	******	*****		
Inventor's Signature		Date			

PATENT R180168 REEL: 054648 FRAME: 0860

Docket No.: Only After Sept 16, 2012

## ASSIGNMENT WITH DEGLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, Renesas Electronics Corporation of 2-24, Toyosu 3-chome, Koutou-ku, Tokyo 135-0061, Japan, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, including the right to claim priority under 35 USC 119, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States application when called upon to do so by the assignee.

consideration all papers deemed necesthe assignee.	sary by	the assignee in connection with the United States application when called upon to do so by
(Legalization not required for recording	but is	prima facie evidence of execution under 35 USC 261)
As the below named inventor, I hereby	declar	e that:
This assignment with declaration is directed to:	X	The attached application, or
		United States Application or PCT International Application Number
		filed on
The application is entitled:		
		SEMICONDUCTOR DEVICE
The above identified application was m	ade or	was 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.
I have reviewed and understand the co	ntents	of the application for which this assignment with declaration is being submitted.
I am aware of the duty to disclose to t	he Offi	ce all information known to me to be material to patentability as defined in 37 CFR 1.56.
I hereby acknowledge that any willful f or imprisonment of not more than five		stement made in this assignment with declaration is punishable under 18 USC 1001 by fine rs, or both.
Authorization To Permit Access To A	pplicat	ion by Participating Office
(JPO), the Korean Intellectual Propert property offices in which a foreign app patent application. See 37 OFR 1.14(c)	y Office lication l and (h	s the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual claiming priority to the above-identified application is filed access to the above-identified ). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, or preign application claiming priority to the above-identified application is filed to have
identified patent application-as-filed, 2	) any f	will be provided to a copy of the application—as-filed with respect to: 1) the above— oreign application to which the above—identified application claims priority under 35 USC that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the above—

identified patent application, and 3) any U.S. application—as—filed from which benefit is sought in the above—identified patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Office.

PATENT R180168
REEL: 054648 FRAME: 0861

Inventor's Signature	Date
Legal Name of Additional Inventor, If Any Nobus MACHIDA  Inventor's Signature	Date
Legal Name of Additional Inventor, If Any Kenichi HISADA	
Konichi Hiorda	April 9, 2019

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**RECORDED: 12/15/2020**