

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT8047952

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST

**CONVEYING PARTY DATA**

Name	Execution Date
FIRST SOLAR, INC.	06/30/2023

**RECEIVING PARTY DATA**

<b>Name:</b>	JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT
<b>Street Address:</b>	10 S. DEARBORN STREET
<b>Internal Address:</b>	MAIL CODE: IL1-0874, FLOOR L2N
<b>City:</b>	CHICAGO
<b>State/Country:</b>	ILLINOIS
<b>Postal Code:</b>	60603

**PROPERTY NUMBERS Total: 268**

Property Type	Number
Patent Number:	8871553
Patent Number:	9234857
Patent Number:	9246434
Patent Number:	9573239
Patent Number:	9359668
Patent Number:	9397238
Patent Number:	9318642
Patent Number:	10749068
Patent Number:	10147838
Patent Number:	9490120
Patent Number:	9387691
Patent Number:	9245808
Patent Number:	10026861
Patent Number:	9151597
Patent Number:	9559518
Patent Number:	9269850
Patent Number:	9437760
Patent Number:	9406829
Patent Number:	9799784

PATENT

Property Type	Number
Patent Number:	9543457
Patent Number:	9450115
Patent Number:	9337376
Patent Number:	8921147
Patent Number:	10243092
Patent Number:	9698285
Patent Number:	9853177
Patent Number:	9269849
Patent Number:	9395103
Patent Number:	D739345
Patent Number:	D904288
Patent Number:	D824847
Patent Number:	9576860
Patent Number:	8418984
Patent Number:	8413946
Patent Number:	8413312
Patent Number:	8407895
Patent Number:	8894033
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Patent Number:	9082903
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Patent Number:	8982362
Patent Number:	8452461
Patent Number:	9306491
Patent Number:	9312806
Patent Number:	9246330
Patent Number:	8492926
Patent Number:	8222765
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Patent Number:	8472021
Patent Number:	8198529
Patent Number:	7910166
Patent Number:	8642125
Patent Number:	9129810
Patent Number:	8382901

Property Type	Number
Patent Number:	7968145
Patent Number:	8353987
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Patent Number:	10570516
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Patent Number:	D644987
Patent Number:	9457429
Patent Number:	7955031
Patent Number:	11695085
Patent Number:	9147778
Patent Number:	10861994
Patent Number:	10319873
Patent Number:	9263608
Patent Number:	9328408
Patent Number:	9537039
Patent Number:	8334455
Patent Number:	8770836
Patent Number:	8785232
Patent Number:	8497151
Patent Number:	8334162
Patent Number:	8482163
Patent Number:	8338989
Patent Number:	9178293
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Patent Number:	8243446
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Patent Number:	8448318
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Patent Number:	8534134

<b>Property Type</b>	<b>Number</b>
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<b>Patent Number:</b>	8431427
<b>Patent Number:</b>	7951641
<b>Patent Number:</b>	9252302
<b>Patent Number:</b>	8603253
<b>Patent Number:</b>	8803537
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<b>Patent Number:</b>	11207731

Property Type	Number
Patent Number:	10199832
Patent Number:	11158749
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Patent Number:	9159864
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Patent Number:	9932666
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Patent Number:	11326249
Patent Number:	10458014
Patent Number:	8410357
Patent Number:	8143512
Application Number:	17505291
Application Number:	17111843
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Application Number:	16664737
Application Number:	16340984
Application Number:	17509710
Application Number:	16758258
Application Number:	16980346
Application Number:	16764769
Application Number:	18105512
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Application Number:	17267189
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Application Number:	17287988
Application Number:	17428725

Property Type	Number
Application Number:	17319989
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Application Number:	29730763
Application Number:	18039820
Application Number:	18027584
Application Number:	18035026
Application Number:	29803617
Application Number:	63314809
Application Number:	63406889
Application Number:	63419182
Application Number:	63391600
Application Number:	29843642
Application Number:	29856379
Application Number:	63477630
Application Number:	17963061
Application Number:	13875739
Application Number:	17418532
Application Number:	17182473
Application Number:	17738050

**CORRESPONDENCE DATA**

**Fax Number:** (212)455-2502  
*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*  
**Phone:** 2124552592  
**Email:** jnull@stblaw.com  
**Correspondent Name:** COURTNEY WELSHIMER  
**Address Line 1:** 425 LEXINGTON AVENUE  
**Address Line 4:** NEW YORK, NEW YORK 10017

<b>ATTORNEY DOCKET NUMBER:</b>	509265/2438
<b>NAME OF SUBMITTER:</b>	J. JASON MULL
<b>SIGNATURE:</b>	/J. Jason Mull/
<b>DATE SIGNED:</b>	07/10/2023

**Total Attachments: 11**  
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## PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT, dated as of June 30, 2023 (this “**Agreement**”), among each GRANTOR listed on the signature pages hereto (all of the foregoing, each a “**Grantor**” and collectively, the “**Grantors**”), and JPMORGAN CHASE BANK, N.A., as Administrative Agent for the Secured Parties (as defined in the Credit Agreement referred to below) (herein in such capacity, the “**Administrative Agent**”).

### RECITALS

(A) FIRST SOLAR INC., a Delaware corporation (the “**Borrower**”), the GUARANTORS from time to time party thereto, the LENDERS and ISSUING BANKS from time to time party thereto, and JPMORGAN CHASE BANK, N.A., as administrative agent (in such capacity, the “**Administrative Agent**”) and the Administrative Agent, have entered into a Revolving Credit and Guaranty Agreement, dated as of June 30, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the “**Credit Agreement**”).

(B) The Grantors are party to a Pledge and Security Agreement, dated as of June 30, 2023 in favor of the Administrative Agent (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the “**Pledge and Security Agreement**”), pursuant to which certain Grantors are required to execute and deliver this Agreement.

(C) In consideration of the mutual conditions and agreements set forth in the Credit Agreement, the Pledge and Security Agreement and this Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

### SECTION 1 Defined Terms

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

### SECTION 2 Grant of Security Interest in Patent Collateral

As security for the prompt and complete payment and performance in full when due (whether at stated maturity, by required prepayment, declaration, acceleration, demand or otherwise, including the payment of amounts that would become due but for the operation of the automatic stay under Section 362(a) of the Bankruptcy Code) of all Obligations at any time owed or owing to the Secured Parties (or any of them), each Grantor hereby pledges and grants to the Administrative Agent, for its benefit and for the benefit of the Secured Parties, a continuing security interest in and Lien on all of its right, title and interest in, to and under the Patent Collateral. This Agreement is not to be construed as an assignment of any Patent Collateral.

“**Patent Collateral**” means all of each Grantor’s right, title and interest in, to and under all United States issued Patents and United States Patent applications owned by Grantor listed on Schedule I attached hereto, including, without limitation, (i) all extensions, renewals, reissues, divisionals, continuations, continuations-in-part, reexaminations, supplemental examinations, inter partes reviews and adjustments thereof, (ii) the right to sue at law or in equity or otherwise recover for any past, present or future infringement, misappropriation or other violation or impairment thereof, (iii) all Proceeds of the foregoing, including licenses, royalties, fees, income, payments, claims, damages and proceeds of suit, whether now or hereafter due and/or payable with respect thereto, and (iv) all rights corresponding to any of the foregoing throughout the United States.

### **SECTION 3 Pledge and Security Agreement**

The security interest granted pursuant to this Agreement is granted concurrently in conjunction with the security interest granted to the Administrative Agent pursuant to the Pledge and Security Agreement, and each Grantor hereby acknowledges and affirms that the rights and remedies of the Administrative Agent with respect to the security interest in the Patent Collateral made and granted hereby is more fully set forth in the Pledge and Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein.

### **SECTION 4 Term**

The term of this Agreement shall be coterminous with the term of the Pledge and Security Agreement.

### **SECTION 5 Governing Law and Consent to Jurisdiction**

**THIS AGREEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAW OF THE STATE OF NEW YORK. THE TERMS AND PROVISIONS OF SECTION 10.13 OF THE PLEDGE AND SECURITY AGREEMENT ARE INCORPORATED BY REFERENCE HEREIN WITH RESPECT HERETO AS IF FULLY SET FORTH HEREIN.**

### **SECTION 6 Counterparts**

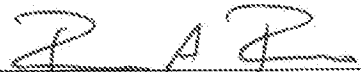
This Agreement and any amendments, waivers, consents or supplements hereto or in connection herewith may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered will be deemed an original, but all such counterparts together will constitute but one and the same instrument; signature pages may be detached from multiple separate counterparts and attached to a single counterpart so that all signature pages are physically attached to the same document. This Agreement will become effective upon the execution and delivery of a counterpart hereof by each of the parties hereto. Delivery of an executed signature page of this Agreement by facsimile or electronic transmission shall be effective as delivery of a manually executed counterpart hereof. The Administrative Agent may also require that any such facsimile or electronic transmission signatures be confirmed by a manually signed

original thereof, provided that the failure to request or deliver the same shall not limit the effectiveness of any facsimile or electronic transmission signature delivered.

[Signature Page Follows]

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

**FIRST SOLAR, INC.**

By:   
Name: Richard Romero  
Title: Vice President, Treasury and  
Project Finance

[Signature Page to Patent Security Agreement]

**PATENT**  
**REEL: 064237 FRAME: 0474**

ACCEPTED AND AGREED:

**JPMORGAN CHASE BANK, N.A.,**  
as Administrative Agent

By: 

Name: Darren Vanek

Title: Managing Director

[Signature Page to Patent Security Agreement]

**SCHEDULE 1**

**UNITED STATES ISSUED PATENTS AND PATENT APPLICATIONS**

<b>Application No.</b>	<b>Filing Date</b>	<b>Patent No.</b>	<b>Issue Date</b>	<b>Registered Owner</b>
13/631111	28 Sep 2012	8871553	28 Oct 2014	First Solar, Inc.
13/676912	14 Nov 2012	9234857	12 Jan 2016	First Solar, Inc.
13/612591	12 Sep 2012	9246434	26 Jan 2016	First Solar, Inc.
13/597971	29 Aug 2012	9573239	21 Feb 2017	First Solar, Inc.
13/601512	31 Aug 2012	9359668	07 Jun 2016	First Solar, Inc.
13/609284	11 Sep 2012	9397238	19 Jul 2016	First Solar, Inc.
13/678800	16 Nov 2012	9318642	19 Apr 2016	First Solar, Inc.
16/185966	09 Nov 2018	10749068	18 Aug 2020	First Solar, Inc.
15/290054	11 Oct 2016	10147838	04 Dec 2018	First Solar, Inc.
13/671195	07 Nov 2012	9490120	08 Nov 2016	First Solar, Inc.
13/720179	19 Dec 2012	9387691	12 Jul 2016	First Solar, Inc.
14/133946	19 Dec 2013	9245808	26 Jan 2016	First Solar, Inc.
13/653051	16 Oct 2012	10026861	17 Jul 2018	First Solar, Inc.
13/763827	11 Feb 2013	9151597	06 Oct 2015	First Solar, Inc.
13/873816	30 Apr 2013	9559518	31 Jan 2017	First Solar, Inc.
14/136630	20 Dec 2013	9269850	23 Feb 2016	First Solar, Inc.
14/209589	13 Mar 2014	9437760	06 Sep 2016	First Solar, Inc.
14/317479	27 Jun 2014	9406829	02 Aug 2016	First Solar, Inc.
14/209740	13 Mar 2014	9799784	24 Oct 2017	First Solar, Inc.
14/041357	30 Sep 2013	9543457	10 Jan 2017	First Solar, Inc.
14/212584	14 Mar 2014	9450115	20 Sep 2016	First Solar, Inc.
14/551707	24 Nov 2014	9337376	10 May 2016	First Solar, Inc.
13/966663	14 Aug 2013	8921147	30 Dec 2014	First Solar, Inc.
15/612078	02 Jun 2017	10243092	26 Mar 2019	First Solar, Inc.
17/505291	19 Oct 2021			First Solar, Inc.
14/171020	03 Feb 2014	9698285	04 Jul 2017	First Solar, Inc.
14/992304	11 Jan 2016	9853177	26 Dec 2017	First Solar, Inc.
14/221245	20 Mar 2014	9269849	23 Feb 2016	First Solar, Inc.
14/211984	14 Mar 2014	9395103	19 Jul 2016	First Solar, Inc.
29/448533	13 Mar 2013	D739345	22 Sep 2015	First Solar, Inc.
29/655237	02 Jul 2018	D904288	08 Dec 2020	First Solar, Inc.
29/537359	25 Aug 2015	D824847	07 Aug 2018	First Solar, Inc.
14/205810	12 Mar 2014	9576860	21 Feb 2017	First Solar, Inc.
12/959213	02 Dec 2010	8418984	16 Apr 2013	First Solar, Inc.
12/959228	02 Dec 2010	8413946	09 Apr 2013	First Solar, Inc.
12/959100	02 Dec 2010	8413312	09 Apr 2013	First Solar, Inc.
12/959139	02 Dec 2010	8407895	02 Apr 2013	First Solar, Inc.
13/794013	11 Mar 2013	8894033	25 Nov 2014	First Solar, Inc.
14/520999	22 Oct 2014	9551510	24 Jan 2017	First Solar, Inc.
12/846365	29 Jul 2010	8418983	16 Apr 2013	First Solar, Inc.
14/740501	16 Jun 2015	10056507	21 Aug 2018	First Solar, Inc.
13/238457	21 Sep 2011	9082903	14 Jul 2015	First Solar, Inc.
13/232161	14 Sep 2011	9559247	31 Jan 2017	First Solar, Inc.
13/615815	14 Sep 2012	9525381	20 Dec 2016	First Solar, Inc.
13/645000	04 Oct 2012	8982362	17 Mar 2015	First Solar, Inc.
13/104471	10 May 2011	8452461	28 May 2013	First Solar, Inc.
13/472217	15 May 2012	9306491	05 Apr 2016	First Solar, Inc.

<b>Application No.</b>	<b>Filing Date</b>	<b>Patent No.</b>	<b>Issue Date</b>	<b>Registered Owner</b>
13/453635	23 Apr 2012	9312806	12 Apr 2016	First Solar, Inc.
13/457155	26 Apr 2012	9246330	26 Jan 2016	First Solar, Inc.
13/530497	22 Jun 2012	8492926	23 Jul 2013	First Solar, Inc.
12/705930	15 Feb 2010	8222765	17 Jul 2012	First Solar, Inc.
13/049551	16 Mar 2011	8741687	03 Jun 2014	First Solar, Inc.
13/082796	08 Apr 2011	8472021	25 Jun 2013	First Solar, Inc.
12/434059	01 May 2009	8198529	12 Jun 2012	First Solar, Inc.
11/380079	25 Apr 2006	7910166	22 Mar 2011	First Solar, Inc.
13/616170	14 Sep 2012	8642125	04 Feb 2014	First Solar, Inc.
14/151363	09 Jan 2014	9129810	08 Sep 2015	First Solar, Inc.
13/153183	03 Jun 2011	8382901	26 Feb 2013	First Solar, Inc.
11/380073	25 Apr 2006	7968145	28 Jun 2011	First Solar, Inc.
13/027101	14 Feb 2011	8353987	15 Jan 2013	First Solar, Inc.
11/380095	25 Apr 2006	7931937	26 Apr 2011	First Solar, Inc.
14/676982	02 Apr 2015	10570516	25 Feb 2020	First Solar, Inc.
11/692667	28 Mar 2007	9017480	28 Apr 2015	First Solar, Inc.
13/027976	15 Feb 2011	8388754	05 Mar 2013	First Solar, Inc.
11/380088	25 Apr 2006	7927659	19 Apr 2011	First Solar, Inc.
13/231090	13 Sep 2011	8497503	30 Jul 2013	First Solar, Inc.
11/989966	04 Feb 2008	8030121	04 Oct 2011	First Solar, Inc.
11/284028	22 Nov 2005	7318769	15 Jan 2008	First Solar, Inc.
12/793456	03 Jun 2010	8766088	01 Jul 2014	First Solar, Inc.
13/615128	13 Sep 2012	8987587	24 Mar 2015	First Solar, Inc.
12/789951	28 May 2010	9022063	05 May 2015	First Solar, Inc.
29/345439	15 Oct 2009	D644986	13 Sep 2011	First Solar, Inc.
29/345441	15 Oct 2009	D644987	13 Sep 2011	First Solar, Inc.
10/915736	11 Aug 2004	9457429	04 Oct 2016	First Solar, Inc.
11/423871	13 Jun 2006	7955031	07 Jun 2011	First Solar, Inc.
16/245613	11 Jan 2019	11695085	04 July 2023	First Solar, Inc.
11/935112	05 Nov 2007	9147778	29 Sep 2015	First Solar, Inc.
16/435838	10 Jun 2019	10861994	08 Dec 2020	First Solar, Inc.
14/994830	13 Jan 2016	10319873	11 Jun 2019	First Solar, Inc.
17/111843	04 Dec 2020			First Solar, Inc.
12/262424	31 Oct 2008	9263608	16 Feb 2016	First Solar, Inc.
17/335874	01 Jun 2021			First Solar, Inc.
12/320060	15 Jan 2009	9328408	03 May 2016	First Solar, Inc.
13/685035	26 Nov 2012	9537039	03 Jan 2017	First Solar, Inc.
12/507793	22 Jul 2009	8334455	18 Dec 2012	First Solar, Inc.
12/687726	14 Jan 2010	8770836	08 Jul 2014	First Solar, Inc.
13/945583	18 Jul 2013	8785232	22 Jul 2014	First Solar, Inc.
12/709858	22 Feb 2010	8497151	30 Jul 2013	First Solar, Inc.
12/887176	21 Sep 2010	8334162	18 Dec 2012	First Solar, Inc.
12/722027	11 Mar 2010	8482163	09 Jul 2013	First Solar, Inc.
12/722299	11 Mar 2010	8338989	25 Dec 2012	First Solar, Inc.
12/879906	10 Sep 2010	9178293	03 Nov 2015	First Solar, Inc.
12/903809	13 Oct 2010	8816185	26 Aug 2014	First Solar, Inc.
12/722181	11 Mar 2010	8243446	14 Aug 2012	First Solar, Inc.
13/220023	29 Aug 2011	8997816	07 Apr 2015	First Solar, Inc.
12/856246	13 Aug 2010	8448318	28 May 2013	First Solar, Inc.
13/170390	28 Jun 2011	8850852	07 Oct 2014	First Solar, Inc.
13/112113	20 May 2011	8534134	17 Sep 2013	First Solar, Inc.
13/836449	15 Mar 2013	9202964	01 Dec 2015	First Solar, Inc.



<b>Application No.</b>	<b>Filing Date</b>	<b>Patent No.</b>	<b>Issue Date</b>	<b>Registered Owner</b>
14/661646	18 Mar 2015	9337378	10 May 2016	First Solar, Inc.
13/035594	25 Feb 2011	8431427	30 Apr 2013	First Solar, Inc.
12/860094	20 Aug 2010	7951641	31 May 2011	First Solar, Inc.
14/072237	05 Nov 2013	9252302	02 Feb 2016	First Solar, Inc.
12/879895	10 Sep 2010	8603253	10 Dec 2013	First Solar, Inc.
13/030658	18 Feb 2011	8803537	12 Aug 2014	First Solar, Inc.
13/187107	20 Jul 2011	10128393	13 Nov 2018	First Solar, Inc.
13/195163	01 Aug 2011	9209096	08 Dec 2015	First Solar, Inc.
14/699574	29 Apr 2015	10153386	11 Dec 2018	First Solar, Inc.
14/072406	05 Nov 2013	9123584	01 Sep 2015	First Solar, Inc.
13/189913	25 Jul 2011	8603839	10 Dec 2013	First Solar, Inc.
13/689345	29 Nov 2012	8501527	06 Aug 2013	First Solar, Inc.
13/044255	09 Mar 2011	8334166	18 Dec 2012	First Solar, Inc.
12/722315	11 Mar 2010	8294303	23 Oct 2012	First Solar, Inc.
13/198144	04 Aug 2011	8882959	11 Nov 2014	First Solar, Inc.
13/198834	05 Aug 2011	8926761	06 Jan 2015	First Solar, Inc.
13/214831	22 Aug 2011	8445309	21 May 2013	First Solar, Inc.
13/181724	13 Jul 2011	8629411	14 Jan 2014	First Solar, Inc.
13/214780	22 Aug 2011	9412886	09 Aug 2016	First Solar, Inc.
14/043378	01 Oct 2013	9099838	04 Aug 2015	First Solar, Inc.
13/220075	29 Aug 2011	8571077	29 Oct 2013	First Solar, Inc.
13/208118	11 Aug 2011	9640679	02 May 2017	First Solar, Inc.
13/198256	04 Aug 2011	9054632	09 Jun 2015	First Solar, Inc.
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14/062959	25 Oct 2013	9328410	03 May 2016	First Solar, Inc. & Von Ardenne Asset GmbH & Co. KG.
14/602340	22 Jan 2015	10461207	29 Oct 2019	First Solar, Inc.
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16/522980	26 Jul 2019	10896991	19 Jan 2021	First Solar, Inc.
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14/872889	01 Oct 2015	10038321	31 Jul 2018	First Solar, Inc.
16/090697	23 Mar 2017	11207731	28 Dec 2021	First Solar, Inc.
15/139604	27 Apr 2016	10199832	05 Feb 2019	First Solar, Inc.
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16/488275	22 Feb 2018	11158749	26 Oct 2021	First Solar, Inc.
16/305455	31 May 2017	11450778	20 Sep 2022	First Solar, Inc.
16/758258	24 Oct 2018			First Solar, Inc.
16/980346	12 Mar 2019			First Solar, Inc.
16/764769	15 Nov 2018			First Solar, Inc.
18/105512	03 Feb 2023			First Solar, Inc.
16/975037	21 Feb 2019	11581453	14 Feb 2023	First Solar, Inc.
17/751189	23 May 2022			First Solar, Inc.
16/488808	27 Feb 2018	11342471	24 May 2022	First Solar, Inc.
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17/986747	14 Nov 2022			First Solar, Inc.
16/770388	07 Dec 2017	11502212	15 Nov 2022	First Solar, Inc.
16/193983	16 Nov 2018	10812013	20 Oct 2020	First Solar, Inc.
29/628278	04 Dec 2017	D848362	14 May 2019	First Solar, Inc.
29/687646	15 Apr 2019	D944724	01 Mar 2022	First Solar, Inc.
29/710449	23 Oct 2019	D943507	15 Feb 2022	First Solar, Inc.
17/267189	09 Aug 2019			First Solar, Inc.
17/013257	04 Sep 2020	11289915	29 Mar 2022	First Solar, Inc.
17/279254	23 Sep 2019			First Solar, Inc.
17/287988	23 Oct 2019			First Solar, Inc.
17/428725	06 Feb 2020			First Solar, Inc.
17/319989	13 May 2021			First Solar, Inc.
29/771890	25 Feb 2021			First Solar, Inc.
17/771748	23 Oct 2020			First Solar, Inc.
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18/039820	01 Dec 2021			First Solar, Inc.
18/027584	21 Sep 2021			First Solar, Inc.
18/035026	03 Nov 2021			First Solar, Inc.
29/803617	13 Aug 2021			First Solar, Inc.
63/314809	28 Feb 2022			First Solar, Inc.
63/406889	15 Sep 2022			First Solar, Inc.
63/419182	25 Oct 2022			First Solar, Inc.
63/391600	22 Jul 2022			First Solar, Inc.
29/843642	22 Jun 2022			First Solar, Inc.
29/856379	13 Oct 2022			First Solar, Inc.
63/477630	29 Dec 2022			First Solar, Inc. & Alliance for Sustainable Energy, LLC (NREL)
13/184568	18 Jul 2011	8864897	21 Oct 2014	First Solar, Inc.
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14/138542	23 Dec 2013	8960123	24 Feb 2015	First Solar, Inc.
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13/089797	19 Apr 2011	8207009	26 Jun 2012	First Solar, Inc.
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13/080029	05 Apr 2011	8349084	08 Jan 2013	First Solar, Inc.
12/913296	27 Oct 2010	7939363	10 May 2011	First Solar, Inc.
12/842352	23 Jul 2010	8791356	29 Jul 2014	First Solar, Inc.
13/306392	29 Nov 2011	9276142	01 Mar 2016	First Solar, Inc.
12/892414	28 Sep 2010	8460521	11 Jun 2013	First Solar, Inc.
13/149100	31 May 2011	8350585	08 Jan 2013	First Solar, Inc.
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13/278464	21 Oct 2011	8722136	13 May 2014	First Solar, Inc.
13/192545	28 Jul 2011	8912037	16 Dec 2014	First Solar, Inc. & Alliance for Sustainable Energy, LLC (NREL)
14/251280	11 Apr 2014	9105802	11 Aug 2015	First Solar, Inc.
13/308260	30 Nov 2011	9024233	05 May 2015	First Solar, Inc.
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17/963061	10 Oct 2022			First Solar, Inc.
13/875739	02 May 2013			First Solar, Inc.
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17/418532	23 Dec 2019			First Solar, Inc.
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15/656029	21 Jul 2017	9972741	15 May 2018	First Solar, Inc.
14/492693	22 Sep 2014	9178082	03 Nov 2015	First Solar, Inc.
14/986983	04 Jan 2016	9929295	27 Mar 2018	First Solar, Inc.
15/896180	14 Feb 2018	10236402	19 Mar 2019	First Solar, Inc.
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14/457922	12 Aug 2014	9257585	09 Feb 2016	First Solar, Inc.
15/728759	10 Oct 2017	10174417	08 Jan 2019	First Solar, Inc.
17/182473	23 Feb 2021			First Solar, Inc.
15/082290	28 Mar 2016	9932666	03 Apr 2018	First Solar, Inc.
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16/572947	17 Sep 2019	11326249	10 May 2022	First Solar, Inc.
17/738050	06 May 2022			First Solar, Inc.
15/078605	23 Mar 2016	10458014	29 Oct 2019	First Solar, Inc.
12/657872	28 Jan 2010	8410357	02 Apr 2013	First Solar, Inc.
12/383532	24 Mar 2009	8143512	27 Mar 2012	First Solar, Inc.