PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT2982713

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TOSHIBA TECHNO CENTER INC.	05/16/2014

RECEIVING PARTY DATA

Name:	KABUSHIKI KAISHA TOSHIBA
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PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	11296006
Application Number:	12607053

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NAME OF SUBMITTER:	TERESA A. LAVENUE
SIGNATURE:	/TERESA A. LAVENUE/
DATE SIGNED:	08/14/2014

Total Attachments: 5
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In the United States Patent and Trademark Office

WHEREAS, Toshiba Techno Center Inc., a corporation, duly organized and existing under the laws of Japan, with offices at 12-1 Ekimae-honcho, Kawasaki-ku, Kawasaki-shi, Kanagawa, 210-0007, Japan ("**ASSIGNOR**") owns certain patent applications and/or registrations, as listed in Schedule I attached hereto and incorporated herein by this reference ("**ASSIGNED PATENTS**");

WHEREAS, Kabushiki Kaisha Toshiba, a corporation, duly organized and existing under the laws of Japan, with offices at 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan ("**ASSIGNEE**"), desires to acquire all of the right, title and interest of ASSIGNOR in, to and under the ASSIGNED PATENTS.

NOW, THEREFORE, in consideration of good and valuable consideration paid by ASSIGNEE to ASSIGNOR, the receipt and sufficiency of which is hereby acknowledged, ASSIGNOR does hereby sell, assign, transfer and convey unto ASSIGNEE its entire right, title and interest in and to the ASSIGNED PATENTS, including all divisions, continuations, continuations-in-part, reexaminations, substitutions, reissues, extensions and renewals of the applications and registrations for the ASSIGNED PATENTS (and the right to apply for any of the foregoing), and all rights to causes of action and remedies with respect thereto (including, without limitation, the right to sue for past, present or future infringement, misappropriation or violation of the foregoing).

This ASSIGNMENT may not be supplemented, altered or modified in any manner except by a writing signed by all parties hereto. The failure of any party to enforce any terms or provisions of this ASSIGNMENT shall not waive any of its rights under such terms or provisions. This ASSIGNMENT shall bind and inure to the benefit of the respective parties and their assigns, transferees and successors.

This ASSIGNMENT may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument and shall become a binding agreement when one or more of the counterparts have been signed by each of the parties and delivered to the other party.

[Signature Page Follows]

IN WITNESS WHEREOF, ASSIGNOR and ASSIGNEE have caused this ASSIGNMENT to be duly executed by authorized officers of ASSIGNOR AND ASSIGNEE on this [sixteen (16)] day of May, 2014.

ASSIGNOR

By: Yoshi Tsuda

Name: Yoshiaki TSUDA

Title: President

ASSIGNEE

By: Hideo Kumagai

Name: Hideo KUMAGAI

Title: General Manager, Intellectual Property Division

Schedule I

Application No.	Filing Date	Patent No.	Title
11/932,293	31-Oct-2007	7,641,939	Chemical Vapor Deposition Reactor Having Multiple Inlets
11/740,736	26-Apr-2007	8,216,375	Drilled CVD Shower Head
11/296,006	6-Dec-2005		Light Emitter With Metal-Oxide Coating
12/607,053	27-Oct-2009		Light Emitter With Coating Layers
11/437,974	19-May-2006	7,737,455	Electrode Structures for LEDs With Increased Active Area
12/772,767	3-May-2010	8,080,879	Electrode Structures for LEDs With Increased Active Area
14/107,856	16-Dec-2013		Electrode Structures for LEDs With Increased Active Area
11/502,940	11-Aug-2006	7,439,548	Surface Mountable Chip
12/202,827	2-Sep-2008	7,632,691	Surface Mountable Chip
12/614,430	8-Nov-2009	7,863,626	Surface Mountable Chip
11/504,435	14-Aug-2006	7,674,639	GaN Based LED with Improved Light Extraction Efficiency and Method for Making the Same
12/688,918	18-Jan-2010	7,993,943	GaN Based LED with Improved Light Extraction Efficiency and Method for Making the Same
11/378,763	17-Mar-2006	7,622,746	Highly Reflective Mounting Arrangement for LEDs
12/610,261	30-Oct-2009	8,324,652	Highly Reflective Mounting Arrangement for LEDs
12/047,165	12-Mar-2008	7,858,999	Light-Emitting Chip Device with High Thermal Conductivity
12/701,336	5-Feb-2010		Light-Emitting Diode Chip With High Light Extraction And Method For Manufacturing The Same
13/214,725	22-Aug-2011	8,338,848	LED Structure
11/952,048	6-Dec-2007	8,026,527	LED Structure
12/165,269	30-Jun-2008	8,216,419	Drilled CVD Shower Head
12/058,380	28-Mar-2008	8,668,775	Brazed CVD Shower Head
12/060,116	31-Mar-2008	7,968,902	Light Emitting Devices With Constant Forward Voltage
12/111,084	28-Apr-2008	8,664,747	Trenched Substrate For Crystal Growth And Wafer Bonding
12/130,824	30-May-2008	7,732,803	Light Emitting Device Having Stacked Multiple LEDs
12/234,601	19-Sep-2008	7,935,979	Wire Bonding To Connect Electrodes
12/183,020	1-May-2008	7,825,425	LED Structure To Increase Brightness
12/892,796	28-Sep-2010		LED Structure To Increase Brightness
12/208,502	11-Sep-2008	7,939,839	Series Connected Segmented LED
13/049,492	16-Mar-2011	8,207,543	Series Connected Segmented LED
12/472,809	27-May-2009	8,637,891	Light-Emitting Device With Improved Electrode Structures
14/150,438	8-Jan-2014		Light-Emitting Device With Improved Electrode Structures
12/210,845	15-Sep-2008	7,741,134	Inverted LED Structure With Improved Light Extraction
12/779,813	13-May-2010	7,915,621	Inverted LED Structure With Improved Light Extraction
12/978,842	27-Dec-2010	8,506,754	Cross Flow CVD Reactor

12/359,934	26-Jan-2009	8,183,575	Method And Apparatus For Providing A Patterned Electrically Conductive And Optically Transparent or Semi-Transparent Layer Over A Lighting Semiconductor Device
12/434,208	1-May-2009	8,455,332	Method And Apparatus For Manufacturing LED Devices Using Laser Scribing
12/906,349	18-Oct-2010	8,324,636	Method And Apparatus For Manufacturing LED Devices Using Laser Scribing
12/835,632	13-Jul-2010	8,163,578	Thin-Film LED With P And N Contacts Electrically Isolated From The Substrate
13/532,749	25-Jun-2012	8,546,832	Thin-Film LED With P And N Contacts Electrically Isolated From The Substrate
13/892,188	10-May-2013		Thin-Film LED With P And N Contacts Electrically Isolated From The Substrate
12/482,413	10-Jun-2009	8,207,547	Thin-Film LED With P And N Contacts Electrically Isolated From The Substrate
12/545,358	21-Aug-2009	8,232,568	High Brightness LED Utilizing A Roughened Active Layer And Conformal Cladding
12/626,474	25-Nov-2009	8,525,221	LED With Improved Injection Efficiency
13/959,297	5-Aug-2013	8684749	LED With Improved Injection Efficiency
14/175,623	7-Feb-2014		LED With Improved Injection Efficiency
12/725,424	16-Mar-2010	8,084,775	Light Sources With Serially Connected LED Segments Including Current Blocking Diodes
12/941,799	8-Nov-2010	8,455,895	LED-Based Light Source Utilizing Asymmetric Conductors
13/178,497	8-Jul-2011	8,395,165	Laterally Contacted Blue LED with Superlattice Current Spreading Layer
13/194,744	29-Jul-2011		A Boron-Containing Buffer Layer for Growing Gallium Nitride on Silicon
13/196,828	27-Jul-2011		N-Type Gallium-Nitride Layer Having Multiple Conductive Intervening Layers
13/197,765	3-Aug-2011		LED on Silicon Substrate Using Zinc-Sulfide as Buffer Layer
14/158,426	17-Jan-2014		LED on Silicon Substrate Using Zinc-Sulfide as Buffer Layer
13/198,664	4-Aug-2011	8,564,010	Distributed Current Blocking Structures for Light Emitting Diodes
13/967,982			Distributed Current Blocking Structures for Light Emitting Diodes
13/196,839	2-Aug-2011		High Temperature Gold-Free Wafer Bonding for Light Emitting Diodes
13/196,854	2-Aug-2011		LED Having a Low Defect N-Type Layer that has Grown on a Silicon Substrate
13/587,746	16-Aug-2012	8,624,482	Distributed Bragg Reflector for Reflecting Light of Multiple Wavelengths from an LED
14/055,596	16-Oct-2013		Distributed Bragg Reflector for Reflecting Light of Multiple Wavelengths from an LED
13/359,428	26-Jan-2012		Gold Micromask for Roughening to Promote Light Extraction in an LED
13/227,406	7-Sep-2011	8,686,430	Buffer Layer for GaN-on-Si LED
13/602,145	1-Sep-2012	8,669,585	An LED that has Bounding Silicon-Doped Regions on Either Side of a Strain Release Layer

14/158,440	17-Jan-2014		An LED that has Bounding Silicon-Doped Regions on Either Side of a Strain Release Layer
13/226,404	6-Sep-2011	8,558,247	GaN LEDs with Improved Area and Method for Making the Same
14/026,556	13-Sep-2013		GaN LEDs with Improved Area and Method for Making the Same
13/249,146	29-Sep-2011		Light Emitting Regions for Use with Light Emitting Devices
13/249,184	29-Sep-2011		Light Emitting Devices Having Light Coupling Layers
13/293,031	9-Nov-2011	8,552,465	Method for Reducing Stress in Epitaxial Growth
14/114,312	28-Oct-2013		Light Emitting Devices Having Shielded Silicon Substrates
14/114,332	28-Oct-2013		Submount for LED Device Package