

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JIANGSU NATA OPTO-ELECTRONIC MATERIALS CO. LTD.	05/10/2021
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NATA SEMICONDUCTOR MATERIALS CO., LTD.
<b>Street Address:</b>	117 XINCHENG AVENUE, SHITAN INDUSTRIAL PARK
<b>Internal Address:</b>	SHIZI TOWN, QUANJIAO COUNTY
<b>City:</b>	CHUZHOU CITY, ANHUI PROVINCE
<b>State/Country:</b>	CHINA
<b>PROPERTY NUMBERS Total: 3</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15776851
<b>Application Number:</b>	16061477
<b>Application Number:</b>	15809431
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<b>ATTORNEY DOCKET NUMBER:</b>	127432-5000
<b>NAME OF SUBMITTER:</b>	SHAOBIN ZHU
<b>SIGNATURE:</b>	/Shaobin Zhu/
<b>DATE SIGNED:</b>	09/13/2021
<b>Total Attachments: 6</b>	
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## ASSIGNMENT

THIS ASSIGNMENT, by **JIANGSU NATA OPTO-ELECTRONIC MATERIALS CO. LTD.** (hereinafter referred to as "the Assignor") having its principal place of business at 67 Pingsheng Road, Suzhou Industrial Park, Jiangsu Province, China, respectively, witnesseth:

WHEREAS, the Assignor owns all right, title, and interest in and to all patents/patent applications identified in the attached Schedule A (collectively, "the Patents/Applications");

WHEREAS, **NATA SEMICONDUCTOR MATERIALS CO., LTD.** (hereinafter referred to as "the Assignee") having its principal place of business at 117 Xincheng Avenue, Shitan Industrial Park, Shizi Town, Quanjiao County, Chuzhou City, Anhui Province, China, is desirous of acquiring the entire right, title, and interest in and to the Patents/Applications.

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from the Assignee is hereby acknowledged, the Assignor has sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, and its lawful successors and assigns, its entire right, title, and interest in and to the Patents/Applications and the inventions claimed therein, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such applications, and all applications for Letters Patent which may hereafter be filed for the inventions in any foreign country and all Letters Patent which may be granted on the inventions in any foreign country, and all extensions, renewals, and reissues thereat and the Assignor hereby authorizes and requests the Director of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent of the inventions to the Assignee, and its successors and assigns, in accordance with the terms of this Assignment;

AND, the Assignor HEREBY covenant that it has the full right to convey the interest assigned by this Assignment, and the Assignor has not executed and will not execute any agreement in conflict with this Assignment;

AND, the Assignor HEREBY further covenant and agree that it will, without further consideration, communicate with the Assignee, and its successors and assigns, any facts known to it respecting the inventions, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the titles to the inventions in said Assignee, and its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid the Assignee, and its successors and assigns, to obtain and enforce proper patent protection for the inventions in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, and its successors and assigns.

IN WITNESS WHEREOF, each of the parties has caused this Agreement to be executed by the signature of its duly authorized officer as of the date and year first above written.

Assignor:  
JIANGSU NATA OPTO-ELECTRONIC  
MATERIALS CO. LTD.

By: 

Name: Luping Wang

Title: General Manager

Date: 2021.5.10

Assignee:  
NATA SEMICONDUCTOR MATERIALS  
CO., LTD.

By: 

Name: Chongxuan Cai

Title: General Manager

Date: 2021.5.10

Schedule A

US Patents/Applications:

Pat. Appl. No.	Filing Date	Pat. No.	Grant Date	Title
16/300,201	2017-05-15			Aminochlorohydridodisilanes
15/776,851	2016-12-16			Tris(disilanyl)amine
16/327,872	2017-09-21			Trichlorodisilane
16/061,477	2016-12-16			High purity trisilylamine, methods of making, and use
12/440,299	2007-08-29	8147789	2012-04-03	Composition comprising neopentasilane and method of preparing same
14/915,404	2014-09-03	9926203	2018-03-27	Method of making 2,2,4,4-tetrasilypentasilane
15/809,431	2017-11-10			2,2,4,4-tetrasilypentasilane and its compositions, methods and uses
15/223,685	2016-07-29	9899392	2018-02-20	Silicon precursor, method of forming a layer using the same, and method of fabricating semiconductor device using the same
14/602,671	2015-01-22			Silicon precursor, method of forming a layer using the same, and method of fabricating semiconductor device using the same
15/300,987	2015-05-29	9840523	2017-12-12	Process of synthesizing diisopropylamino-disilanes
15/314,300	2015-05-29	10030037	2018-07-24	Diaminosilane compounds
15/314,323	2015-05-29	10030038	2018-07-24	Monoaminosilane compounds
15/414,913	2017-01-25	10049882	2018-08-14	Method for fabricating semiconductor device including forming a dielectric layer on a structure having a height difference using aid
15/558,726	2016-05-19	10157735	2018-12-18	Pentachlorodisilane
15/779,653	2016-12-16	10858378	2020-12-08	Synthesis of disilanylamines through transamination
16/004,802	2018-06-11			Method of making aluminum-free neopentasilane
16/061,461	2016-12-16			Method for making an organoaminosilane; a method for making a silylamine from the organoaminosilane

Pat. Appl. No.	Filing Date	Pat. No.	Grant Date	Title
16/340,431	2017-11-29	10647734	2020-05-12	Catalysis of dehydrocoupling reactions between amines and silanes
16/669,560	2019-10-31			Catalysis of dehydrocoupling reactions between amines and silanes
16/635,442	2018-07-30			Method of preparing pentachlorodisilane purified reaction product comprising same
16/635,452	2018-07-30			1,1,1-tris(dimethylamino)disilane and method of preparing same
16/710,625	2019-12-10			Synthesis 1,1,1-trichlorodisilane

EP Patents/Applications:

Pat. Appl. No.	Filing Date	Pat. No.	Grant Date	Title
16822354	2016-12-16	EP: 3390409 DE: 602016023098 IT: 502020000000880 FR: 3390409B1 BE: 3390409B1 SE: 3390409B1 GB: 3390409B1	2019-10-23	Tris(dialkyl)amine
17778100	2017-09-21			Trichlorodisilane
16840347	2016-12-16			High purity trisilylamine, methods of making, and use
07811642	2007-08-29	EP: 2076558 DE: 602007054612	2018-04-18	Composition comprising neopentasilane and method of preparing same
14766329	2014-09-03	EP: 3041850 DE: 602014017294	2017-11-15	2,2,4,4-tetrakisilylpentasilane and its compositions, methods and uses
15799840	2015-05-29			Process of synthesizing diisopropylamino-disilanes
15799593	2015-05-29			Monoaminosilane compounds
15799744	2015-05-29			Monoaminosilane compounds
16726733	2016-05-19			Pentachlorodisilane

Pat. Appl. No.	Filing Date	Pat. No.	Grant Date	Title
18179116	2018-06-21	EP: 3418254 DE: 602018003091 FR: 3418254B1 SE: 3418254B1 BE: 3418254B1 IT: 3418254B1 AT: 1245722 GB: 3418254B1	2020-03-18	Method of making aluminum-free neopentasilane
16840348	2016-12-16	EP: 3390411 DE: 602016045141	2020-09-30	Method for making an organoaminosilane; a method for making a silylamine from the organoaminosilane
17811813	2017-11-29			Catalysis of dehydrocoupling reactions between amines and silanes
18755366	2018-07-30			Method of preparing pentachlorodisilane and purified reaction product comprising same
18756047	2018-07-30			1,1,1-tris(dimethylamino)disilane and method of preparing same

**TW Patents/Applications:**

Pat. Appl. No.	Filing Date	Pat. No.	Grant Date	Title
104117615	2015-06-01			Monoaminosilane compounds
104117616	2015-06-01			Monoaminosilane compounds
104117612	2015-06-01			Process of synthesizing diisopropylamino-disilanes
105115713	2016-05-20			Pentachlorodisilane
106146025	2017-12-27			Method for fabricating semiconductor device
105141901	2016-12-16			Tris(disilanyl)amine
105141894	2016-12-16			Synthesis of disilanylamines and polysilanylamines
105141895	2016-12-16			High purity trisilylamine, methods of making, and use

Pat. Appl. No.	Filing Date	Pat. No.	Grant Date	Title
105141899	2016-12-16			Method for making an organoaminosilane; a method for making a silylamine from the organoaminosilane
106116176	2017-05-16			Aminohydridodisilanes
106133001	2017-09-26			Trichlorodisilane
106144433	2017-12-18			Catalysis of dehydrocoupling reactions between amines and silanes
107122060	2018-06-27			Synthesis 1,1,1-trichlorodisilane
107123211	2018-07-04			Method of preparing pentachlorodisilane and purified reaction product comprising same
107123212	2018-07-04			1,1,1-tris(dimethylamino)disilane and method of preparing same
096134053	2007-09-12	1412530	2013-10-21	Composition comprising neopentasilane and method of preparing same
103130048	2014-09-01	1634073	2018-09-01	2,2,4,4-tetrasilylpentasilane and its compositions, methods uses