

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT2705044

SUBMISSION TYPE:	NEW ASSIGNMENT																								
NATURE OF CONVEYANCE:	SECURITY AGREEMENT																								
CONVEYING PARTY DATA																									
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>SUNEDISON, INC.</td> <td>01/15/2014</td> </tr> <tr> <td>SOLAICX</td> <td>01/15/2014</td> </tr> <tr> <td>SUN EDISON, LLC</td> <td>01/15/2014</td> </tr> <tr> <td>NVT, LLC</td> <td>01/15/2014</td> </tr> </tbody> </table>		Name	Execution Date	SUNEDISON, INC.	01/15/2014	SOLAICX	01/15/2014	SUN EDISON, LLC	01/15/2014	NVT, LLC	01/15/2014														
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RECEIVING PARTY DATA																									
Name:	DEUTSCHE BANK AG NEW YORK BRANCH																								
Street Address:	100 PLAZA ONE, 6TH FLOOR																								
Internal Address:	MAIL STOP: JCY03-0699																								
City:	JERSEY CITY																								
State/Country:	NEW JERSEY																								
Postal Code:	07311-3901																								
PROPERTY NUMBERS Total: 353																									
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Patent Number:</td> <td>6689209</td> </tr> <tr> <td>Patent Number:</td> <td>5919303</td> </tr> <tr> <td>Patent Number:</td> <td>7485928</td> </tr> <tr> <td>Patent Number:</td> <td>7888685</td> </tr> <tr> <td>Patent Number:</td> <td>7497907</td> </tr> <tr> <td>Patent Number:</td> <td>7521382</td> </tr> <tr> <td>Patent Number:</td> <td>6287380</td> </tr> <tr> <td>Patent Number:</td> <td>8147613</td> </tr> <tr> <td>Patent Number:</td> <td>5571373</td> </tr> <tr> <td>Patent Number:</td> <td>7559825</td> </tr> <tr> <td>Patent Number:</td> <td>5573680</td> </tr> </tbody> </table>		Property Type	Number	Patent Number:	6689209	Patent Number:	5919303	Patent Number:	7485928	Patent Number:	7888685	Patent Number:	7497907	Patent Number:	7521382	Patent Number:	6287380	Patent Number:	8147613	Patent Number:	5571373	Patent Number:	7559825	Patent Number:	5573680
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CORRESPONDENCE DATA

Fax Number: (212)755-7306
Phone: 212-326-3939
Email: NYTEF@JONESDAY.COM
Correspondence will be sent via US Mail when the email attempt is unsuccessful.
Correspondent Name: SUSAN M. O'CONNOR
Address Line 1: 222 EAST 41ST STREET
Address Line 4: NEW YORK, NEW YORK 10017

ATTORNEY DOCKET NUMBER:

PATENT
REEL: 032177 FRAME: 0369

	693468-740002
NAME OF SUBMITTER:	SUSAN O'CONNOR
Signature:	/Susan O'Connor/
Date:	01/30/2014
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 52

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PATENT SECURITY AGREEMENT

This **PATENT SECURITY AGREEMENT**, dated as of January 15, 2014 (as it may be amended, restated, supplemented or otherwise modified from time to time, this “**Agreement**”), is made by the entities identified as grantors on the signature pages hereto (collectively, the “**Grantors**”) in favor of Deutsche Bank AG New York Branch, as collateral agent for the Secured Parties (in such capacity, together with its successors and permitted assigns, the “**Administrative Agent**”).

WHEREAS, the Grantors are party to that certain Pledge and Security Agreement dated as of December 20, 2013 (the “**Security Agreement**”) between each of the Grantors and the other grantors party thereto and the Administrative Agent pursuant to which the Grantors granted a security interest to the Administrative Agent in the Patent Collateral (as defined below) and are required to execute and deliver this Agreement.

NOW, THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Grantors hereby agree with the Administrative Agent as follows:

SECTION. 1. Defined Terms

Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest

Each Grantor hereby grants to the Administrative Agent, for the benefit of the Secured Parties, a security interest in and continuing lien on all of such Grantor’s right, title and interest in, to and under the following, in each case whether now or hereafter existing or in which such Grantor now has or hereafter acquires an interest and wherever the same may be located (collectively, the “**Patent Collateral**”):

all United States and foreign patents and certificates of invention, or similar industrial property rights, and applications for any of the foregoing, including, but not limited to: (i) each patent and patent application listed or required to be listed in Schedule A attached hereto, (ii) all reissues, divisions, continuations, continuations-in-part, extensions, renewals, and reexaminations thereof, (iii) all patentable inventions and improvements thereto, (iv) the right to sue or otherwise recover for any past, present and future infringement or other violation thereof, (v) all Proceeds of the foregoing, including, without limitation, license fees, royalties, income, payments, claims, damages, and proceeds of suit now or hereafter due and/or payable with respect thereto, and (vi) all other rights of any kind accruing thereunder or pertaining thereto throughout the world.

SECTION 3. Security Agreement

The security interest granted pursuant to this Agreement is granted in conjunction with the security interest granted to the Administrative Agent for the Secured Parties pursuant to the Security Agreement, and the Grantors hereby acknowledge and affirm that the rights and remedies of the Administrative Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Administrative Agent shall determine otherwise.

SECTION 4. Governing Law

THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND ALL CLAIMS AND CONTROVERSIES ARISING OUT OF THE SUBJECT MATTER HEREOF WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO CONFLICTS OF LAW PROVISIONS THAT WOULD RESULT IN THE APPLICATION OF ANY OTHER LAW (OTHER THAN ANY MANDATORY PROVISIONS OF LAW RELATING TO THE LAW GOVERNING PERFECTION AND THE EFFECT OF PERFECTION OF THE SECURITY INTEREST).

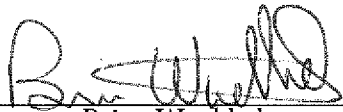
SECTION 5. Counterparts

This Agreement may be executed in one or more counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed an original, but all such counterparts together shall constitute but one and the same instrument.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, each Grantor has caused this Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

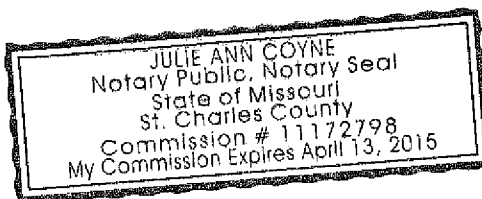
SUNEDISON, INC.

By: 
Name: Brian Wuebbels
Executive Vice President &
Chief Financial Officer

STATE OF Missouri)
) ss.
COUNTY OF St. Charles)

On this 13 day of January, 2014 before me personally appeared Brian Wuebbels proved to me on the basis of satisfactory evidence to be the person who executed the foregoing instrument on behalf of SunEdison, Inc., who being by me duly sworn did depose and say that he/she is an authorized officer of said corporation, that the said instrument was signed on behalf of said corporation as authorized by its Board of Directors and that he/she acknowledged said instrument to be the free act and deed of said corporation.

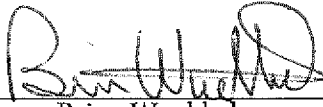

Notary Public



[Patent Security Agreement]

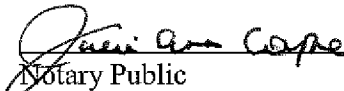
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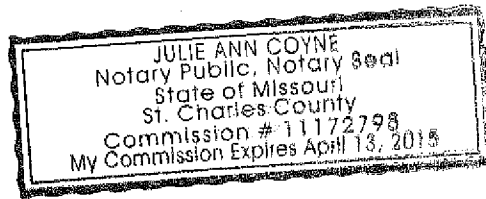
SOLAICX

By: 
Name: Brian Wuebbels
Authorized Officer

STATE OF Missouri)
) ss.
COUNTY OF St. Charles)

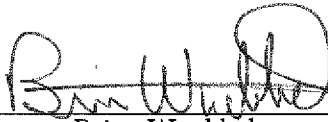
On this 13 day of January, 2014 before me personally appeared Brian Wuebbels proved to me on the basis of satisfactory evidence to be the person who executed the foregoing instrument on behalf of Solaicx, who being by me duly sworn did depose and say that he/she is an authorized officer of said corporation, that the said instrument was signed on behalf of said corporation as authorized by its Board of Directors and that he/she acknowledged said instrument to be the free act and deed of said corporation.


Notary Public



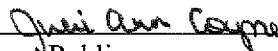
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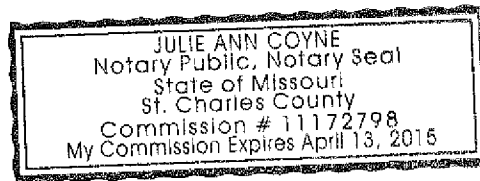
NVT, LLC

By: 
Name: Brian Wuebbels
Authorized Officer

STATE OF Missouri)
) ss.
COUNTY OF St. Charles)

On this 13 day of January, ~~2014~~ before me personally appeared Brian Wuebbels, proved to me on the basis of satisfactory evidence to be the person who executed the foregoing instrument on behalf of NVT, LLC, who being by me duly sworn did depose and say that he/she is an authorized officer of said corporation, that the said instrument was signed on behalf of said corporation as authorized by its Board of Directors and that he/she acknowledged said instrument to be the free act and deed of said corporation.

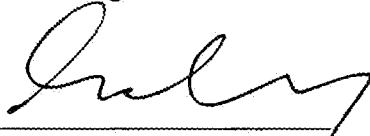

Notary Public



[Patent Security Agreement]

Accepted and Agreed:

DEUTSCHE BANK AG NEW YORK BRANCH,
as Administrative Agent

By: 
Name: EVERARDUS J. ROZING
Title: VICE PRESIDENT

By: 
Name: Christine LaMonaca
Title: Assistant Vice President

[Patent Security Agreement]

Sun Edison U.S. Patent Disclosure

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6689209		PROCESS FOR PREPARING LOW DEFECT DENSITY SILICON USING HIGH GROWTH RATES	Falster, Robert J.; Voronkov, Vladimir V.
US	Granted	MEMC Electronic Materials, Inc.	5919303		PROCESS FOR PREPARING A SILICON MELT FROM A POLYSILICON CHARGE	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	7485928		ARSENIC AND PHOSPHORUS DOPED SILICON WAFER SUBSTRATES HAVING INTRINSIC GETTERING	Falster, Robert J.; Voronkov, Vladimir V.; Borionetti, Gabriella
US	Granted	MEMC Electronic Materials, Inc.	7888685		HIGH PURITY SILICON CARBIDE STRUCTURES	Shive, Larry, W.; Gilmore, Brian L.
US	Granted	MEMC Electronic Materials, Inc.	7497907		PARTIALLY DEVITRIFIED CRUCIBLE	Holder, John Davis; Phillips, Richard J.
US	Granted	MEMC Electronic Materials, Inc.	7521382		HIGH RESISTIVITY SILICON STRUCTURE AND A PROCESS FOR THE PREPARATION THEREOF	Falster, Robert J.; Voronkov, Vladimir V.; Voronkova, Galina I.; Batunina, Anna V.
US	Granted	MEMC Electronic Materials, Inc.	6287380		LOW DEFECT DENSITY SILICON	Falster, Robert J.; Holzer, Joseph C.
US	Granted	MEMC Electronic Materials, Inc.	8147613		CRYSTAL PULLER AND METHOD FOR GROWING A MONOCRYSTALLINE INGOT	KULKARNI, Milind S.
US	Granted	MEMC Electronic Materials, Inc.	5571373		METHOD OF ROUGH POLISHING SEMICONDUCTOR WAFERS TO REDUCE SURFACE ROUGHNESS	Krishna, Vepa; Wisnieski, Michael S.; Illig, Lois

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	7559825		METHOD OF POLISHING A SEMICONDUCTOR WAFER	Erk, Henry Frank; Schmit, Judith Ann; Vandamme, Roland
US	Granted	MEMC Electronic Materials, Inc.	5573680		METHOD FOR ETCHING A SEMICONDUCTOR MATERIAL WITHOUT ALTERING FLOW PATTERN DEFECT DISTRIBUTION	Shaw, Roger Walz; Holzer, Joseph C.
US	Granted	MEMC Electronic Materials, Inc.	7462246		MODIFIED SUSCEPTOR FOR BARREL REACTOR	Hellwig, Lance G.
US	Granted	MEMC Electronic Materials, Inc.	7691199		MELTER ASSEMBLY AND METHOD FOR CHARGING A CRYSTAL FORMING APPARATUS WITH MOLTEN SOURCE MATERIAL	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	7465351		MELTER ASSEMBLY AND METHOD FOR CHARGING A CRYSTAL FORMING APPARATUS WITH MOLTEN SOURCE MATERIAL	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	5578284		SILICON SINGLE CRYSTAL HAVING ELIMINATED DISLOCATION IN ITS NECK	Chandrasekhar, Sadasivam; Kim, Kyong-Min
US	Granted	MEMC Electronic Materials, Inc.	6828690		NON-UNIFORM MINORITY CARRIER LIFETIME DISTRIBUTIONS IN HIGH PERFORMANCE SILICON POWER DEVICES	Falster, Robert J.
US	Published	MEMC Electronic Materials, Inc.	20080314319	11/965506	SUSCEPTOR FOR IMPROVING THROUGHPUT AND REDUCING WAFER DAMAGE	Hamano, Manabu; Kommu, Srikanth; Pitney, John A.; Torack,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
						Thomas A; Hellwig, Lance G.
US	Granted	MEMC Electronic Materials, Inc.	7431765		PROCESS FOR PREPARING SINGLE CRYSTAL SILICON HAVING IMPROVED GATE OXIDE INTEGRITY	Falster, Robert J.; Voronkov, Vladimir V.; Mutti, Paolo; Bonoli, Francesco
US	Granted	MEMC Electronic Materials, Inc.	7696103		METHOD FOR PURIFYING SILICON CARBIDE COATED STRUCTURES	Shive, Larry, W.
US	Granted	MEMC Electronic Materials, Inc.	7442253		PROCESS FOR FORMING LOW DEFECT DENSITY, IDEAL OXYGEN PRECIPITATING SILICON	Falster, Robert J.; Holzer, Joseph C.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	5588993		METHOD FOR PREPARING MOLTEN SILICON MELT FROM POLYCRYSTALLINE SILICON CHARGE	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	8192248		SEMICONDUCTOR WAFER POLISHING APPARATUS AND METHOD OF POLISHING	Albrecht, Peter D.; Zhang, Guoqiang D.
US	Granted	MEMC Electronic Materials, Inc.	8153538		PROCESS FOR ANNEALING SEMICONDUCTOR WAFERS WITH FLAT DOPANT DEPTH PROFILES	Shive, Larry, W.; Gilmore, Brian L.
US	Granted	MEMC Electronic Materials, Inc.	8042697		LOW THERMAL MASS SEMICONDUCTOR WAFER SUPPORT	Gilmore, Brian L.; Hellwig, Lance G.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	7404856		NITROGEN-DOPED SILICON SUBSTANTIALLY FREE OF OXIDATION INDUCED STACKING FAULTS	Haga, Hiroyo; Aoshima, Takaaki; Banan, Mohsen
US	Granted	MEMC Electronic Materials, Inc.	8216362		CONTROLLING AGGLOMERATED POINT DEFECT AND OXYGEN CLUSTER FORMATION INDUCED BY THE LATERAL SURFACE OF A SILICON SINGLE CRYSTAL DURING CZ GROWTH	KULKARNI, Milind S.
US	Published	MEMC Electronic Materials, Inc.	20070269361	11/750717	SILICON MATERIAL WITH CONTROLLED AGGLOMERATED POINT DEFECTS AND OXYGEN CLUSTERS INDUCED BY THE LATERAL SURFACE	KULKARNI, Milind S.
US	Granted	MEMC Electronic Materials, Inc.	7846006		DRESSING A WAFER POLISHING PAD	Stinson, Mark G.; Esayanur, Madhavan S.; Buese, Dennis; Corsi, Emanuele; BOVIO, Ezio; Rinaldi, Antonio Maria; Flannery, Lawrence P
US	Granted	MEMC Electronic Materials, Inc.	8066553		WAFER CLAMPING DEVICE FOR A DOUBLE SIDE GRINDER	Bhagavat, Milind S.; GUPTA, Puneet; Vandamme, Roland; Kazama, Takuto; Tachi, Noriyuki
US	Granted	MEMC Electronic Materials, Inc.	7566951		SILICON STRUCTURES WITH IMPROVED RESISTANCE TO RADIATION EVENTS	Seacrist, Michael R.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	7662023		DOUBLE SIDE WAFER GRINDER AND METHODS FOR ASSESSING WORKPIECE NANOTOPOLOGY	Vandamme, Roland; Bhagavat, Milind S.
US	Published	MEMC Electronic Materials, Inc.	20070176238	11/698728	SEMICONDUCTOR WAFER WITH HIGH THERMAL CONDUCTIVITY	Seacrist, Michael R.
US	Granted	MEMC Electronic Materials, Inc.	7878883		WIRE SAW INGOT SLICING SYSTEM AND METHOD WITH INGOT PREHEATING, WEB PREHEATING, SLURRY TEMPERATURE CONTROL AND/OR SLURRY FLOW RATE CONTROL	GUPTA, Puneet; KULKARNI, Milind S.; Zavattari, Carlo; Vandamme, Roland
US	Granted	MEMC Electronic Materials, Inc.	7601049		DOUBLE SIDE WAFER GRINDER AND METHODS FOR ASSESSING WORKPIECE NANOTOPOLOGY	Bhagavat, Sumeet S.; Bhagavat, Milind S.; Vandamme, Roland; Komura, Tonomi
US	Granted	MEMC Electronic Materials, Inc.	7618879		NON-UNIFORM MINORITY CARRIER LIFETIME DISTRIBUTIONS IN HIGH PERFORMANCE SILICON POWER DEVICES	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	7938982		SILICON WAFER ETCHING COMPOSITIONS	Stinson, Mark G.; Erk, Henry Frank; Zhang, Guoqiang D.
US	Granted	MEMC Electronic Materials, Inc.	7879198		PROCESS FOR THE PURIFICATION OF TRICHLOROSILANE AND SILICON TETRACHLORIDE	Ghetti, Gianfranco
US	Granted	MEMC Electronic Materials, Inc.	8058173		METHODS FOR PRODUCING SMOOTH WAFERS	Shive, Larry, W.; Gilmore, Brian L.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	8404049		EPITAXIAL BARREL SUSCEPTOR HAVING IMPROVED THICKNESS UNIFORMITY	Hellwig, Lance G.; Kommu, Srikanth; Pitney, John A.
US	Published	MEMC Electronic Materials, Inc.	20090165721	11/965459	SUSCEPTOR WITH SUPPORT BOSSES	Pitney, John A.; Hamano, Manabu; Hellwig, Lance G.
US	Granted	MEMC Electronic Materials, Inc.	7878562		SEMICONDUCTOR WAFER CARRIER BLADE	Hamano, Manabu; Pitney, John A.; Hellwig, Lance G.
US	Granted	MEMC Electronic Materials, Inc.	7930058		NANOTOPOGRAPHY CONTROL AND OPTIMIZATION USING FEEDBACK FROM WARP DATA	Bhagavat, Sumeet S.; Vandamme, Roland; Komura, Tonomi; Kaneko, Tomohiko; Kazama, Takuto
US	Granted	MEMC Electronic Materials, Inc.	6330971		RADIO FREQUENCY IDENTIFICATION SYSTEM AND METHOD FOR TRACKING SILICON WAFERS	Mabry, Frank Robert; Rhodes, James Scott
US	Granted	MEMC Electronic Materials, Inc.	5919302		LOW DEFECT DENSITY VACANCY DOMINATED SILICON	Falster, Robert J.; Holzer, Joseph C.; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	6503322		ELECTRICAL RESISTANCE HEATER AND METHOD FOR CRYSTAL GROWING APPARATUS	Schrenker, Richard G.; Luter, William L.
US	Granted	MEMC Electronic Materials, Inc.	6114245		METHOD OF PROCESSING SEMICONDUCTOR WAFERS	Vandamme, Roland; Xin, Yun-Biao; Pei, Zhijian

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6294469		SILICON WAFERING PROCESS FLOW	KULKARNI, Milind S.; Desai, AnKur
US	Granted	MEMC Electronic Materials, Inc.	6306733		IDEAL OXYGEN PRECIPITATING EPITAXIAL SILICON WAFERS AND OXYGEN OUT-DIFFUSION-LESS PROCESS TEHREFOR	Falster, Robert J.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano
US	Granted	MEMC Electronic Materials, Inc.	5422316		SEMICONDUCTOR WAFER POLISHER AND METHOD	Desai, AnKur; Wisnieski, Michael S.; Golland, David I.
US	Granted	MEMC Electronic Materials, Inc.	5787595		METHOD AND APPARATUS FOR CONTROLLING FLATNESS OF POLISHED SEMICONDUCTOR WAFER	Desai, AnKur; Adcock, Troy W.; Hall, Jr., Harold E.; Wisnieski, Michael S.
US	Granted	MEMC Electronic Materials, Inc.	5791493		POLYSILICON PARTICLE CLASSIFYING APPARATUS	Meyer, James R.
US	Granted	MEMC Electronic Materials, Inc.	5770522		POLISHING BLOCK HEATER	Bronson, Francis Richard
US	Granted	MEMC Electronic Materials, Inc.	5910295		CLOSED LOOP PROCESS FOR PRODUCING POLYCRYSTALLINE SILICON AND FUMED SILICA	DeLuca, John P.
US	Granted	MEMC Electronic Materials, Inc.	6006738		METHOD AND APPARATUS FOR CUTTING AN INGOT	Itoh, Kunio; Tanaka, Nobutaka
US	Granted	MEMC Electronic Materials, Inc.	6019838		CRYSTAL GROWING APPARATUS WITH MELT-DOPING FACILITY	Canella, Marcello
US	Granted	MEMC Electronic	5990014		IN SITU WAFER CLEANING PROCESS	Wilson, Gregory M.; Lottes, Charles R.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.				
US	Granted	MEMC Electronic Materials, Inc.	5922127		HEAT SHIELD FOR CRYSTAL PULLER	Luter, William L.; Ferry, Lee W.
US	Granted	MEMC Electronic Materials, Inc.	5906533		RADIANT POLISHING BLOCK HEATER	Harris, Darrel; Hall, Jr., Harold E.
US	Granted	MEMC Electronic Materials, Inc.	6183553		PROCESS AND APPARATUS FOR PREPARATION OF SILICON CRYSTALS WITH REDUCED METAL CONTENT	Holder, John Davis; Joslin, Steven M.; Korb, Harold W.
US	Granted	MEMC Electronic Materials, Inc.	6006736		METHOD AND APPARATUS FOR WASHING SILICON INGOT WITH WATER TO REMOVE PARTICULATE MATTER	Suzuki, Yoshihiro; Kato, Koichi; Takami, Keichi; Kawamura, Kyoichi; Watanabe, Takehiro; Kosako, Masahiro
US	Granted	MEMC Electronic Materials, Inc.	6409827		LOW DEFECT DENSITY SILICON AND A PROCESS FOR PRODUCING LOW DEFECT DENSITY SILICON WHEREIN V/G0 IS CONTROLLED BY CONTROLLING HEAT TRANSFER AT THE MELT/SOLID INTERFACE	Falster, Robert J.; Holzer, Joseph C.
US	Granted	MEMC Electronic Materials, Inc.	6254672		LOW DEFECT DENSITY SELF-INTERSTITIAL DOMINATED SILICON	Falster, Robert J.; Holzer, Joseph C.; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic	6409826		LOW DEFECT DENSITY, SELF-INTERSTITIAL DOMINATED	Falster, Robert J.; Holzer, Joseph C.;

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.			SILICON	Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	6190631		LOW DEFECT DENSITY, IDEAL OXYGEN PRECIPITATING SILICON	Falster, Robert J.; Holzer, Joseph C.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	6187089		TUNGSTEN DOPED CRUCIBLE AND METHOD FOR PREPARING SAME	Phillips, Richard J.; Keltner, Steven Jack
US	Granted	MEMC Electronic Materials, Inc.	6858307		METHOD FOR THE PRODUCTION OF LOW DEFECT DENSITY SILICON	Voronkov, Vladimir V.; Falster, Robert J.; Banan, Mohsen
US	Granted	MEMC Electronic Materials, Inc.	6379642		VACANCY DOMINATED, DEFECT-FREE SILICON	Falster, Robert J.; Mutti, Paolo; Holzer, Joseph C.; McQuaid, Seamus, A.; Markgraf, Stephen A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	6391662		PROCESS FOR DETECTING AGGLOMERATED INTRINSIC POINT DEFECTS BY METAL DECORATION	Stagno, Luciano Mule; Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6635587		METHOD FOR PRODUCING CZOCHRALSKI SILICON FREE OF AGGLOMERATED SELF-INTERSTITIAL DEFECTS	Stagno, Luciano Mule; Libbert, Jeffrey L.; Holzer, Joseph C.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6500255		PROCESS FOR GROWING SILICON CRYSTALS WHICH ALLOWS FOR VARIABILITY IN THE PROCESS CONDITIONS WHILE SUPPRESSING THE FORMATION OF AGGLOMERATED INTRINSIC POINT DEFECTS	Falster, Robert J.; Voronkov, Vladimir V.; Mutti, Paolo
US	Granted	MEMC Electronic Materials, Inc.	6652646		PROCESS FOR GROWING A SILICON CRYSTAL SEGMENT SUBSTANTIALLY FREE FROM AGGLOMERATED INTRINSIC POINT DEFECTS WHICH ALLOWS FOR VARIABILITY IN THE PROCESS CONDITIONS	Falster, Robert J.; Voronkov, Vladimir V.; Mutti, Paolo
US	Granted	MEMC Electronic Materials, Inc.	7008874		PROCESS FOR RECLAIMING SEMICONDUCTOR WAFERS AND RECLAIMED WAFERS	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6376395		SEMICONDUCTOR WAFER MANUFACTURING PROCESS	Vasat, Jiri L.; Stefanescu, Andrei; Hanley, Thomas M.
US	Granted	MEMC Electronic Materials, Inc.	7242037		PROCESS FOR MAKING NON-UNIFORM MINORITY CARRIER LIFETIME DISTRIBUTION IN HIGH PERFORMANCE SILICON POWER DEVICES	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6913647		PROCESS FOR COOLING A SILICON INGOT HAVING A VACANCY DOMINATED REGION TO PRODUCE DEFECT FREE SILICON	Falster, Robert J.; Korb, Harold W.
US	Granted	MEMC Electronic	6432197		PROCESS FOR THE PREPARATION OF NON-	Falster, Robert J.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.			OXYGEN PRECIPITATING CZOCHRALSKI SILICON WAFERS	
US	Granted	MEMC Electronic Materials, Inc.	6686260		PROCESS FOR PRODUCING THERMALLY ANNEALED WAFERS HAVING IMPROVED INTERNAL GETTERING	Falster, Robert J.; Binns, Martin Jeffrey; Korb, Harold W.
US	Granted	MEMC Electronic Materials, Inc.	6849901		DEVICE LAYER OF A SILICON-ON-INSULATOR STRUCTURE HAVING VACANCY DOMINATED AND SUBSTANTIALLY FREE OF AGGLOMERATED VACANCY-TYPE DEFECTS	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6565649		EPITAXIAL WAFER SUBSTANTIALLY FREE OF GROWN-IN DEFECTS	Stagno, Luciano Mule; Fei, Lu; Holzer, Joseph C.; Korb, Harold W.; Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	7097718		SINGLE CRYSTAL SILICON WAFER HAVING AN EPITAXIAL LAYER SUBSTANTIALLY FREE FROM GROWN-IN DEFECTS	Stagno, Luciano Mule; Fei, Lu; Holzer, Joseph C.; Korb, Harold W.; Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6743289		THERMAL ANNEALING PROCESS FOR PRODUCING LOW DEFECT DENSITY SINGLE CRYSTAL SILICON	Falster, Robert J.; Binns, Martin Jeffrey; Wang, Alan
US	Granted	MEMC Electronic Materials, Inc.	6444027		MODIFIED SUSCEPTOR FOR USE IN CHEMICAL VAPOR DEPOSITION PROCESS	Yang, Charles Chiun-Chieh; Standley, Robert W.
US	Granted	MEMC Electronic Materials, Inc.	6652650		MODIFIED SUSCEPTOR FOR USE IN CHEMICAL VAPOR DEPOSITION PROCESS	Yang, Charles Chiun-Chieh; Standley, Robert W.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6350312		STRONTIUM DOPING OF MOLTEN SILICON FOR USE IN CRYSTAL GROWING PROCESS	Phillips, Richard J.; Keltner, Steven Jack; Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	6319313		BARIUM DOPING OF MOLTEN SILICON FOR USE IN CRYSTAL GROWING PROCESS	Phillips, Richard J.; Keltner, Steven Jack; Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	6461427		BARIUM DOPING OF MOLTEN SILICON FOR USE IN CRYSTAL GROWING PROCESS	Phillips, Richard J.; Keltner, Steven Jack; Holder, John Davis; Drafall, Larry E.
US	Granted	MEMC Electronic Materials, Inc.	6454851		METHOD FOR PREPARING MOLTEN SILICON MELT FROM POLYCRYSTALLINE SILICON CHARGE	Fuerhoff, Robert H.; Banan, Mohsen; Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	6986925		SINGLE CRYSTAL SILICON HAVING IMPROVED GATE OXIDE INTEGRITY	Falster, Robert J.; Voronkov, Vladimir V.; Mutti, Paolo; Bonoli, Francesco
US	Granted	MEMC Electronic Materials, Inc.	6869477		CONTROLLED NECK GROWTH PROCESS FOR SINGLE CRYSTAL SILICON	Haga, Hiroyo; Kojima, Makoto; Saga, Shigemi
US	Granted	MEMC Electronic Materials, Inc.	6586068		IDEAL OXYGEN PRECIPITATING SILICON WAFER HAVING AN ASYMMETRICAL VACANCY CONCENTRATION PROFILE AND A PROCESS FOR THE PREPARATION THEREOF	Falster, Robert J.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano
US	Granted	MEMC Electronic Materials, Inc.	6896728		PROCESS FOR PRODUCING LOW DEFECT DENSITY, IDEAL OXYGEN PRECIPITATING SILICON	Falster, Robert J.; Holzer, Joseph C.; Cornara, Marco; Gambaro, Daniela;

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
						Olmo, Massimiliano; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	7229693		LOW DEFECT DENSITY, IDEAL OXYGEN PRECIPITATING SILICON	Falster, Robert J.; Holzer, Joseph C.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	6579779		PROCESS FOR THE PREPARATION OF AN IDEAL OXYGEN PRECIPITATING SILICON WAFER HAVING AN ASYMMETRICAL VACANCY CONCENTRATION PROFILE CAPABLE OF FORMING AN ENHANCED DENUDED ZONE	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6713370		PROCESS FOR THE PREPARATION OF AN IDEAL OXYGEN PRECIPITATING SILICON WAFER CAPABLE OF FORMING AN ENHANCED DENUDED ZONE	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6846539		LOW DEFECT DENSITY SILICON HAVING A VACANCY-DOMINATED CORE SUBSTANTIALLY FREE OF OXIDATION INDUCED	Kim, Chang Bum; Kimbel, Steven L; Libbert, Jeffrey L.; Banan, Mohsen

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
					STACKING FAULTS	
US	Granted	MEMC Electronic Materials, Inc.	7217320		LOW DEFECT DENSITY SILICON HAVING A VACANCY-DOMINATED CORE SUBSTANTIALLY FREE OF OXIDATION INDUCED STACKING FAULTS	Kim, Chang Bum; Kimbel, Steven L; Libbert, Jeffrey L.; Banan, Mohsen
US	Granted	MEMC Electronic Materials, Inc.	7132091		SINGLE CRYSTAL SILICON INGOT HAVING A HIGH ARSENIC CONCENTRATION	KULKARNI, Milind S.; Banan, Mohsen; Luers, Christopher V.
US	Granted	MEMC Electronic Materials, Inc.	7071080		PROCESS FOR PRODUCING SILICON ON INSULATOR STRUCTURE HAVING INTRINSIC GETTERING BY ION IMPLANTATION	Falster, Robert J.; Libbert, Jeffrey L.
US	Granted	MEMC Electronic Materials, Inc.	6930375		SILICON ON INSULATOR STRUCTURE HAVING AN EPITAXIAL LAYER AND INTRINSIC GETTERING	Falster, Robert J.; Libbert, Jeffrey L.
US	Granted	MEMC Electronic Materials, Inc.	6712673		POLISHING APPARATUS, POLISHING HEAD AND METHOD	Albrecht, Peter D.; Hull, Ashley S.; Vadnais, David
US	Granted	MEMC Electronic Materials, Inc.	7201800		PROCESS FOR MAKING SILICON WAFERS WITH STABILIZED OXYGEN PRECIPITATE NUCLEATION CENTERS	Stagno, Luciano Mule; Libbert, Jeffrey L.; Phillips, Richard J.; KULKARNI, Milind S.; Banan, Mohsen; Brunkhorst, Stephen J.
US	Granted	MEMC Electronic Materials, Inc.	6808781		SILICON WAFERS WITH STABILIZED OXYGEN PRECIPITATE NUCLEATION CENTERS AND PROCESS FOR	Stagno, Luciano Mule; Libbert, Jeffrey L.; Phillips, Richard J.; KULKARNI, Milind S.;

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
					MAKING THE SAME	Banan, Mohsen; Brunkhorst, Stephen J.
US	Granted	MEMC Electronic Materials, Inc.	6942733		FLUID SEALING SYSTEM FOR A CRYSTAL PULLER	Cherko, Carl F.; Cook, Robert D.
US	Granted	MEMC Electronic Materials, Inc.	6960254		METHOD TO MONITOR AND CONTROL THE CRYSTAL COOLING OR QUENCHING RATE BY MEASURING CRYSTAL SURFACE TEMPERATURE	Lu, Zheng; Kimbel, Steven L
US	Granted	MEMC Electronic Materials, Inc.	7323421		SILICON WAFER ETCHING PROCESS AND COMPOSITION	Stinson, Mark G.; Erk, Henry Frank; Zhang, Guoqiang D.; Bjelopavlic, Mick; Grabbe, Alexis; Vermeire, Josef G.; Schmidt, Judith A.; Doane, Thomas E.; Capstick, James R.
US	Granted	MEMC Electronic Materials, Inc.	7291221		ELETROMAGNETIC PUMPING OF LIQUID SILICON IN A CRYSTAL GROWING PROCESS	Korb, Harold W.
US	Granted	MEMC Electronic Materials, Inc.	7223304		CONTROLLING MELT-SOLID INTERFACE SHAPE OF A GROWING SILICON CRYSTAL USING A VAIRABLE MAGNETIC FIELD	Lu, Zheng
US	Granted	MEMC Electronic Materials, Inc.	5593494		PRECISION CONTROLLED PRECIPITATION OF OXYGEN IN SILICON	Falster, Robert J.
US	Granted	MEMC	6605150		LOW DEFECT DENSITY	Falster, Robert J.;

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Electronic Materials, Inc.			REGIONS FOR SELF-INTERSTITIAL DOMINATED SILICON	Holzer, Joseph C.
US	Granted	MEMC Electronic Materials, Inc.	6709981		METHOD AND APPARATUS FOR PROCESSING A SEMICONDUCTOR WAFER USING NOVEL FINAL POLISHING METHOD	Grabbe, Alexis; Bjelopavlic, Mick; Hull, Ashley S.; Haler, Michele L.; Zhang, Guoqiang D.; Erk, Henry Frank; Xin, Yun-Biao
US	Granted	MEMC Electronic Materials, Inc.	7182809		NITROGEN-DOPED SILICON SUBSTANTIALLY FREE OF OXIDATION INDUCED STACKING FAULTS	Haga, Hiroyo; Aoshima, Takaaki; Banan, Mohsen
US	Granted	MEMC Electronic Materials, Inc.	6344083		PROCESS FOR PRODUCING A SILICON MELT	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	6652645		PROCESS FOR PREPARING A SILICON MELT	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	6749683		PROCESS FOR PRODUCING A SILICON MELT	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	5779791		PROCESS FOR CONTROLLING THERMAL HISTORY OF CZOCHRALSKI-GROWN SILICON	Korb, Harold W.; Chandrasekhar, Sadasivam; Falster, Robert J.; Holzer, Joseph C.; Kim, Kyong-Min; Kimbel, Steven L; Drafall, Larry E.
US	Granted	MEMC Electronic Materials, Inc.	6866713		SEED CRYSTALS FOR PULLING SINGLE CRYSTAL SILICON	Sreedharamurthy, Hariprasad; Banan, Mohsen

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6663709		CRYSTAL PULLER AND METHOD FOR GROWING MONOCRYSTALLINE SILICON INGOTS	Lu, Zheng; Banan, Mohsen; Tao, Ying; Ferry, Lee W.; Cherko, Carl F.
US	Granted	MEMC Electronic Materials, Inc.	6743495		THERMAL ANNEALING PROCESS FOR PRODUCING SILICON WAFERS WITH IMPROVED SURFACE CHARACTERISTICS	Vasat, Jiri L.; Stefanescu, Andrei; Torack, Thomas A; Wilson, Gregory M.
US	Granted	MEMC Electronic Materials, Inc.	6342725		SILICON ON INSULATOR STRUCTURE HAVING A LOW DEFECT DENSITY HANDLER WAFER AND PROCESS FOR THE PREPARATION THEREOF	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6361619		THERMALLY ANNEALED WAFERS HAVING IMPROVED INTERNAL GETTERING	Falster, Robert J.; Binns, Martin Jeffrey; Korb, Harold W.
US	Granted	MEMC Electronic Materials, Inc.	5849076		COOLING SYSTEM AND METHOD FOR EPITAXIAL BARREL REACTOR	Gaylord, Eric Lee; Mueller, Charles Herman
US	Granted	MEMC Electronic Materials, Inc.	6214704		METHOD OF PROCESSING SEMICONDUCTOR WAFERS TO BUILD IN BACK SURFACE DAMAGE	Xin, Yun-Biao
US	Granted	MEMC Electronic Materials, Inc.	6214109		APPARATUS FOR CONTROLLING THE OXYGEN CONTENT IN SILICON WAFERS HEAVILY DOPED WITH ANTIMONY OR ARSENIC	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	6129048		SUSCEPTOR FOR BARREL REACTOR	Sullivan, Steven M.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6241818		METHOD AND SYSTEM OF CONTROLLING TAPER GROWTH IN A SEMICONDUCTOR CRYSTAL GROWTH PROCESS	Kimbel, Steven L.; Wyand, III, Robert R.
US	Granted	MEMC Electronic Materials, Inc.	6338805		PROCESS FOR FABRICATING SEMICONDUCTOR WAFERS WITH EXTERNAL GETTERING	Anderson, Gary L.
US	Granted	MEMC Electronic Materials, Inc.	6293139		METHOD OF DETERMINING PERFORMANCE CHARACTERISTICS OF POLISHING PADS	Keller, Kevin A.; Whitman, Jr. Gerald A.
US	Granted	MEMC Electronic Materials, Inc.	6284384		EPITAXIAL SILICON WAFER WITH INTRINSIC GETTERING	Wilson, Gregory M.; Rossi, Jon A.; Yang, Charles Chiun-Chieh
US	Granted	MEMC Electronic Materials, Inc.	6197111		HEAT SHIELD ASSEMBLY FOR CRYSTAL PULLER	Ferry, Lee W.; Ishii, Yasuhiro
US	Granted	MEMC Electronic Materials, Inc.	6554898		CRYSTAL PULLER FOR GROWING MONOCRYSTALLINE SILICON INGOTS	Lu, Zheng; Banan, Mohsen; Tao, Ying; Ferry, Lee W.; Cherko, Carl F.
US	Granted	MEMC Electronic Materials, Inc.	6555194		PROCESS FOR PRODUCING LOW DEFECT DENSITY, IDEAL OXYGEN PRECIPITATING SILICON	Falster, Robert J.; Holzer, Joseph C.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic	6537655		EPITAXIAL SILICON WAFER WITH INTRINSIC GETTERING	Wilson, Gregory M.; Rossi, Jon A.; Yang,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.			AND A METHOD FOR THE PREPARATION THEREOF	Charles Chiun-Chieh
US	Granted	MEMC Electronic Materials, Inc.	5891250		INJECTOR FOR REACTOR	Lottes, Charles R.; Torack, Thomas A
US	Granted	MEMC Electronic Materials, Inc.	6776840		METHOD AND APPARATUS FOR CONTROLLING DIAMETER OF A SILICON CRYSTAL IN A LOCKED SEED LIFT GROWTH PROCESS	Fuerhoff, Robert H.; Kimbel, Steven L
US	Granted	MEMC Electronic Materials, Inc.	5882402		METHOD FOR CONTROLLING GROWTH OF A SILICON CRYSTAL	Fuerhoff, Robert H.
US	Granted	MEMC Electronic Materials, Inc.	5885344		NON-DASH NECK METHOD FOR SINGLE CRYSTAL SILICON GROWTH	Kim, Kyong-Min; Chandrasekhar, Sadasivam
US	Granted	MEMC Electronic Materials, Inc.	5882989		PROCESS FOR THE PREPARATION OF SILICON WAFERS HAVING A CONTROLLED DISTRIBUTION OF OXYGEN PRECIPITATE NUCLEATION CENTERS	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6726764		METHOD FOR CONTROLLING GROWTH OF A SILICON CRYSTAL TO MINIMIZE GROWTH RATE AND DIAMETER DEVIATIONS	Mutti, Paolo; Voronkov, Vladimir V.
US	Granted	MEMC Electronic Materials, Inc.	6562123		PROCESS FOR GROWING DEFECT-FREE SILICON WHEREIN THE GROWN SILICON IS COOLED IN A SEPARATE CHAMBER	Falster, Robert J.; Korb, Harold W.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6579362		HEAT SHIELD ASSEMBLY FOR CRYSTAL PULLER	Ferry, Lee W.; Schrenker, Richard G.; Banan, Mohsen
US	Granted	MEMC Electronic Materials, Inc.	6236104		SILICON ON INSULATOR STRUCTURE FROM LOW DEFECT DENSITY SINGLE CRYSTAL SILICON	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	7135351		METHOD FOR CONTROLLING OF THERMAL DONOR FORMATION IN HIGH RESISTIVITY CZ SILICON	Binns, Martin Jeffrey; Falster, Robert J.; Libbert, Jeffrey L.
US	Granted	MEMC Electronic Materials, Inc.	7291222		SYSTEMS AND METHODS FOR MEASURING AND REDUCING DUST IN GRANULAR MATERIAL	Holder, John Davis; Sreedharamurthy, Hariprasad; Hilker, John D.
US	Granted	MEMC Electronic Materials, Inc.	5904768		PROCESS FOR CONTROLLING THE OXYGEN CONTENT IN SILICON WAFERS HEAVILY DOPED WITH ANTIMONY OR ARSENIC	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	5712198		PRE-THERMAL TREATMENT CLEANING PROCESS	Shive, Larry, W.; Pirooz, Saeed
US	Granted	MEMC Electronic Materials, Inc.	5846318		METHOD AND SYSTEM FOR CONTROLLING GROWTH OF A SILICON CRYSTAL	Javidi, Massoud
US	Granted	MEMC Electronic Materials, Inc.	5816274		APPARATUS FOR CLEANING SEMICONDUCTOR WAFERS	Bartram, Ronald D.; Hollander, Eugene R.
US	Granted	MEMC Electronic Materials, Inc.	5814148		METHOD FOR PREPARING MOLTEN SILICON MELT FROM POLYCRYSTALLINE SILICON CHARGE	Kim, Kyong-Min; Allen, Leon A.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6638357		METHOD FOR REVEALING AGGLOMERATED INTRINSIC POINT DEFECTS IN SEMICONDUCTOR CRYSTALS	Stagno, Luciano Mule; Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6632278		LOW DEFECT DENSITY EPITAXIAL WAFER AND A PROCESS FOR THE PREPARATION THEREOF	Falster, Robert J.; Holzer, Joseph C.; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	7344594		MELTER ASSEMBLY AND METHOD FOR CHARGING A CRYSTAL FORMING APPARATUS WITH MOLTEN SOURCE MATERIAL	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	6312516		PROCESS FOR PREPARING DEFECT FREE SILICON CRYSTALS WHICH ALLOWS FOR VARIABILITY IN PROCESS CONDITIONS	Falster, Robert J.; Voronkov, Vladimir V.; Mutti, Paolo
US	Granted	MEMC Electronic Materials, Inc.	6328795		PROCESS FOR GROWTH OF DEFECT FREE SILICON CRYSTALS OR ARBITRARILY LARGE DIAMETERS	Falster, Robert J.; Korb, Harold W.
US	Granted	MEMC Electronic Materials, Inc.	6284039		EPITAXIAL SILICON WAFERS SUBSTANTIALLY FREE OF GROWN-IN DEFECTS	Stagno, Luciano Mule; Holzer, Joseph C.; Korb, Harold W.; Falster, Robert J.; Fei, Lu
US	Granted	MEMC Electronic Materials, Inc.	6336968		NON-OXYGEN PRECIPITATING CZOCHRALSKI SILICON WAFERS	Falster, Robert J.
US	Granted	MEMC Electronic	5766341		METHOD FOR ROTATING A CRUCIBLE OF A CRYSTAL	Kimbel, Steven L; Korb, Harold W.; Hall,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.			PULLING MACHINE	Cynthia F.
US	Granted	MEMC Electronic Materials, Inc.	6454635		METHOD AND APPARATUS FOR A WAFER CARRIER HAVING AN INSERT	Zhang, Guoqiang D.; Xin, Yun-Biao; Erk, Henry Frank
US	Granted	MEMC Electronic Materials, Inc.	5913975		CRUCIBLE AND METHOD OF PREPARATION THEREOF	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	7125450		PROCESS FOR PREPARING SINGLE CRYSTAL SILICON USING CRUCIBLE ROTATION TO CONTROL TEMPERATURE GRADIENT	Lu, Zheng; Kimbel, Steven L; Tao, Ying
US	Granted	MEMC Electronic Materials, Inc.	6803576		ANALYTICAL METHOD TO MEASURE NITROGEN CONCENTRATION IN SINGLE CRYSTAL SILICON	KULKARNI, Milind S.; Banan, Mohsen; Luers, Christopher V.
US	Granted	MEMC Electronic Materials, Inc.	7084048		PROCESS FOR METALLIC CONTAMINATION REDUCTION IN SILICON WAFERS	Shive, Larry, W.; Gilmore, Brian L.
US	Granted	MEMC Electronic Materials, Inc.	7033168		SEMICONDUCTOR WAFER BOAT FOR A VERTICAL FURNACE	GUPTA, Puneet; Shive, Larry, W.; Gilmore, Brian L.
US	Granted	MEMC Electronic Materials, Inc.	6958092		EPITAXIAL SILICON WAFER WITH INTRINSIC GETTERING AND A METHOD FOR THE PREPARATION THEREOF	Wilson, Gregory M.; Rossi, Jon A.; Yang, Charles Chiun-Chieh
US	Granted	MEMC Electronic Materials, Inc.	6053974		HEAT SHIELD FOR CRYSTAL PULLER	Luter, William L.; Ferry, Lee W.
US	Granted	MEMC Electronic Materials, Inc.	6039801		CONTINUOUS OXIDATION PROCESS FOR CRYSTAL PULLING APPARATUS	Holder, John Davis; Johnson, Bayard K.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	6709511		PROCESS FOR SUPPRESSING OXYGEN PRECIPITATION IN VACACY DOMINATED SILICON	
US	Granted	MEMC Electronic Materials, Inc.	5665159		SYSTEM FOR CONTROLLING GROWTH OF A SILICON CRYSTAL	Fuerhoff, Robert H.
US	Granted	MEMC Electronic Materials, Inc.	5653799		METHOD FOR CONTROLLING GROWTH OF A SILICON CRYSTAL	Fuerhoff, Robert H.
US	Granted	MEMC Electronic Materials, Inc.	5518549		SUSCEPTOR AND BAFFLE THEREFOR	Hellwig, Lance G.
US	Granted	MEMC Electronic Materials, Inc.	5908504		METHOD FOR TUNING BARREL REACTOR PURGE SYSTEM	Hanley, Thomas M.
US	Granted	MEMC Electronic Materials, Inc.	5837662		POST-LAPPING CLEANING PROCESS FOR SILICON WAFERS	Chai, Jing; Erk, Henry Frank; Schmidt, Judith A.; Doane, Thomas E.
US	Granted	MEMC Electronic Materials, Inc.	6093913		ELECTRICAL HEATER FOR CRYSTAL GROWTH APPARATUS WITH UPPER SECTIONS PRODUCING INCREASED HEATING POWER COMPARED TO LOWER SECTIONS	Schrenker, Richard G.; Luter, William L.
US	Granted	MEMC Electronic Materials, Inc.	5679055		AUTOMATED WAFER LAPPING SYSTEM	Greene, George W.; Albrecht, Peter D.; Strittmatter, Kenneth D.; Hidalgo, Rafael
US	Granted	MEMC Electronic Materials, Inc.	5827113		CUTTING MACHINE	Okuno, Kiyohito; Itoh, Sadahiko; Horii, Hisashi

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	5656078		NON-DISTORTING VIDEO CAMERA FOR USE WITH A SYSTEM FOR CONTROLLING GROWTH OF A SILICON CRYSTAL	Fuerhoff, Robert H.
US	Granted	MEMC Electronic Materials, Inc.	7008308		WAFER CARRIER	Bjelopavlic, Mick; Grabbe, Alexis; Haler, Michele L.; Ragan, Tracy M.
US	Granted	MEMC Electronic Materials, Inc.	5942032		HEAT SHIELD ASSEMBLY AND METHOD OF GROWING VACANCY RICH SINGLE CRYSTAL SILICON	Kim, Kyong-Min; Luter, William L.; Ferry, Lee W.; Braun, Robert J.; Ilic, Srdjan; Dioda, Mauro; Tosi, Paolo; Gobbo, Marco; Martini, Umberto E.
US	Granted	MEMC Electronic Materials, Inc.	6609870		GRANULAR SEMICONDUCTOR MATERIAL TRANSPORT SYSTEM AND PROCESS	Williams, Dick S.; VanBooven, Howard; Kurz, Jimmy D.; Kulage, Timothy J.
US	Granted	MEMC Electronic Materials, Inc.	5840120		APPARATUS FOR CONTROLLING NUCLEATION OF OXYGEN PRECIPITATES IN SILICON CRYSTALS	Kim, Kyong-Min; Shaw, Roger Walz; Chandrasekhar, Sadasivam; Schrenker, Richard G.
US	Granted	MEMC Electronic Materials, Inc.	5840202		APPARATUS AND METHOD FOR SHAPING POLISHING PADS	Walsh, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	5839460		APPARATUS FOR CLEANING SEMICONDUCTOR WAFERS	Chai, Jing; Watson, Jackie
US	Granted	MEMC Electronic	5865670		WAFER DEMOUNT APPARATUS	Frank, Kenneth Abraham; Durkee,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.				Roger Paul; Bronson, Francis Richard; Heim, Richard William
US	Granted	MEMC Electronic Materials, Inc.	6482269		PROCESS FOR THE REMOVAL OF COPPER AND OTHER METALLIC IMPURITIES FROM SILICON	Shive, Larry, W.; Vitus, Carrisima M.
US	Granted	MEMC Electronic Materials, Inc.	6514423		METHOD FOR WAFER PROCESSING	Ng, Kan-Yin; Teasley, Brent
US	Granted	MEMC Electronic Materials, Inc.	6479386		PROCESS FOR REDUCING SURFACE VARIATIONS FOR POLISHED WAFER	Ng, Kan-Yin; Xin, Yun-Biao; Erk, Henry Frank; Harris, Darrel; Jose, James; Hensiek, Stephen; Hollander, Eugene R.; Buese, Dennis; Negri, Giovanni
US	Granted	MEMC Electronic Materials, Inc.	6497403		SEMICONDUCTOR WAFER HOLDER	Ries, Michael J.
US	Granted	MEMC Electronic Materials, Inc.	6482263		HEAT SHIELD ASSEMBLY FOR CRYSTAL PULLING APPARATUS	Ferry, Lee W.; Kimbel, Steven L; McCallum, Kirk D.; Schrenker, Richard G.
US	Granted	MEMC Electronic Materials, Inc.	5843234		METHOD AND APPARATUS FOR AIMING A BARREL REACTOR NOZZLE	Finn, Donald; Hellwig, Lance G.
US	Granted	MEMC Electronic Materials, Inc.	5855859		GETTERING AGENT	Shive, Larry, W.; Pirooz, Saeed
US	Granted	MEMC Electronic Materials, Inc.	6447601		CRYSTAL PULLER AND METHOD FOR GROWING MONOCRYSTALLINE SILICON	Phillips, Richard J.; Drafall, Larry E.; McCallum, Kirk D.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
					INGOTS	
US	Granted	MEMC Electronic Materials, Inc.	6398631		METHOD AND APPARATUS TO PLACE WAFERS INTO AND OUT OF MACHINE	Anderson, Gary L.; Schmidt, Judy; Teasley, Brent; Buese, Dennis; Callahan, James; Loeschen, Gene
US	Granted	MEMC Electronic Materials, Inc.	5605487		SEMICONDUCTOR WAFER POLISHING APPARATUS AND METHOD	Hileman, Harold J.; Walsh, Robert J.; Walsh, Thomas A.
US	Granted	MEMC Electronic Materials, Inc.	6191010		PROCESS FOR PREPARING AN IDEAL OXYGEN PRECIPITATING SILICON WAFER	Falster, Robert J.
US	Granted	MEMC Electronic Materials, Inc.	6596095		EPITAXIAL SILICON WAFER FREE FROM AUTODOPING AND BACKSIDE HALO AND A METHOD AND APPARATUS FOR THE PREPARATION THEREOF	Ries, Michael J.; Yang, Charles Chiun-Chieh; Standley, Robert W.
US	Granted	MEMC Electronic Materials, Inc.	6520191		CARRIER FOR CLEANING SILICON WAFERS	Iwamoto, Yoshio; Kurokawa, Hiroyuki
US	Granted	MEMC Electronic Materials, Inc.	6515742		DEFECT CLASSIFICATION USING SCATTERED LIGHT INTENSITIES	Ruprecht, David John
US	Granted	MEMC Electronic Materials, Inc.	6435474		NON-CONTAMINATING GAS-TIGHT VALVE FOR SEMICONDUCTOR APPLICATIONS	Williams, Dick S.; Andrus, Treaf; Kulage, Timothy J.; Harrell, Ken
US	Granted	MEMC Electronic Materials, Inc.	6210640		COLLECTOR FOR AN AUTOMATED ON-LINE BATH ANALYSIS SYSTEM	Ruth, Kenneth A.; Schmidt, Philip R.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	5795381		SIO PROBE FOR REAL-TIME MONITORING AND CONTROL OF OXYGEN DURING CZOCHRALSKI GROWTH OF SINGLE CRYSTAL SILICON	Holder, John Davis
US	Granted	MEMC Electronic Materials, Inc.	6203611		METHOD OF CONTROLLING GROWTH OF A SEMICONDUCTOR CRYSTAL TO AUTOMATICALLY TRANSITION FROM TAPER GROWTH TO TARGET DIAMETER GROWTH	Kimbel, Steven L.; Wyand, III, Robert R.
US	Granted	MEMC Electronic Materials, Inc.	5593498		APPARATUS FOR ROTATING A CRUCIBLE OF A CRYSTAL PULLING MACHINE	Kimbel, Steven L.; Korb, Harold W.; Hall, Cynthia F.
US	Granted	MEMC Electronic Materials, Inc.	6180220		IDEAL OXYGEN PRECIPITATING SILICON WAFERS AND OXYGEN OUT-DIFFUSION-LESS PROCESS THEREFOR	Falster, Robert J.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano
US	Granted	MEMC Electronic Materials, Inc.	6171391		METHOD AND SYSTEM FOR CONTROLLING GROWTH OF A SILICON CRYSTAL	Fuerhoff, Robert H.; Banan, Mohsen
US	Granted	MEMC Electronic Materials, Inc.	6897084		CONTROL OF OXYGEN PRECIPITATE FORMATION IN HIGH RESISTIVITY CZ SILICON	Binns, Martin Jeffrey; Falster, Robert J.; Libbert, Jeffrey L.
US	Granted	MEMC Electronic Materials, Inc.	5628823		PROCESS FOR ELIMINATING DISLOCATIONS IN THE NECK OF A SILICON SINGLE CRYSTAL	Chandrasekhar, Sadasivam; Kim, Kyong-Min
US	Granted	MEMC Electronic	6416836		THERMALLY ANNEALED, LOW DEFECT DENSITY SINGLE	Falster, Robert J.; Binns, Martin Jeffrey; Wang,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.			CRYSTAL SILICON	Alan
US	Granted	MEMC Electronic Materials, Inc.	6840997		VACANCY, DOMINSATED, DEFECT-FREE SILICON	Falster, Robert J.; Holzer, Joseph C.; Markgraf, Stephen A.; Mutti, Paolo; McQuaid, Seamus, A.; Johnson, Bayard K.
US	Granted	MEMC Electronic Materials, Inc.	6849119		IDEAL OXYGEN PRECIPITATING SILICON WAFERS AND OXYGEN OUT-DIFFUSION-LESS PROCESS THEREFOR	Falster, Robert J.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano
US	Granted	MEMC Electronic Materials, Inc./General Electric Company (co-owners)	5976247		SURFACE-TREATED CRUCIBLES FOR IMPROVED ZERO DISLOCATION PERFORMANCE	Hansen, Richard L.; Drafall, Larry E.; McCutchan, Robert M.; Holder, John Davis; Allen, Leon A.; Shelley, Robert D.
US	Granted	MEMC Electronic Materials, Inc./General Electric Company (co-owners)	5980629		METHODS FOR IMPROVING ZERO DISLOCATION YIELD OF SINGLE CRYSTALS	Hansen, Richard L.; Drafall, Larry E.; McCutchan, Robert M.; Holder, John Davis; Shelley, Robert D.
US	Granted	MEMC Electronic Materials, Inc.	5994761		IDEAL OXYGEN PRECIPITATING SILICON WAFERS AND OXYGEN OUT-DIFFUSION-LESS PROCESS THEREFOR	Falster, Robert J.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	5792273		SECONDARY EDGE REFLECTOR FOR HORIZONTAL REACTOR	Ries, Michael J.; Hellwig, Lance G.; Rossi, Jon A.
US	Granted	MEMC Electronic Materials, Inc.	6227944		METHOD FOR PROCESSING A SEMICONDUCTOR WAFER	Xin, Yun-Biao; Yoshimura, Ichiro; Erk, Henry Frank; Vogelgesang, Ralph V.; Hensiek, Stephen
US	Granted	MEMC Electronic Materials, Inc.	6458202		PROCESS FOR PREPARING SINGLE CRYSTAL SILICON HAVING UNIFORM THERMAL HISTORY	Kojima, Makoto; Ishii, Yasuhiro
US	Granted	MEMC Electronic Materials, Inc.	6599815		METHOD AND APPARATUS FOR FORMING A SILICON WAFER WITH A DENUDED ZONE	Yang, Charles Chiun-Chieh
US	Granted	MEMC Electronic Materials, Inc.	6339016		METHOD AND APPARATUS FOR FORMING AN EPITAXIAL SILICON WAFER WITH A DENUDED ZONE	Torack, Thomas A; Ries, Michael J.
US	Granted	MEMC Electronic Materials, Inc.	7105050		METHOD FOR THE PRODUCTION OF LOW DEFECT DENSITY SILICON	Voronkov, Vladimir V.; Falster, Robert J.; Banan, Mohsen
US	Granted	MEMC Electronic Materials, Inc.	6204152		IDEAL OXYGEN PRECIPITATING SILICON WAFERS AND OXYGEN OUT-DIFFUSION-LESS PROCECSS THEREFOR	Falster, Robert J.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano
US	Granted	MEMC Electronic Materials, Inc.	6315828		CONTINUOUS OXIDATION PROCESS FOR CRYSTAL PULLING APPARATUS	Holder, John Davis; Johnson, Bayard K.
US	Granted	MEMC Electronic	6376335		SEMICONDUCTOR WAFER MANUFACTURING PROCESS	Zhang, David; Ng, Kan-Yin; Erk, Henry Frank

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.				
US	Granted	MEMC Electronic Materials, Inc.	7137874		SEMICONDUCTOR WAFER POLISHING APPARATUS AND METHOD	BOVIO, Ezio; Corbellini, Paride; Morganti, Marco; Negri, Giovanni; Albrecht, Peter D.
US	Granted	MEMC Electronic Materials, Inc.	6537368		IDEAL OXYGEN PRECIPITATING EPITAXIAL SILICON WAFERS AND OXYGEN OUT-DIFFUSION-LESS PROCESS TEHREFOR	Falster, Robert J.; Cornara, Marco; Gambaro, Daniela; Olmo, Massimiliano
US	Granted	MEMC Electronic Materials, Inc.	6955718		PROCESS FOR PREPARING A STABILIZED IDEAL OXYGEN PRECIPITATING SILICON WAFER	Falster, Robert J.; Voronkov, Vladimir V.
US	Granted	MEMC Electronic Materials, Inc.	7691351		METHOD FOR TREATMENT OF A GAS STREAM CONTAINING SILICON TETRAFLUORIDE AND HYDROGEN CHLORIDE	Revankar, Vithal; Ibrahim, Jameel
US	Granted	MEMC Electronic Materials, Inc.	7943108		PROCESSES FOR PURIFICATION OF SILICON TETRAFLUORIDE	Revankar, Vithal; Ibrahim, Jameel
US	Granted	MEMC Electronic Materials, Inc.	8026145		ARSENIC AND PHOSPHORUS DOPED SILICON WAFER SUBSTRATES HAVING INTRINSIC GETTERING	Falster, Robert J.; Voronkov, Vladimir V.; Borionetti, Gabriella
US	Granted	MEMC Electronic Materials, Inc.	7846007		SYSTEM AND METHOD FOR DRESSING A WAFER POLISHING PAD	Stinson, Mark G.; Esayanur, Madhavan S.; Buese, Dennis; Corsi, Emanuele; BOVIO, Ezio; Rinaldi, Antonio Maria; Flannery, Lawrence P

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	8309464		METHODS FOR ETCHING THE EDGE OF A SILICON WAFER	Erk, Henry Frank; Albrecht, Peter D.; Hollander, Eugene R.; Doane, Thomas E.; Schmidt, Judith A.; Vandamme, Roland; Zhang, Guoqiang D.
US	Published	MEMC Electronic Materials, Inc.	20090242126	12/415274	EDGE ETCHING APPARATUS FOR ETCHING THE EDGE OF A SILICON WAFER	Erk, Henry Frank; Albrecht, Peter D.; Hollander, Eugene R.; Doane, Thomas E.; Schmidt, Judith A.; Vandamme, Roland; Zhang, Guoqiang D.
US	Granted	MEMC Electronic Materials, Inc.	8192822		EDGE ETCHED SILICON WAFERS	Erk, Henry Frank; Albrecht, Peter D.; Hollander, Eugene R.; Doane, Thomas E.; Schmidt, Judith A.; Vandamme, Roland R.; Zhang, Guoqiang D.
US	Granted	MEMC Electronic Materials, Inc.	8398765		CONTROLLING A MELT-SOLID INTERFACE SHAPE OF A GROWING SILICON CRYSTAL USING AN UNBALANCED MAGNETIC FIELD AND ISO-ROTATION	Sreedharamurthy, Hariprasad; KULKARNI, Milind S.; Schrenker, Richard G.; Holzer, Joseph C.; Korb, Harold W.
US	Published	MEMC Electronic Materials, Inc.	20090324479	12/494006	FLUIDIZED BED REACTOR SYSTEMS AND METHODS FOR REDUCING THE DEPOSITION OF SILICON ON REACTOR WALLS	KULKARNI, Milind S.; GUPTA, Puneet; Devulapalli, Balaji; Ibrahim, Jameel; Revankar, Vithal; Foli, Kwasi

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	8080482		METHODS FOR PREPARING A SEMICONDUCTOR STRUCTURE FOR USE IN BACKSIDE ILLUMINATION APPLICATIONS	Seacrist, Michael R.
US	Abandoned	MEMC Electronic Materials, Inc.	20090324819	12/492706	METHODS FOR INCREASING POLYCRYSTALLINE SILICON REACTOR PRODUCTIVITY BY RECYCLE OF SILICON FINES	KULKARNI, Milind S.; Kimbel, Steven L.; Ibrahim, Jameel; Revankar, Vithal
US	Abandoned	MEMC Electronic Materials, Inc.	20090252974	12/486569	AN EPITAXIAL WAFER HAVING A HEAVILY DOPED SUBSTRATE AND PROCESS FOR THE PREPARATION THEREOF	Falster, Robert J.; Voronkov, Vladimir V.; Moiraghi, Luca; Lee, Dong-Myun; Cho, Chanrae; Ravani, Marco
US	Granted	MEMC Electronic Materials, Inc.	8551247		GENERATING A PUMPING FORCE IN A SILICON MELT BY APPLYING A TIME-VARYING MAGNETIC FIELD	Sreedharamurthy, Hariprasad; KULKARNI, Milind S.; Korb, Harold W.
US	Published	MEMC Electronic Materials, Inc.	20100150808	12/640337	PROCESSES FOR PRODUCING SILICON TETRAFLUORIDE FROM FLUOROSILICATES IN A FLUIDIZED BED REACTOR	Bhusarapu, Satish; GUPTA, Puneet
US	Published	MEMC Electronic Materials, Inc.	20100009844	12/563572	CATALYSTS USEFUL IN THE PURIFICATION OF SILICON TETRAFLUORIDE	Revankar, Vithal; Ibrahim, Jameel
US	Published	MEMC Electronic Materials, Inc.	20100009843	12/563565	PROCESSES FOR PREPARING A CATALYST	Revankar, Vithal; Ibrahim, Jameel
US	Granted	MEMC Electronic Materials, Inc.	8165706		METHODS FOR GENERATING REPRESENTATIONS OF FLATNESS DEFECTS ON WAFERS	Pitney, John A.
US	Granted	MEMC Electronic	7927185		METHOD FOR ASSESSING WORKPIECE NANOTOPOLOGY	Vandamme, Roland; Bhagavat, Milind S.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.			USING A DOUBLE SIDE WAFER GRINDER	
US	Granted	MEMC Electronic Materials, Inc.	8340801		SYSTEMS FOR GENERATING REPRESENTATIONS OF FLATNESS DEFECTS ON WAFERS	Pitney, John A.
US	Granted	MEMC Electronic Materials, Inc.	8367519		METHOD FOR THE PREPARATION OF A MULTI-LAYERED CRYSTALLINE STRUCTURE	Witte, Dale A.; Libbert, Jeffrey L.
US	Published	MEMC Electronic Materials, Inc.	20100242836	12/726957	SYSTEMS FOR WEIGHING A PULLED OBJECT	Korb, Harold W.; Phillips, Richard J.
US	Published	MEMC Electronic Materials, Inc.	20100242831	12/726969	METHODS FOR WEIGHING A PULLED OBJECT HAVING A CHANGING WEIGHT	Korb, Harold W.
US	Granted	MEMC Electronic Materials, Inc.	8347740		SYSTEMS FOR WEIGHING A PULLED OBJECT HAVING A CHANGING WEIGHT	Korb, Harold W.
US	Published	MEMC Electronic Materials, Inc.	20120028439	12/847007	SEMICONDUCTOR AND SOLAR WAFERS AND METHOD FOR PROCESSING SAME	Zhang, Guoqiang D.; Vandamme, Roland
US	Published	MEMC Electronic Materials, Inc.	20100178225	12/731847	METHOD FOR TREATMENT OF A GAS STREAM CONTAINING SILICON TETRAFLUORIDE AND HYDROGEN CHLORIDE	Revankar, Vithal; Ibrahim, Jameel
US	Published	MEMC Electronic Materials, Inc.	20110300050	12/796360	TRICHLOROSILANE VAPORIZATION SYSTEM	Bhusarapu, Satish; Truong, Timothy Dinh; GUPTA, Puneet; Hari, Abarajith; Gu, Zhihui
US	Granted	MEMC Electronic	8524048		PROCESSES FOR RECOVERING SILANE FROM HEAVY-ENDS	Gu, Zhihui; Truong, Timothy Dinh; GUPTA,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.			SEPARATION OPERATIONS	Puneet
US	Published	MEMC Electronic Materials, Inc.	20120164323	12/977712	PRODUCTION OF POLYCRYSTALLINE SILICON BY THE THERMAL DECOMPOSITION OF DICHLOROSILANE IN A FLUIDIZED BED REACTOR	Bhusarapu, Satish; GUPTA, Puneet; Huang, Yue
US	Published	MEMC Electronic Materials, Inc.	20120160702	12/978209	METHODS FOR PRODUCING SILANE	GUPTA, Puneet; Erk, Henry Frank; Grabbe, Alexis
US	Published	MEMC Electronic Materials, Inc.	20120100061	12/910540	PRODUCTION OF POLYCRYSTALLINE SILICON IN SUBSTANTIALLY CLOSED-LOOP PROCESSES	Bhusarapu, Satish; Huang, Yue; GUPTA, Puneet
US	Granted	MEMC Electronic Materials, Inc.	8420554		WAFER SUPPORT RING	Gilmore, Brian L.
US	Published	MEMC Electronic Materials, Inc.	20110017230	12/840549	METHOD AND SYSTEM FOR PROCESSING ABRASIVE SLURRY	Erk, Henry Frank; Tanna, Vandan
US	Granted	MEMC Electronic Materials, Inc.	8310031		SEMICONDUCTOR AND SOLAR WAFERS	Zhang, Guoqiang D.; Vandamme, Roland
US	Granted	MEMC Electronic Materials, Inc.	8388925		METHODS FOR PRODUCING ALUMINUM TRIFLUORIDE	GUPTA, Puneet; Bhusarapu, Satish
US	Published	MEMC Electronic Materials, Inc.	20110146717	12/967382	SYSTEMS AND METHODS FOR ANALYSIS OF WATER AND SUBSTRATES RINSED IN WATER	Shive, Larry, W.
US	Granted	MEMC Electronic	8440541		METHODS FOR REDUCING THE WIDTH OF THE UNBONDED	Pitney, John A.; Yoshimura, Ichiro; Fei,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.			REGION IN SOI STRUCTURES	Lu
US	Granted	MEMC Electronic Materials, Inc.	8145342		METHODS AND SYSTEMS FOR ADJUSTING OPERATION OF A WAFER GRINDER USING FEEDBACK FROM WARP DATA	Bhagavat, Sumeet S.; Vandamme, Roland R.; Komura, Tomomi; Kaneko, Tomohiko; Kazama, Takuto
US	Granted	MEMC Electronic Materials, Inc.	8267745		METHODS OF GRINDING SEMICONDUCTOR WAFERS HAVING IMPROVED NANOTOPOLOGY	Bhagavat, Milind S.; GUPTA, Puneet; Vandamme, Roland R.; Kazama, Takuto; Tachi, Noriyuki
US	Granted	MEMC Electronic Materials, Inc.	8080464		METHODS FOR PROCESSING SILICON ON INSULATOR WAFERS	Dhumal, Swapnil Y.; Flannery, Lawrence P.; Torack, Thomas A.; Pitney, John A.
US	Granted	MEMC Electronic Materials, Inc.	8143078		METHODS FOR MONITORING THE AMOUNT OF CONTAMINATION IMPARTED INTO SEMICONDUCTOR WAFERS DURING WAFER PROCESSING	Libbert, Jeffrey L.; Fei, Lu
US	Published	MEMC Electronic Materials, Inc.	20110158888	12/977739	METHODS FOR REDUCING THE DEPOSITION OF SILICON ON REACTOR WALLS USING PERIPHERAL SILICON TETRACHLORIDE	Erk, Henry Frank
US	Granted	MEMC Electronic Materials, Inc.	8529860		METHODS FOR PRODUCING SILICON TETRAFLUORIDE	Bhusarapu, Satish; GUPTA, Puneet
US	Granted	MEMC Electronic Materials, Inc.	8524044		SYSTEMS FOR RECOVERING SILANE FROM HEAVY-ENDS SEPARATION OPERATIONS	Gu, Zhihui; Truong, Timothy Dinh; GUPTA, Puneet

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Published	MEMC Electronic Materials, Inc.	20120003814	13/162122	METHODS FOR IN-SITU PASSIVATION OF SILICON-ON-INSULATOR WAFERS	Ries, Michael J.; Witte, Dale A.; Stefanescu, Anca; Jones, Andrew M.
US	Published	MEMC Electronic Materials, Inc.	20120173165	12/981074	SYSTEMS AND METHODS FOR PARTICLE SIZE DETERMINATION AND CONTROL IN A FLUIDIZED BED REACTOR FOR USE WITH THERMALLY DECOMPOSABLE SILICON-CONTAINING GAS	Bhusarapu, Satish; Nawaz, Arif; GUPTA, Puneet; Balakrishnan, Karthik
US	Published	MEMC Electronic Materials, Inc.	20110237160	13/049536	Hydrostatic Pad Pressure Modulation in a Simultaneous Double Side Wafer Grinder	Bhagavat, Sumeet S.; Vandamme, Roland R.; Komura, Tomomi
US	Granted	MEMC Electronic Materials, Inc.	8449848		PRODUCTION OF POLYCRYSTALLINE SILICON IN SUBSTANTIALLY CLOSED-LOOP SYSTEMS	Bhusarapu, Satish; Huang, Yue; GUPTA, Puneet
US	Granted	MEMC Electronic Materials, Inc.	8452547		SYSTEMS AND METHODS FOR PARTICLE SIZE DETERMINATION AND CONTROL IN A FLUIDIZED BED REACTOR	Bhusarapu, Satish; Nawaz, Arif; GUPTA, Puneet; Balakrishnan, Karthik
US	Granted	MEMC Electronic Materials, Inc.	8388914		SYSTEMS FOR PRODUCING SILANE	GUPTA, Puneet; Erk, Henry Frank; Grabbe, Alexis
US	Published	MEMC Electronic Materials, Inc.	20110158857	12/977849	FLUIDIZED BED REACTOR SYSTEMS AND DISTRIBUTORS FOR USE IN SAME	Erk, Henry Frank
US	Published	MEMC Electronic Materials, Inc.	20130121802	13/295715	WAFER TRANSPORT CART	Albrecht, Peter D.; Tanna, Vandan
US	Published	MEMC Electronic	20120073752	13/237049	ADAPTER RING FOR SILICON ELECTRODE	Parde, Terry

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Materials, Inc.				
US	Published	MEMC Electronic Materials, Inc.	20110223741	13/130160	METHOD AND SYSTEM FOR STRIPPING THE EDGE OF A SEMICONDUCTOR WAFER	Standley, Robert W.
US	Granted	MEMC Electronic Materials, Inc.	8330245		SEMICONDUCTOR WAFERS WITH REDUCED ROLL-OFF AND BONDED AND UNBONDED SOI STRUCTURES PRODUCED FROM SAME	Pitney, John A.; Yoshimura, Ichiro; Fei, Lu
US	Published	MEMC Electronic Materials, Inc.	20130087132	13/253509	SYSTEMS AND METHODS FOR CONNECTING AN INGOT TO A WIRE SAW	ALBRECHT, Peter D.
US	Published	MEMC Electronic Materials, Inc.	20110212550	13/105392	METHODS FOR DETECTING METAL PRECIPITATES IN A SEMICONDUCTOR WAFER	Libbert, Jeffrey L.; Fei, Lu
US	Granted	MEMC Electronic Materials, Inc.	8524045		SYSTEMS FOR PURIFYING SILANE	Truong, Timothy Dinh; Gu, Zhihui; GUPTA, Puneet
US	Granted	MEMC Electronic Materials, Inc.	8551298		PROCESSES FOR PURIFYING SILANE	Truong, Timothy Dinh; Gu, Zhihui; GUPTA, Puneet
US	Published	MEMC Electronic Materials, Inc.	20120189527	13/328029	PRODUCTION OF POLYCRYSTALLINE SILICON IN SUBSTANTIALLY CLOSED-LOOP PROCESSES THAT INVOLVE DISPROPORTIONATION OPERATIONS	GUPTA, Puneet; Huang, Yue; Bhusarapu, Satish
US	Granted	MEMC Electronic Materials, Inc.	8404206		METHODS FOR PRODUCING POLYCRYSTALLINE SILICON THAT REDUCE THE DEPOSITION OF SILICON ON REACTOR WALLS	KULKARNI, Milind S.; GUPTA, Puneet; Devulapalli, Balaji; Ibrahim, Jameel; Revankar, Vithal; Foli,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
						Kwasi
US	Granted	SOLAICX, INC.	7635414		SYSTEM FOR CONTINUOUS GROWING OF MONOCRYSTALLINE SILICON	BENDER, David L.
US	Granted	SOLAICX, INC.	8317919		SYSTEM FOR CONTINUOUS GROWING OF MONOCRYSTALLINE SILICON	BENDER, David L.
US	Published	SOLAICX, INC.	20100162946	12/653910	SYSTEM FOR CONTINUOUS GROWING OF MONOCRYSTALLINE SILICON	BENDER, David L.
US	Granted	SOLAICX, INC.	7294197		FORMATION OF A SILICON SHEET BY COLD SURFACE CASTING	Gralenski, Nicholas
US	Granted	SOLAICX, INC.	8262797		WEIR DESIGN PROVIDING OPTIMAL PURGE GAS FLOW, MELT CONTROL, AND TEMPERATURE STABILIZATION FOR IMPROVED SINGLE CRYSTAL GROWTH IN A CONTINUOUS CZOCHRALSKI PROCESS	BENDER, David L.; Smith, David E.
US	Granted	SOLAICX, INC.	8257496		CRUCIBLE WEIGHT MEASUREMENT SYSTEM FOR CONTROLLING FEEDSTOCK INTRODUCTION IN CZOCHRALSKI CRYSTAL GROWTH	BENDER, David L.; Crawford, Roy P.; Janik, Gary; Smith, David E.
US	Published	MEMC Electronic Materials, Inc.	20110318912	13/199587	METHODS FOR PREPARING A SEMICONDUCTOR WAFER WITH HIGH THERMAL CONDUCTIVITY	Seacrist, Michael R.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	MEMC Electronic Materials, Inc.	8220646		LOW THERMAL MASS SEMICONDUCTOR WAFER PLATE	Gilmore, Brian L.; Hellwig, Lance G.
US	Granted	MEMC Electronic Materials, Inc.	8220647		LOW THERMAL MASS SEMICONDUCTOR WAFER BOAT	Gilmore, Brian L.; Hellwig, Lance G.
US	Published	MEMC Electronic Materials, Inc.	20130125587	13/299926	METHODS FOR PRODUCING CRUCIBLES WITH A REDUCED AMOUNT OF BUBBLES	Kimbel, Steven L.; Korb, Harold W.; Phillips, Richard J.; Rathod, Shailendra B.
US	Published	MEMC Electronic Materials, Inc.	20130237032	13/413284	METHOD OF MANUFACTURING SILICON-ON-INSULATOR WAFERS	Zhang, Guoqiang D.; Libbert, Jeffrey L.
US	Published	SOLAICX, INC.	20130233237	13/604277	WEIR METHOD FOR IMPROVED SINGLE CRYSTAL GROWTH IN A CONTINUOUS CZOCHRALSKI PROCESS	Bender, David L.; Smith, David E.
US	Granted	MEMC Electronic Materials, Inc.	7611580		CONTROLLING MELT-SOLID INTERFACE SHAPE OF A GROWING SILICON CRYSTAL USING A VARIABLE MAGNETIC FIELD	Lu, Zheng
US	Published	MEMC Electronic Materials, Inc.	20110163313	13/061386	FLATTENING PROCESS FOR SEMICONDUCTOR WAFERS	Desai, AnKur; Vadnais, David
US	Granted	MEMC Electronic Materials, Inc.	8186661		WAFER HOLDER FOR SUPPORTING A SEMICONDUCTOR WAFER DURING A THERMAL TREATMENT PROCESS	Pitney, John A.; Torack, Thomas A
US	Granted	MEMC Electronic Materials, Inc.	7573587		METHOD AND DEVICE FOR CONTINUOUSLY MEASURING SILICON ISLAND ELEVATION	Lu, Zheng; Kimbel, Steven L.; Fuerhoff, Robert H.; Holzer,

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
						Joseph C.
US	Granted	MEMC Electronic Materials, Inc.	7922817		METHOD AND DEVICE FOR FEEDING ARSENIC DOPANT INTO A SILICON CRYSTAL GROWING APPARATUS	Javidi, Massoud; Garner, Steve
US	Published	MEMC Electronic Materials, Inc.	20100132829	12/625931	METHOD FOR FEEDING ARSENIC DOPANT INTO A SILICON CRYSTAL GROWING APPARATUS	Javidi, Massoud; Garner, Steve
US	Published	MEMC Electronic Materials, Inc.	20120193753	13/354788	METHODS FOR REDUCING THE METAL CONTENT IN THE DEVICE LAYER OF SOI STRUCTURES AND SOI STRUCTURES PRODUCED BY SUCH METHODS	Grabbe, Alexis; Flannery, Lawrence P
US	Published	MEMC Electronic Materials, Inc.	20120115258	13/353142	METHODS FOR MONITORING THE AMOUNT OF METAL CONTAMINATION IN A PROCESS	Libbert, Jeffrey L.; Fei, Lu
US	Published	MEMC Electronic Materials, Inc.	20120189501	13/328030	PRODUCTION OF POLYCRYSTALLINE SILICON IN SUBSTANTIALLY CLOSED-LOOP SYSTEMS THAT INVOLVE DISPROPORTIONATION OPERATIONS	GUPTA, Puneet; Huang, Yue; Bhusharapu, Satish
US	Published	MEMC Electronic Materials, Inc.	20120230903	13/455483	METHODS FOR INTRODUCING A FIRST GAS AND A SECEOND GAS INTO A REACTION CHAMBER	KULKARNI, Milind S.; GUPTA, Puneet; Devulapalli, Balaji; Ibrahim, Jameel; Revankar, Vithal; Foli, Kwasi

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Granted	Sun Edison LLC	5581478		FACILITY ENVIRONMENTAL CONTROL SYSTEM	Cruse, Michael; Hibberd, Douglas G
US	Granted	Sun Edison LLC	5793646		FACILITY ENVIRONMENTAL CONTROL SYSTEM	Hibberd, Douglas G; Cruse, Michael
US	Granted	Sun Edison LLC	8274028		COUNTERWEIGHTED ACTIVE TRACKING SOLAR PANEL RACK	Needham, Christopher
US	Granted	Sun Edison LLC	8272176		METHODS OF ASSEMBLING SOLAR ENERGY COLLECTING MODULES	Wallgren, Linus Eric
US	Granted	MEMC Electronic Materials, Inc.	8524319		METHODS FOR PRODUCING CRUCIBLES WITH A REDUCED AMOUNT OF BUBBLES	Kimbel, Steven L.; Korb, Harold W.; Phillips, Richard J.; Rathod, Shailendra B.
US	Published	MEMC Electronic Materials, Inc.	20130125719	13/299929	PROCESSES FOR PRODUCING SILICON INGOTS	Kimbel, Steven L.; Korb, Harold W.; Phillips, Richard J.; Rathod, Shailendra B.
US	Published	MEMC Electronic Materials, Inc.	20130129973	13/299917	CRUCIBLES WITH A REDUCED AMOUNT OF BUBBLES AND INGOTS AND WAFERS PRODUCED BY USE OF SUCH CRUCIBLES	Kimbel, Steven L.; Korb, Harold W.; Phillips, Richard J.; Rathod, Shailendra B.
US	Published	MEMC Electronic Materials Inc.	20130062020	13/417934	SYSTEMS AND METHODS FOR CLEAVING A BONDED WAFER PAIR	Ries, Michael J.; Libbert, Jeffrey L.; Witte, Dale A.
US	Published	MEMC Electronic Materials, Inc.	20120247686	13/432326	SYSTEMS AND METHODS FOR ULTRASONICALLY CLEAVING A BONDED WAFER PAIR	Stefanescu, Anca
US	Published	MEMC Electronic Materials, Inc.	20120235283	13/419137	SILICON ON INSULATOR STRUCTURES HAVING HIGH RESISTIVITY REGIONS IN THE HANDLE WAFER	Libbert, Jeffrey L.; Fei, Lu; Standley, Robert W.

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Published	MEMC Electronic Materials, Inc.	20130004405	13/528386	PROCESSES FOR PRODUCING SILANE IN A BUBBLE COLUMN	Zou, Baisheng; Gupta, Puneet
US	Published	MEMC Electronic Materials, Inc.	20120279438	13/454676	METHODS FOR PRODUCING SINGLE CRYSTAL SILICON INGOTS WITH REDUCED INCIDENCE OF DISLOCATIONS	Ryu, Jae Woo; Jeong, Young G.
US	Published	MEMC Electronic Materials, Inc.	20130084234	13/628282	PRODUCTION OF POLYCRYSTALLINE SILICON BY THE THERMAL DECOMPOSITION OF SILANE IN A FLUIDIZED BED REACTOR	Bhusarapu, Satish; Gupta, Puneet; Huang, Yue
US	Published	MEMC Electronic Materials, Inc.	20130084233	13/628277	PRODUCTION OF POLYCRYSTALLINE SILICON BY THE THERMAL DECOMPOSITION OF SILANE IN A FLUIDIZED BED REACTOR	Bhusarapu, Satish; Gupta, Puneet; Huang, Yue
US	Published	MEMC Electronic Materials, Inc.	20120238070	13/419139	METHODS FOR PRODUCING SILICON ON INSULATOR STRUCTURES HAVING HIGH RESISTIVITY REGIONS IN THE HANDLE WAFER	Libbert, Jeffrey L.; Fei, Lu; Standley, Robert W.
US	Published	SunEdison, Inc./Kansas State University	20130099195	13/652665	DIRECT FORMATION OF GRAPHENE ON SEMICONDUCTOR SUBSTRATES	Seacrist, Michael R.; Berry, Vikas
US	Published	MEMC Electronic Materials, Inc.	20130105538	13/663038	METHODS FOR CLEAVING A BONDED WAFER STRUCTURE	Young, Gregory A.; Libbert, Jeffrey L.
US	Published	MEMC Electronic Materials, Inc.	20130176454	13/712561	AIR POCKET DETECTION METHODS AND SYSTEMS	Valley, John F.
US	Published	MEMC	20130174829	13/724050	METHODS FOR MOUNTING AN	Bhagavat, Sumeet S.;

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Electronic Materials, Inc.			INGOT ON A WIRE SAW	Zavattari, Carlo; Xin, Yun-Biao; Vandamme, Roland
US	Published	MEMC Electronic Materials, Inc.	20130174605	13/709318	PROCESSES AND SYSTEMS FOR PURIFYING SILANE	Zou, Baisheng; Gu, Zihui
US	Published	MEMC Electronic Materials, Inc.	20130118091	13/733468	METHODS FOR PROCESSING ABRASIVE SLURRY	Erk, Henry Frank; Tanna, Vandan
US	Published	MEMC Electronic Materials, Inc.	20130133567	13/683822	SYSTEMS AND PROCESSES FOR CONTINUOUS GROWING OF INGOTS	Bender, David L.
US	Published	MEMC Electronic Materials, Inc.	20130105539	13/663073	CLAMPING APPARATUS FOR CLEAVING A BONDED WAFER STRUCTURE	Young, Gregory A.; Libbert, Jeffrey L.
US	Published	MEMC Electronic Materials, Inc.	20130179094	13/712592	SYMMETRY BASED AIR POCKET DETECTION METHODS AND SYSTEMS	Valley, John F.
US	Published	MEMC Electronic Materials, Inc.	20130133407	13/750371	METHODS FOR ANALYSIS OF WATER AND SUBSTRATES RINSED IN WATER	Shive, Larry Wayne
US	Published	MEMC Electronic Materials, Inc.	20130121888	13/715642	SYSTEMS FOR PRODUCING SILANE	Gupta, Puneet; Erk, Henry Frank; Grabbe, Alexis
US	Published	MEMC Electronic Materials, Inc.	20130137241	13/730011	METHOD FOR THE PREPARATION OF A MULTI-LAYERED CRYSTALLINE STRUCTURE	Witte, Dale A.; Libbert, Jeffrey L.
US	Published	MEMC Electronic Materials, Inc.	20130118962	13/733499	SYSTEMS FOR PROCESSING ABRASIVE SLURRY	Erk, Henry Frank; Tanna, Vandan
US	Published	MEMC	20130136686	13/751294	METHODS FOR PRODUCING	Bhusarapu, Satish;

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
		Electronic Materials, Inc.			ALUMINUM TRIFLUORIDE	Gupta, Puneet
US	Published	MEMC Electronic Materials, Inc.	20130168836	13/762967	SOI STRUCTURES HAVING A SACRIFICIAL OXIDE LAYER	Grabbe, Alexis; Flannery, Lawrence P.
US	Published	MEMC Electronic Materials, Inc.	20130168802	13/762974	SOI STRUCTURES WITH REDUCED METAL CONTENT	Grabbe, Alexis; Flannery, Lawrence P.
US	Published	MEMC Electronic Materials, Inc.	20130195432	13/828725	TRICHLOROSILANE VAPORIZATION SYSTEM	Hari, Abarajith; Gu, Zihui; Bhusarapu, Satish; Trough, Timothy D.; Gupta, Puneet
US	Published	MEMC Electronic Materials, Inc.	20130236367	13/871205	PRODUCTION OF POLYCRYSTALLINE SILICON IN SUBSTANTIALLY CLOSED-LOOP SYSTEMS	Bhusarapu, Satish; Huang, Yue; Gupta, Puneet
US	Published	Sun Edison LLC	20120234310	13/048054	COLLAPSIBLE SOLAR MODULE SUPPORT SYSTEM AND METHOD FOR ASSEMBLING THE SAME	Wallgren, Linus Eric
US	Published	Sun Edison LLC	20130037087	13/209033	INTEGRATED SOLAR MODULE	Janssens, Steven H.; Silberschatz, Paul J.
US	Published	SunEdison, Inc./Kansas State University	20130240830	13/890316	DIRECT AND SEQUENTIAL FORMATION OF MONOLAYERS OF BORON NITRIDE AND GRAPHENE ON SUBSTRATES	Seacrist, Michael R.; Berry, Vikas; Nguyen, Phong T.
US	Published	MEMC Electronic Materials, Inc.	20130263779	13/443074	SUSCEPTOR FOR IMPROVED EPITAXIAL WAFER FLATNESS	Pitney, John A.; Hamano, Manabu
US	Published	Solaicx, Inc.	20130263772	12/315681	METHOD AND APPARATUS FOR CONTROLLING MELT TEMPERATURE IN A CZOCHRALSKI GROWER	Bender, David L.; Smith, David E.; Janik, Gary

Country	Status	Owner Name	Patent No./Pub. No.	Application No.	Title	Inventors
US	Published	MEMC Electronic Materials, Inc.	20130263776	13/443076	METHODS FOR FABRICATING A SEMICONDUCTOR WAFER PROCESSING DEVICE	Pitney, John A.; Hamano, Manabu
US	Published	MEMC Electronic Materials, Inc.	20130276695	13/838284	SUSCEPTOR ASSEMBLIES FOR SUPPORTING WAFERS IN A REACTOR APPARATUS	Pitney, John A.; Hamano, Manabu
US	Published	MEMC Electronic Materials, Inc.	20130284585	13/836018	METHODS FOR PURIFYING HALOSILANE-CONTAINING STREAMS	Gu, Zhihui; Pazzaglia, Gianluca; Gupta, Puneet
US	Published	SunEdison, LLC	20130314958	13/900687	SOFT SWITCHING POWER CONVERTERS	Kern, Gregory A.
US	Published	MEMC Electronic Materials, Inc.	20100150789	12/640346	SYSTEMS FOR PRODUCING SILICON TETRAFLUORIDE FROM FLUOROSILICATES IN A FLUIDIZED BED REACTOR	Bhusarapu, Satish; GUPTA, Puneet
US	Published	SOLAICX, INC.	20120210931	13/315769	METHODS FOR CONTROLLING MELT TEMPERATURE IN A CZOCHRALSKI GROWER	BENDER, David L.; Janik, Gary; Smith, David E.
US	Granted	Telesis Solar Inc./NVT, LLC	7797889		SOLAR PANEL AND FRAME RELATED METHODS	McClintock; Meredith; Scott; Steven
US	Granted	Telesis Solar Inc./NVT, LLC	D560606		FRAMED SOLAR PANEL	McClintock; Meredith; Scott; Steven
US	Granted	Telesis Solar Inc./NVT, LLC	D560605		SOLAR PANEL FRAME	McClintock; Meredith; Scott; Steven
US	Published	Telesis Solar Inc./NVT, LLC	20090314335	12/237326	INTEGRAL PHOTOVOLTAIC UNIT	McClintock; Meredith
US	Published	SunEdison, LLC	20130343098	13/529519	Power Converters And Methods For Active Leakage Energy Recovery In A Power Converter	Tilak Gopalarathnam, Gregory Allen Kern