

## PATENT ASSIGNMENT

Electronic Version v1.1  
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SUBMISSION TYPE:	NEW ASSIGNMENT																		
NATURE OF CONVEYANCE:	ASSIGNMENT																		
CONVEYING PARTY DATA																			
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Ewald K. M. Gunther</td> <td>09/03/2013</td> </tr> <tr> <td>Andreas Plobl</td> <td>08/22/2013</td> </tr> <tr> <td>Heribert Zull</td> <td>08/23/2013</td> </tr> <tr> <td>Thomas Veit</td> <td>08/26/2013</td> </tr> <tr> <td>Mathias Kampf</td> <td>09/02/2013</td> </tr> <tr> <td>Jens Dennemarck</td> <td>08/22/2013</td> </tr> <tr> <td>Bernd Bohm</td> <td>09/02/2013</td> </tr> <tr> <td>Korbinian Perzimaier</td> <td>09/16/2013</td> </tr> </tbody> </table>		Name	Execution Date	Ewald K. M. Gunther	09/03/2013	Andreas Plobl	08/22/2013	Heribert Zull	08/23/2013	Thomas Veit	08/26/2013	Mathias Kampf	09/02/2013	Jens Dennemarck	08/22/2013	Bernd Bohm	09/02/2013	Korbinian Perzimaier	09/16/2013
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RECEIVING PARTY DATA																			
<table border="1"> <tr> <td>Name:</td> <td>OSRAM Opto Semiconductors GmbH</td> </tr> <tr> <td>Street Address:</td> <td>Leibnizstrasse 4</td> </tr> <tr> <td>City:</td> <td>Regensburg</td> </tr> <tr> <td>State/Country:</td> <td>GERMANY</td> </tr> <tr> <td>Postal Code:</td> <td>93055</td> </tr> </table>		Name:	OSRAM Opto Semiconductors GmbH	Street Address:	Leibnizstrasse 4	City:	Regensburg	State/Country:	GERMANY	Postal Code:	93055								
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PROPERTY NUMBERS Total: 1																			
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13984081</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13984081														
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CORRESPONDENCE DATA																			
<p>Fax Number: 2156562498  <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 215-656-3381        Email: pto.phil@dlapiper.com        Correspondent Name: T. Daniel Christenbury        Address Line 1: One Liberty Place        Address Line 2: 1650 Market Street, Suite 4900        Address Line 4: Philadelphia, PENNSYLVANIA 19103</p>																			

CH \$40.00 13984081

ATTORNEY DOCKET NUMBER:	EHF-13-1250
NAME OF SUBMITTER:	Carol Coney
Signature:	/cc/
Date:	09/19/2013

**Total Attachments: 36**

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P2011,0109 US N / 2010P24177WOUS  
Page 1 of 4

# ASSIGNMENT

For good and valuable consideration, I (We),

Ewald Karl Michael Günther,  
residing at Espental 10  
93128 Regenstauf  
Germany  
citizen of Germany

Andreas Plöchl,  
residing at Johann-Igl-Weg 24  
93051 Regensburg  
Germany  
citizen of Germany

Heribert Zull,  
residing at Charles-Lindbergh-Str. 6  
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hereafter individually or collectively referred to as "Assignor(s)";

Hereby, (I) acknowledge having previously assigned, sold and transferred to **OSRAM Opto Semiconductors GmbH**, a corporation organized and existing under the laws of GERMANY, having its principal place of business at Leibnizstr. 4 in 93055 Regensburg, hereinafter "Assignee", its successors, assigns and legal representatives, or to a predecessor of Assignee, pursuant to (A)(i) the laws of GERMANY or (ii) a Patent & Secrecy Agreement or similar legal document such as, without limitation, an employee agreement executed at the time of entering into the employment of, or executed as a condition of continuing employment with, the Assignee or a predecessor of the Assignee, the entire right, including any and all priority rights, title and interest, in and for the United States and all foreign countries, in and to any and all inventions or improvements which are disclosed in an invention disclosure and/or in the below-identified documents currently filed with this Assignment, already filed or granted for Letters Patent (in which case, any provision of the subject Assignment that is in conflict with or is in addition to any provision in the prior agreement(s) or assignment(s) then this Assignment shall govern, take precedence, and be of legal effect), or

(B)(i) to the extent such laws of GERMANY or such Patent & Secrecy Agreement or similar legal document failed or fails, in whole or part, to have assigned, sold or transferred the entire right (including priority rights), title and interest, in and for the United States and all foreign countries, in and to all inventions or improvements which are disclosed in the below-identified application(s) or pending application(s) or granted Letters Patent, or (ii) if no such agreement(s) exist assigning, selling or transferring any such right (including priority rights), title or interest; then for good and valuable consideration, Assignor(s) now and hereby, effective Nunc Pro Tunc on the filing date of the below identified patent application(s), pending patent application(s) or granted Letter Patent(s), assign, sell and transfer(s) to Assignee, its successors, assigns and legal representatives, the entire right, (including all priority rights), title and interest in and for the United States and all foreign countries, in and to any and all inventions and/or improvements which are disclosed in the following identified; patent application(s), pending patent application(s) or granted Letter Patent(s)

Patent Application Title: CARRIER SUBSTRATE AND METHOD FOR PRODUCING SEMICONDUCTOR CHIPS  
Filing Date: 08/07/2013 (MM/DD/YYYY)  
Filing Number: 13/984,081  
Internal Case Number(s): EHF-13-1250


and in and to said application(s) or granted patents and all applications claiming priority to said application or granted patent, including, without limitation, and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of the inventions and/or improvements; and in and to all original and reissued patents which have been or shall be filed in the United States and all foreign countries on the inventions and/or improvements;

(II) Agree that said Assignee may apply for and receive Letters Patent for said inventions and/or improvements in its own name; and that, when requested, without charge to but at the expense of said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all said inventions and/or improvements; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and legal representatives, all facts known to the undersigned relating to said inventions and/or improvements and the history thereof; and generally do everything possible which said Assignee, its successors,

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Page 3 of 4

assigns or legal representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said inventions and/or improvements and for vesting title to said inventions and or improvements and all applications for patents and all patents on said inventions and/or improvements, in said Assignee, its successors, assigns and legal representatives; and

(III) Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.



Witness Signature



Ewald Karl Michael Günther

MARIANNE RENNER

printed name of witness

03. September 2013

Date

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Witness Signature

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Andreas Plöchl

\_\_\_\_\_  
printed name of witness

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Date

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Companies Representative(s)  
OSRAM Opto Semiconductors GmbH

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 Witness Signature

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Ewald Karl Michael Günther

\_\_\_\_\_  
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Andreas Plöchl

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printed name of witness

\_\_\_\_\_  
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Witness Signature

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Heribert Zull

\_\_\_\_\_  
MICHAEL BLOEDORN  
printed name of witness

\_\_\_\_\_  
August 23th, 2013  
Date

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Thomas Velt

\_\_\_\_\_  
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residing at Charles-Lindbergh-Str. 6  
93049 Regensburg  
Germany  
citizen of German

Thomas Veit,  
residing at Im Anger 93  
93098 Mintraching  
Germany  
citizen of Germany

Mathias Kämpf,  
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93133 Burglengenfeld  
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Bernd Böhm,  
residing at Embacher Str. 14  
93083 Obertraubling  
Germany  
citizen of Germany

Korbinian Perzmaier,  
residing at Bischof-Konrad-Str. 2  
93051 Regensburg  
Germany  
citizen of Germany

Docket No.: EHF-13-1250  
P2011,0109 US N / 2010P24177WOUS  
Page 2 of 4

hereafter individually or collectively referred to as "Assignor(s)";

Hereby, (I) acknowledge having previously assigned, sold and transferred to **OSRAM Opto Semiconductors GmbH**, a corporation organized and existing under the laws of GERMANY, having its principal place of business at Leibnizstr. 4 in 93055 Regensburg, hereinafter "Assignee", its successors, assigns and legal representatives, or to a predecessor of Assignee, pursuant to (A)(i) the laws of GERMANY or (ii) a Patent & Secrecy Agreement or similar legal document such as, without limitation, an employee agreement executed at the time of entering into the employment of, or executed as a condition of continuing employment with, the Assignee or a predecessor of the Assignee, the entire right, including any and all priority rights, title and interest, in and for the United States and all foreign countries, in and to any and all inventions or improvements which are disclosed in an invention disclosure and/or in the below-identified documents currently filed with this Assignment, already filed or granted for Letters Patent (in which case, any provision of the subject Assignment that is in conflict with or is in addition to any provision in the prior agreement(s) or assignment(s) then this Assignment shall govern, take precedence, and be of legal effect), or

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Filing Date: 08/07/2013 (MM/DD/YYYY)  
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Internal Case Number(s): EHF-13-1250

and in and to said application(s) or granted patents and all applications claiming priority to said application or granted patent, including, without limitation, and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of the inventions and/or improvements; and in and to all original and reissued patents which have been or shall be filed in the United States and all foreign countries on the inventions and/or improvements;

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P2011,0109 US N / 2010P24177WOUS  
Page 3 of 4

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\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Ewald Karl Michael Günther

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Andreas Plöchl

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
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\_\_\_\_\_  
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\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Thomas Veit

\_\_\_\_\_  
Martin Heinz  
printed name of witness

\_\_\_\_\_  
26. August 2013  
Date

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Page 3 of 4

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93128 Regenstauf  
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Witness Signature

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Ewald Karl Michael Günther

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

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Andreas Plöchl

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

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printed name of witness

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Date

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Witness Signature

\_\_\_\_\_  
Thomas Veit

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

Docket No.: EHF-13-1250  
P2011,0109 US N / 2010P24177WOUS  
Page 4 of 4

T. Adlhoch  
Witness Signature

Mathias Kämpf  
Mathias Kämpf

Thomas Adlhoch  
printed name of witness

September 10/2/2013  
Date

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Jens Dennemarck

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness Signature

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Bernd Böhm

\_\_\_\_\_  
printed name of witness

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Witness Signature

\_\_\_\_\_  
Korbinian Perzlmaier

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

Companies Representative(s)  
OSRAM Opto Semiconductors GmbH

\_\_\_\_\_  
Signature  
Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature  
Name

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Page 1 of 4

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Ewald Karl Michael Günther,  
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93128 Regenstauf  
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~~93051 Regensburg~~  
Germany  
citizen of Germany

*Am Brennofen 54  
93055 Regensburg*

*Jens Dennemarck  
22. August 2013*

Bernd Böhm,  
residing at Embacher Str. 14  
93083 Obertraubling  
Germany  
citizen of Germany

Korbinian Perzmaier,  
residing at Bischof-Konrad-Str. 2  
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Witness Signature

\_\_\_\_\_  
Ewald Karl Michael Günther

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

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Witness Signature

\_\_\_\_\_  
Andreas Plöchl

\_\_\_\_\_  
printed name of witness

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Date

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Heribert Zull

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Thomas Veit

\_\_\_\_\_  
printed name of witness

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Date

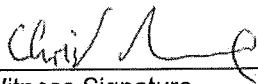
Docket No.: EHF-13-1250  
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Page 4 of 4

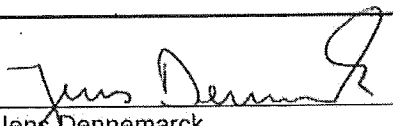
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Mathias Kämpf

\_\_\_\_\_  
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\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Witness Signature

  
\_\_\_\_\_  
Jens Dennemarck

CHRISTOPH MANNAL  
\_\_\_\_\_  
printed name of witness

22 August 2013  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Bernd Böhm

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OSRAM Opto Semiconductors GmbH

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Date

Docket No.: EHF-13-1250  
P2011,0109 US N / 2010P24177WOUS  
Page 4 of 4

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Witness Signature

\_\_\_\_\_  
Mathias Kämpf

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

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Witness Signature

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Jens Dennemarck

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

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Witness Signature

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Bernd Böhm

\_\_\_\_\_  
MARTIN HERZ  
printed name of witness

\_\_\_\_\_  
02. September 2013  
Date

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Witness Signature

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Korbinian Perzlmaier

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

Companies Representative(s)  
OSRAM Opto Semiconductors GmbH

\_\_\_\_\_  
Signature  
Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature  
Name

\_\_\_\_\_  
Date

Docket No.: EHF-13-1250  
P2011,0109 US N / 2010P24177WOUS  
Page 1 of 4

### ASSIGNMENT

For good and valuable consideration, I (We),

Ewald Karl Michael Günther,  
residing at Espental 10  
93128 Regensburg  
Germany  
citizen of Germany

Andreas Plöchl,  
residing at Johann-Igl-Weg 24  
93051 Regensburg  
Germany  
citizen of Germany

Heribert Zull,  
residing at Charles-Lindbergh-Str. 6  
93049 Regensburg  
Germany  
citizen of German

Thomas Veit,  
residing at Im Anger 93  
93098 Mintraching  
Germany  
citizen of Germany

Mathias Kämpf,  
residing at Richard-Wagner-Str. 52  
93133 Burglengelfeld  
Germany  
citizen of Germany

Jens Dennemarck,  
residing at Hadamarstr. 22D  
93051 Regensburg  
Germany  
citizen of Germany

Bernd Böhm,  
residing at Embacher Str. 14  
93083 Obertraubling  
Germany  
citizen of Germany

Korbinian Perzmaier,  
residing at Bischof-Konrad-Str. 2  
93051 Regensburg  
Germany  
citizen of Germany

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Page 2 of 4

hereafter individually or collectively referred to as "Assignor(s)";

Hereby, (I) acknowledge having previously assigned, sold and transferred to **OSRAM Opto Semiconductors GmbH**, a corporation organized and existing under the laws of GERMANY, having its principal place of business at Leibnizstr. 4 in 93055 Regensburg, hereinafter "Assignee", its successors, assigns and legal representatives, or to a predecessor of Assignee, pursuant to (A)(i) the laws of GERMANY or (ii) a Patent & Secrecy Agreement or similar legal document such as, without limitation, an employee agreement executed at the time of entering into the employment of, or executed as a condition of continuing employment with, the Assignee or a predecessor of the Assignee, the entire right, including any and all priority rights, title and interest, in and for the United States and all foreign countries, in and to any and all inventions or improvements which are disclosed in an invention disclosure and/or in the below-identified documents currently filed with this Assignment, already filed or granted for Letters Patent (in which case, any provision of the subject Assignment that is in conflict with or is in addition to any provision in the prior agreement(s) or assignment(s) then this Assignment shall govern, take precedence, and be of legal effect), or

(B)(i) to the extent such laws of GERMANY or such Patent & Secrecy Agreement or similar legal document failed or fails, in whole or part, to have assigned, sold or transferred the entire right (including priority rights), title and interest, in and for the United States and all foreign countries, in and to all inventions or improvements which are disclosed in the below-identified application(s) or pending application(s) or granted Letters Patent, or (ii) if no such agreement(s) exist assigning, selling or transferring any such right (including priority rights), title or interest; then for good and valuable consideration, Assignor(s) now and hereby, effective Nunc Pro Tunc on the filing date of the below identified patent application(s), pending patent application(s) or granted Letter Patent(s), assign, sell and transfer(s) to Assignee, its successors, assigns and legal representatives, the entire right, (including all priority rights), title and interest in and for the United States and all foreign countries, in and to any and all inventions and/or improvements which are disclosed in the following identified; patent application(s), pending patent application(s) or granted Letter Patent(s)

Patent Application Title: CARRIER SUBSTRATE AND METHOD FOR PRODUCING  
SEMICONDUCTOR CHIPS  
Filing Date: 08/07/2013 (MM/DD/YYYY)  
Filing Number: 13/984,081  
Internal Case Number(s): EHF-13-1250

and in and to said application(s) or granted patents and all applications claiming priority to said application or granted patent, including, without limitation, and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of the inventions and/or improvements; and in and to all original and reissued patents which have been or shall be filed in the United States and all foreign countries on the inventions and/or improvements;

(II) Agree that said Assignee may apply for and receive Letters Patent for said inventions and/or improvements in its own name; and that, when requested, without charge to but at the expense of said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all said inventions and/or improvements; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and legal representatives, all facts known to the undersigned relating to said inventions and/or improvements and the history thereof; and generally do everything possible which said Assignee, its successors,



Docket No.: EHF-13-1250  
P2011,0109 US N / 2010P24177WOUS  
Page 3 of 4

assigns or legal representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said inventions and/or improvements and for vesting title to said inventions and or improvements and all applications for patents and all patents on said inventions and/or improvements, in said Assignee, its successors, assigns and legal representatives; and

(III) Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Ewald Karl Michael Günther

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Andreas Plöchl

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Bernd Böhm

\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

Mathias Peter  
Witness Signature

Korbinian Perzmaier  
Korbinian Perzmaier

Mathias Peter  
printed name of witness

September 16, 2013  
Date

Companies Representative(s)  
OSRAM Opto Semiconductors GmbH

\_\_\_\_\_  
Signature  
Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature  
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Page 3 of 4

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(III) Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

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Ewald Karl Michael Günther

\_\_\_\_\_  
printed name of witness

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Date

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Andreas Plößl

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Jens Dennemarck

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Bernd Böhm

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printed name of witness

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\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Korbinian Perzimaier


\_\_\_\_\_  
printed name of witness

\_\_\_\_\_  
Date

Companies Representative(s)  
OSRAM Opto Semiconductors GmbH

\_\_\_\_\_  
Signature

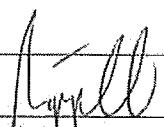
\_\_\_\_\_  
Name

  
Aldo Kamper  
President & CEO

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name

  
Josef Ringsgwardl  
CFO

\_\_\_\_\_  
Date

04 SEP 2013