03/18/2016 503744208

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3790853

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YUKIMASA HAYASHIDA	02/01/2016
SHINICHI IURA	02/01/2016
HITOSHI UEMURA	02/01/2016
DAISUKE OYA	02/01/2016
KENJI HATORI	02/01/2016
YASUHIRO SAKAI	02/01/2016
RYO TSUDA	02/01/2016
RYUTARO DATE	02/01/2016

RECEIVING PARTY DATA

Name:	MITSUBISHI ELECTRIC CORPORATION	
Street Address:	7-3, MARUNOUCHI 2-CHOME, CHIYODA-KU	
City:	TOKYO	
State/Country:	JAPAN	
Postal Code:	100-8310	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	29558563

CORRESPONDENCE DATA

(703)390-1277 Fax Number:

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: 703 390 9051

Email: info@sbpatentlaw.com

STUDEBAKER & BRACKETT PC **Correspondent Name:** 12700 SUNRISE VALLEY DRIVE Address Line 1:

Address Line 2: **SUITE 102**

Address Line 4: RESTON, VIRGINIA 20191

ATTORNEY DOCKET NUMBER:	002500-ME0130	
NAME OF SUBMITTER:	DONALD R. STUDEBAKER	
SIGNATURE:	/Donald R. Studebaker/	

REEL: 038033 FRAME: 0276 503744208

PAIENI

DATE SIGNED:	03/18/2016
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 16	
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PATENT REEL: 038033 FRAME: 0277



Attorney Docket No. <u>002500-ME</u>

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT OF APPLICATION FOR UNITED STATES LETTERS PATENT

Title of Invention:	
POWER SEMICONDUCTOR DEVICE	
私は、以下に記名された発明者として、ここに下記 の通り宣言する:	As a below named inventor, I hereby declare that:
本宣言書は、以下の出願に対するものである:	This declaration is directed to: The attached application, or United States application or PCT international application number filed on 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
私は、本米国出願の請求範囲で記載された発明に対	inventor of a claimed invention in the application.
する原発明者であるか、或いは、原共同発明者であると信じている。	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. STATEMENT OF ACCURATE TRANSLATION IN ACCORDANCE WITH 37 CFR 1.69(b):
私は、ここでの宣誓または陳述において故意に偽りを述べた場合、合衆国法典第18巻第1001条に基づき、罰金あるいは5年以下の懲役、または、両方の懲罰を受けることを認める。	The Declaration and Assignment for Patent and Design Applications is an accurate translation of the corresponding English language Declaration and Assignment for Patent and Design Applications Signature: November 15, 2012

Page 1 of 16



発明者の署名/ Signature

Attorney Docket No. 002500-ME

WHEREAS the undersigned, hereinafter referred to as the assignor, has invented a certain improvement relating to the above identified application.

The inventor declaration for said application is combined herewith.	
[X] said application to be filed in the United States Patent and Trademark Office;	
I said application having been filed in the United States Patent and Trademark Office on,	
authorization being hereby given to the practitioners associated with STUDEBAKER & BRACKETT PC's	
CUSTOMER NUMBER 78198, to insert here in parentheses (Application Serial No) the	
application serial number of said application when known;	
[] said application having been filed under the Patent Cooperation Treaty on, as	
Serial No, the United States of America being designated.	
, 110 011101 <u> </u>	
AND WHEREAS MITSUBISHI ELECTRIC CORPORATION of 7-3, Marunouchi 2-chome,	
Chiyoda-ku, Tokyo 100-8310 JAPAN, hereinafter referred to as the assignee, is desirous of acquiring the	
entire right, title and interest in and to said application, including any and all divisions and continuations thereof,	
and in and to said invention and any and all patents which may be granted therefor, including any and all	
renewals, reissues and prolongations thereof;	
NOW, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration	
paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby	
assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and	
exclusive right, title and interest in and to said application, including any and all divisions and continuations	
thereof, and in and to said invention and any and all patents which may be granted therefor, including any and	
all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns,	
to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof,	
and the said invention and any and all patents which may be granted therefor, including any and all renewals,	
reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising	
from or appertaining thereto, for and during the term or terms of any and all such patents when granted,	
including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee,	
and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might	
or could have held and enjoyed the same, if this assignment had not been made.	
AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's	
successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including	
any and all renewals, reissues and prolongations thereof.	
AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue	
Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and	
said assignee's successors and assigns, in accordance herewith.	
The undersigned hereby grants the law firm of STUDEBAKER & BRACKETT PC the power to insert on the	
Assignment portion of this combined Declaration and Assignment any further identification which may be	
necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for	
recordation of this document.	
This combined Declaration and Assignment has been executed by the undersigned on the date opposite the	
undersigned name.	
発明者氏名/ Legal Name of Inventor	_
Yukimasa HAYASHIDA	

February 1.2016

日付/ Date



Title of Invention:	
POWER SEMICONDUCTOR DEVICE	
私は、以下に記名された発明者として、ここに下記 の通り宣言する:	As a below named inventor, I hereby declare that:
本宣言書は、以下の出願に対するものである: 滋術付された出願、あるいは、 出出願番号またはPCT国際出願番号は、 であり、且つ の日に出願された出願(該当する場合) 上記出願書(明細書及び図面)は、私が作成したものか、あるいは私がその作成を許可したものである。 私は、本米国出願の請求範囲で記載された発明に対する原発明者であるか、或いは、原共同発明者であると信じている。 私は、ここでの宣誓または陳述において故意に偽りを述べた場合、合衆国法典第18巻第1001条に基づき、罰金あるいは5年以下の懲役、または、両方の懲罰を受けることを認める。	The attached application, or United States application or PCT international application number filed on 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. 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. STATEMENT OF ACCURATE TRANSLATION IN ACCORDANCE WITH 37 CFR 1.69(b): The Declaration and Assignment for Patent and Design Applications is an accurate translation of the corresponding English language Declaration and Assignment for Patent and Design Applications
	Signature: Date: November 15, 2012

Page 3 of 16



Attorney Docket No. <u>002500-ME</u>

WHEREAS the undersigned, hereinafter referred to as the assignor, has invented a certain improvement relating to the above identified application.

relating to the above identified application.
The inventor declaration for said application is combined herewith. [X] said application to be filed in the United States Patent and Trademark Office; [] said application having been filed in the United States Patent and Trademark Office on, authorization being hereby given to the practitioners associated with STUDEBAKER & BRACKETT PC's CUSTOMER NUMBER 78198, to insert here in parentheses (Application Serial No) the application serial number of said application when known; [] said application having been filed under the Patent Cooperation Treaty on, as Serial No, the United States of America being designated.
AND WHEREAS MITSUBISHI ELECTRIC CORPORATION of 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8310 JAPAN, hereinafter referred to as the assignee, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;
NOW, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof. AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith. The undersigned hereby grants the law firm of STUDEBAKER & BRACKETT PC the power to insert on the Assignment portion of this combined Declaration and Assignment any further identification which may be n
発明者氏名/ Legal Name of Inventor Shinichi IURA
発明者の署名/ Signature 日付/ Date
井油 直

Page 4 of 16



Title of Invention:	
POWER SEMICONDUCTOR DEVICE	
私は、以下に記名された発明者として、ここに下記 の通り宣言する:	As a below named inventor, I hereby declare that:
本宣言書は、以下の出願に対するものである:	This declaration is directed to: The attached application, or United States application or PCT international application number
であり、且つ の日に出願された出願(該当 する場合)	filed on
上記出願書(明細書及び図面)は、私が作成したものか、あるいは私がその作成を許可したものである。	The above-identified application was made or authorized to be made by me.
私は、本米国出願の請求範囲で記載された発明に対	I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
する原発明者であるか、或いは、原共同発明者であ	I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine
ると信じている。	or imprisonment of not more than five (5) years, or both.
	STATEMENT OF ACCURATE TRANSLATION IN ACCORDANCE WITH 37 CFR 1.69(b):
私は、ここでの宣誓または陳述において故意に偽り を述べた場合、合衆国法典第18巻第1001条に基づ き、罰金あるいは5年以下の懲役、または、両方の 懲罰を受けることを認める。	The Declaration and Assignment for Patent and Design Applications is an accurate translation of the corresponding English language Declaration and Assignment for Patent and Design Applications
	Signature: November 15, 2012

Page 5 of 16



WHEREAS the undersigned, hereinafter referred to as the assignor, has invented a certain improvement relating to the above identified application.

,,
The inventor declaration for said application is combined herewith.
[X] said application to be filed in the United States Patent and Trademark Office;
[] said application having been filed in the United States Patent and Trademark Office on,
authorization being hereby given to the practitioners associated with STUDEBAKER & BRACKETT PC's
CUSTOMER NUMBER 78198, to insert here in parentheses (Application Serial No) the
application serial number of said application when known;
[] said application having been filed under the Patent Cooperation Treaty on, as
Serial No, the United States of America being designated.
AND WHEREAS MITSUBISHI ELECTRIC CORPORATION of 7-3, Marunouchi 2-chome,
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entire right, title and interest in and to said application, including any and all divisions and continuations thereof,
and in and to said invention and any and all patents which may be granted therefor, including any and all
renewals, reissues and prolongations thereof;
NOW, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration
paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby
assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and
exclusive right, title and interest in and to said application, including any and all divisions and continuations
thereof, and in and to said invention and any and all patents which may be granted therefor, including any and
all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns,
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Assignment portion of this combined Declaration and Assignment any further identification which may be
necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for
recordation of this document.
This combined Declaration and Assignment has been executed by the undersigned on the date opposite the
undersigned name.
発明者氏名/ Legal Name of Inventor
Hitoshi UEMURA
発明者の署名/ Signature 日付/ Date

Page 6 of 16



Title of Invention:	
POWER SEMICONDUCTOR DEVICE	
私は、以下に記名された発明者として、ここに下記 の通り宣言する:	As a below named inventor, I hereby declare that:
本宣言書は、以下の出願に対するものである: ※ 添付された出願、あるいは、 ※ 本国出願番号またはPCT国際出願番号は、 ※ であり、且つ	This declaration is directed to: The attached application, or United States application or PCT international application number
の日に出願された出願(該当 する場合)	
上記出願書(明細書及び図面)は、私が作成したものか、あるいは私がその作成を許可したものである。	The above-identified application was made or authorized to be made by me.
私は、本米国出願の請求範囲で記載された発明に対	I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
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CIE O CV So.	STATEMENT OF ACCURATE TRANSLATION IN ACCORDANCE WITH 37 CFR 1.69(b):
私は、ここでの宣誓または陳述において故意に偽りを述べた場合、合衆国法典第18巻第1001条に基づき、罰金あるいは5年以下の懲役、または、両方の懲罰を受けることを認める。	The Declaration and Assignment for Patent and Design Applications is an accurate translation of the corresponding English language Declaration and Assignment for Patent and Design Applications
	Signature: November 15, 2012

Page 7 of 16



WHEREAS the undersigned, hereinafter referred to as the assignor, has invented a certain improvement relating to the above identified application.

発明者の署名/ Signature 日付/ Date
発明者氏名/ Legal Name of Inventor Daisuke OYA
This combined Declaration and Assignment has been executed by the undersigned on the date opposite the undersigned name.
Assignment portion of this combined Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.
Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith. The undersigned hereby grants the law firm of STUDEBAKER & BRACKETT PC the power to insert on the
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and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.
from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee,
and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising
all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof,
exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and
assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and
NOW , that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby
entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;
AND WHEREAS MITSUBISHI ELECTRIC CORPORATION of 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8310 JAPAN, hereinafter referred to as the assignee, is desirous of acquiring the
[] said application having been filed under the Patent Cooperation Treaty on, as Serial No, the United States of America being designated.
<u>CUSTOMER NUMBER 78198</u> , to insert here in parentheses (Application Serial No) the application serial number of said application when known;
[] said application having been filed in the United States Patent and Trademark Office on, authorization being hereby given to the practitioners associated with <u>STUDEBAKER & BRACKETT PC's</u>
[X] said application to be filed in the United States Patent and Trademark Office;
The inventor declaration for said application is combined herewith.
relating to the above identified application.

Page 8 of 16



Title of Invention:	
POWER SEMICONDUCTOR DEVICE	
私は、以下に記名された発明者として、ここに下記 の通り宣言する:	As a below named inventor, I hereby declare that:
本宣言書は、以下の出願に対するものである:	This declaration is directed to:
 ☑ 添付された出願、あるいは、□ 米国出願番号またはPCT国際出願番号は、であり、且つの日に出願された出願(該当する場合)	The attached application, or United States application or PCT international application number filed on
上記出願書(明細書及び図面)は、私が作成したものか、あるいは私がその作成を許可したものである。	The above-identified application was made or authorized to be made by me.
私は、本米国出願の請求範囲で記載された発明に対	I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
する原発明者であるか、或いは、原共同発明者であると信じている。	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.
· · · · · · · · · · · · · · · ·	STATEMENT OF ACCURATE TRANSLATION IN ACCORDANCE WITH 37 CFR 1.69(b):
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	Signature: November 15, 2012

Page 9 of 16



WHEREAS the undersigned, hereinafter referred to as the assignor, has invented a certain improvement relating to the above identified application. The inventor declaration for said application is combined herewith. [X] said application to be filed in the United States Patent and Trademark Office; [] said application having been filed in the United States Patent and Trademark Office on, authorization being hereby given to the practitioners associated with STUDEBAKER & BRACKETT PC's CUSTOMER NUMBER 78198, to insert here in parentheses (Application Serial No._) the application serial number of said application when known; [] said application having been filed under the Patent Cooperation Treaty on , the United States of America being designated. Serial No. AND WHEREAS MITSUBISHI ELECTRIC CORPORATION of 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8310 JAPAN, hereinafter referred to as the assignee, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; NOW, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted. including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee. and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made. AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof. AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith. The undersigned hereby grants the law firm of STUDEBAKER & BRACKETT PC the power to insert on the Assignment portion of this combined Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document. This combined Declaration and Assignment has been executed by the undersigned on the date opposite the undersigned name. 発明者氏名/ Legal Name of Inventor Kenii HATORI 日付/ Date 発明者の署名/ Signature February . 1. 2016



Title of Invention:	
POWER SEMICONDUCTOR DEVICE	
私は、以下に記名された発明者として、ここに下記 の通り宣言する:	As a below named inventor, I hereby declare that:
本宣言書は、以下の出願に対するものである: 滋行された出願、あるいは、	This declaration is directed to: The attached application, or United States application or PCT international
** 米国出願番号またはPCT国際出願番号は、 であり、且つ の日に出願された出願(該当する場合)	application number filed on
上記出願書(明細書及び図面)は、私が作成したものか、あるいは私がその作成を許可したものである。	The above-identified application was made or authorized to be made by me.
私は、本米国出願の請求範囲で記載された発明に対	I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
する原発明者であるか、或いは、原共同発明者であると信じている。	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.
	STATEMENT OF ACCURATE TRANSLATION IN ACCORDANCE WITH 37 CFR 1.69(b):
私は、ここでの宣誓または陳述において故意に偽りを述べた場合、合衆国法典第18巻第1001条に基づき、罰金あるいは5年以下の懲役、または、両方の懲罰を受けることを認める。	The Declaration and Assignment for Patent and Design Applications is an accurate translation of the corresponding English language Declaration and Assignment for Patent and Design Applications
	Signature: Date: November 15, 2012
	·

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WHEREAS the undersigned, hereinafter referred to as the assignor, has invented a certain improvement relating to the above identified application. The inventor declaration for said application is combined herewith. [X] said application to be filed in the United States Patent and Trademark Office; [] said application having been filed in the United States Patent and Trademark Office on, authorization being hereby given to the practitioners associated with STUDEBAKER & BRACKETT PC's CUSTOMER NUMBER 78198, to insert here in parentheses (Application Serial No._) the application serial number of said application when known; [] said application having been filed under the Patent Cooperation Treaty on , the United States of America being designated. Serial No. AND WHEREAS MITSUBISHI ELECTRIC CORPORATION of 7-3, Marunouchi 2-chome. Chiyoda-ku, Tokyo 100-8310 JAPAN, hereinafter referred to as the assignee, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof: NOW, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof. and the said invention and any and all patents which may be granted therefor, including any and all renewals. reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted. including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee. and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made. AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof. AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith. The undersigned hereby grants the law firm of STUDEBAKER & BRACKETT PC the power to insert on the Assignment portion of this combined Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document. This combined Declaration and Assignment has been executed by the undersigned on the date opposite the undersigned name. 発明者氏名/ Legal Name of Inventor Yasuhiro SAKAI 発明者の署名/ Signature 日付/ Date February 1. 20/6

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Title of Invention:	
POWER SEMICONDUCTOR DEVICE	
私は、以下に記名された発明者として、ここに下記 の通り宣言する:	As a below named inventor, I hereby declare that:
本宣言書は、以下の出願に対するものである: ※ 添付された出願、あるいは、 ※国出願番号またはPCT国際出願番号は、 であり、且つ の日に出願された出願(該当する場合) 上記出願書(明細書及び図面)は、私が作成したものか、あるいは私がその作成を許可したものである。 私は、本米国出願の請求範囲で記載された発明に対する原発明者であるか、或いは、原共同発明者であると信じている。 私は、ここでの宣誓または陳述において故意に偽りを述べた場合、合衆国法典第18巻第1001条に基づき、罰金あるいは5年以下の懲役、または、両方の懲罰を受けることを認める。	This declaration is directed to: The attached application, or United States application or PCT international application number filed on 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. 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. STATEMENT OF ACCURATE TRANSLATION IN ACCORDANCE WITH 37 CFR 1.69(b): The Declaration and Assignment for Patent and Design Applications is an accurate translation of the corresponding English language Declaration and Assignment for Patent and Design Applications
	Signature: November 15, 2012

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発明者の署名/ Signature

Attorney Docket No. 002500-ME

WHEREAS the undersigned, hereinafter referred to as the assignor, has invented a certain improvement relating to the above identified application. The inventor declaration for said application is combined herewith. [X] said application to be filed in the United States Patent and Trademark Office; [] said application having been filed in the United States Patent and Trademark Office on, authorization being hereby given to the practitioners associated with STUDEBAKER & BRACKETT PC's CUSTOMER NUMBER 78198, to insert here in parentheses (Application Serial No._____ application serial number of said application when known; [] said application having been filed under the Patent Cooperation Treaty on , the United States of America being designated. Serial No. AND WHEREAS MITSUBISHI ELECTRIC CORPORATION of 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8310 JAPAN, hereinafter referred to as the assignee, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; NOW, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted. including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made. AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof. AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith. The undersigned hereby grants the law firm of STUDEBAKER & BRACKETT PC the power to insert on the Assignment portion of this combined Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document. This combined Declaration and Assignment has been executed by the undersigned on the date opposite the undersigned name. 発明者氏名/ Legal Name of Inventor Rvo TSUDA

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日付/ Date

February 1, 20/6



Title of Invention:	
POWER SEMICONDUCTOR DEVICE	
私は、以下に記名された発明者として、ここに下記 の通り宣言する:	As a below named inventor, I hereby declare that:
本宣言書は、以下の出願に対するものである: ※ 添付された出願、あるいは、 ※ 米国出願番号またはPCT国際出願番号は、 であり、且つ の日に出願された出願(該当する場合) 上記出願書(明細書及び図面)は、私が作成したものか、あるいは私がその作成を許可したものである。	This declaration is directed to: The attached application, or United States application or PCT international application number filed on 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.
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renewals, reissues and prolongations thereof;

RECORDED: 03/18/2016

Attorney Docket No. 002500-ME

relating to the above identified application.

The inventor declaration for said application is combined herewith.

[X] said application to be filed in the United States Patent and Trademark Office;

[] said application having been filed in the United States Patent and Trademark Office on, authorization being hereby given to the practitioners associated with STUDEBAKER & BRACKETT PC's CUSTOMER NUMBER 78198, to insert here in parentheses (Application Serial No. _______) the application serial number of said application when known;

[] said application having been filed under the Patent Cooperation Treaty on _______, as Serial No. ______, the United States of America being designated.

AND WHEREAS MITSUBISHI ELECTRIC CORPORATION of ______, Marunouchi 2-chome.

Chiyoda-ku, Tokyo 100-8310 JAPAN, hereinafter referred to as the assignee, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all

WHEREAS the undersigned, hereinafter referred to as the assignor, has invented a certain improvement

NOW, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.

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AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.

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This combined Declaration and Assignment has been executed by the undersigned on the date opposite the undersigned name.

発明者氏名/ Legal Name of Inventor	Ryutaro DATE
発明者の署名/ Signature	日付/ Date
伊達龍太郎	February 1. 2016

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