UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RUNERGY USA INC. AND RUNERGY ALABAMA INC.
Petitioners,[1]

v.

TRINA SOLAR CO., LTD.
Patent Owner.

Inter Partes Review No. 2025-00006
Patent No. 10,230,009

PETITIONERS' UPDATED EXHIBIT LIST

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[1] Mundra Solar PV Ltd. and Adani Solar USA Inc. were joined as petitioners in this proceeding based on a petition and motion for joinder filed in IPR2025-00187, which was granted. Canadian Solar (USA) Inc. was joined as a petitioner in this proceeding based on a petition and motion for joinder filed in IPR2025-00917, which was granted.

Exhibit List

Exhibit #	Reference Name
1001	U.S. Patent No. 10,230,009 ("009 Patent")
1002	File History of U.S. Patent No. 10,230,009
1003	Declaration of Dr. Sanjay Banerjee
1004	Curriculum Vitae of Dr. Sanjay Banerjee
1005	File History of U.S. Patent No. 9,722,104
1006	File History of U.S. Patent No. 10,014,419
1007	Korean Patent App. No. 10-2014-0168624 with certified translation
1008	Korean Patent App. No. 10-2015-0122846 with certified translation
1009	U.S. Patent App. Publication No. 2013/0056051 to Y. Jin, *et al.* ("Jin")
1010	F.A. Lindholm, *et al*., Heavily Doped Polysilicon-Contact Solar Cells, IEE Electron Device Letters, Vol. EDL-6, No. 7, (IEEE 1985) ("Lindholm")
1011	Y.H. Kwark, *et al*., N-Type SIPOS and Poly-Silicon Emitters, Solid-Stare Electronics, Vol. 30, No. 11, 1121-l 125 (1987) ("Kwark")
1012	F. Feldmann, *et al*., "Passivated rear contacts for high-efficiency n-type Si solar cells providing high interface passivation quality and excellent characteristics," Solar Energy Materials & Solar Cells 120 (2014) 270-274 (2013 Elsevier B.V.) ("Feldmann")
1013	U.S. Patent App. Publication No. 2014/0299187 to J. Chang, *et al.* ("Chang")
1014	Japanese Patent App. Publication No. JP 2010-186862 to T. Watabe, *et al*. ("Watabe") with certified translation
1015	U.S. Patent No. 8,647,914 to K. Seo, *et al*. ("Seo")
1016	Not used

Exhibit #	Reference Name
1017	Not used
1018	Not used
1019	Not used
1020	June 21, 2022 USPTO Director's Memo
1021	M. Quirk, *et al*., Semiconductor Manufacturing Technology (Prentice-Hall Inc. 2001)
1022	A. Luque, *et al*., Handbook of Photovoltaic Science and Engineering (John Wiley & Sons Ltd. 2003)
1023	Trina Solar n-type TOPCon Advanced technology steps onto the world stage, with efficiency reaching 26% in mass production and 700W+ in module power, *available at* https://www.trinasolar.com/us/trina-solar-n-type-vertex-to-reach-700gw (last visited August 19, 2024)
1024	Y. H. Kwark, *et al*. SIPOS Heterojunction contacts to silicon, 1984 International Electron Devices Meeting (1984): 742-745 ("Kwark II")
1025	SY Lien, *et al.*, Tri-layer antireflection coatings (SiO2/SiO2—TiO2/TiO2) for silicon solar cells using a sol-gel technique, Solar Energy Materials & Solar Cells 90, 2710-2719 (2006)
1026	D. Kray, *et al.*, Study on the edge isolation of industrial silicon solar cells with waterjet-guided laser, Solar Energy Materials & Solar Cells, 91, 1638–1644 (2007)
1027	Merriam-Webster's Collegiate Dictionary, 10th Ed. (Merriam-Webster, Inc. 1998) (definition of "periphery")
1028	S. Duttagupta, *et al*., Progress in Surface Passivation of Heavily Doped n-Type and p-Type Silicon by Plasma-Deposited AlOx/SiNx Dielectric Stacks, IEEE Journal of Photovoltaics, Vol. 3, No. 4 (October 2013)
1029	Oxford College Dictionary, 2nd Ed. (Oxford University Press, Inc. 2002)

Exhibit #	Reference Name
1030	B. Streetman and S. Banerjee, Solid State Electronic Devices, 6th Ed. (Prentice-Hall Inc. 2006)
1031	M. Scherff, Novel method for preparation of interdigitated back contacted a-Si:H/c-Si heterojunction solar cells, 26th European Photovoltaic Solar Energy Conference and Exhibition (2011)
1032	W. Decker, *et al*., "Novel low pressure sputtering source and improved vacuum deposition of small patterned features using precision shadow masks," 59th Annual Technical Conference Proceedings (Society of Vacuum Coaters 2016)
1033	H. Okuyama, *et al.*, Position-selective growth of carbon nanotubes on Ni catalysts/Mo underlayers by thermal chemical vapor deposition, J. Mater. Res., Vol. 21, No. 11 (Materials Research Society 2006)
1034	T. Saga, Advances in crystalline silicon solar cell technology for industrial mass production, NPG Asia Materials, Volume 2, 96–102 (2010)
1035	Declaration of James Mullins
1036	U.S. Patent Pub. No. 2012/0003781 to Yun, *et al*. ("Yun")
1037	Supplemental Declaration Of Sanjay Banerjee Regarding U.S. Patent No. 9,722,104
1038	U.S. Patent No. 9,153,728 to A. Rohatgi, et al
1039	E. Yablonovitch, et al., A 720 mV open circuit voltage SiO x :cSi:SiO x double heterostructure solar cell, Applied Physics Letters 47, 1211 (1985)
1040	M. Stöhr, et al., PECVD Shadow Mask Deposition of Amorphous Silicon – A Shortcut to Local Passivating Contacts,
1041	U.S. Patent No. 4,927,770 to R. Swanson, et al.
1042	A. Boogaard, Negative Charge in Plasma Oxidized SiO2 Layers, ECS Trans. 35 (4) 259-272 (2011)

Exhibit #	Reference Name
1043	S. Ghandhi, VLSI Fabrication Principles – Silicon and Gallium Arsenide, John Wiley & Sons, Inc. (1994)
1044	B.K. Ip., et al, Charges and Defects In SiO2 Films Deposited By Plasma-Enhanced Chemical Vapor Deposition at Low Temperatures, Solid-State Electronics Vol. 34, No. 2, pp. 123-129 (1991)
1045	Deposition Transcript of Martin Peckerar, Ph.D. (Aug. 1, 2025)
1046	J. Benick, et al., High efficiency n-type Si solar cells on Al2O3-passivated boron emitters, Applied Physics Letters 92, 253504 (2008)
1047	Supplemental Declaration of James L. Mullins, Ph.D.
1048 [NEW]	Petitioner's Demonstrative Exhibit
1049	Peckerar Ex. 2 – U.S. Pat. No. 9,772,104 (TrinaSolar_ITC-00000001) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1050	Peckerar Ex. 3 – U.S. Pat. No. 10,230,009 (TrinaSolar_ITC-00000042) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1051	Peckerar Ex. 4 – Korean Pat. App. No. 102014/0168624 (PRIORART_00023079) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1052	Peckerar Ex. 5 – U.S. Pat. No. 5,218,211 (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1053	Peckerar Ex. 6 – "Fig. 3 Demonstrative" (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1054	Peckerar Ex. 7 – "Fig. 3 Demonstrative" (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]

Exhibit #	Reference Name
1055	Peckerar Ex. 8 – "Fig. 3 Demonstrative" (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1056	Peckerar Ex. 9 – "Fig. 3 Demonstrative" (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1057	Peckerar Ex. 10 – U.S. Pat. No. 10,014,419 (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1058	Peckerar Ex. 11 – U.S. Pat. Appl. Pub. No. 2014/0299187 (PRIORART_00000668) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1059	Peckerar Ex. 12 – Decision Granting Institution of Inter Partes Review, IPR2025-00006, Paper 11 (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1060	Peckerar Ex. 13 – Decision Granting Institution of Inter Partes Review, IPR2025-00007, Paper 11 (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1061	Peckerar Ex. 14 – U.S. Pat. Appl. Pub. No. 2013/0056051 (PRIORART_00007755) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1062	Peckerar Ex. 15 – U.S. Pat. Appl. Pub. No. 2009/0205712 (PRIORART_00006904) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1063	Peckerar Ex. 16 – "Passivated rear contacts for high-efficiency n-type Si Solar cells providing high interface passivation quality and excellent transport characteristics" (PRIORART_00021294) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]

Exhibit #	Reference Name
1064	Peckerar Ex. 17 – "Laser Edge Isolation for High-Efficiency Crystalline Solar Cells" (PRIORART000_13242) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]
1065	Peckerar Ex. 18 – "High Throughput Laser Isolation of Crystalline Silicon Solar Cells" (PRIORART_00006919) (8/1/25 Peckerar Dep.) [NOT FILED - SERVICE ONLY]

Dated: January 22, 2026

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 22nd day of January, 2026, a copy of the forgoing was served in its entirety via electronic mail on the following counsel of record:

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