

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CANADIAN SOLAR INC.,
Petitioner,

v.

MAXEON SOLAR PTE. LTD.,
Patent Owner.

IPR2024-01040
Patent No. 8,878,053

PETITIONER'S UPDATED EXHIBIT LIST

Exhibit #	Reference Name
1001	U.S. Patent No. 8,878,053 (“053 Patent”)
1002	File History of U.S. Patent No. 8,878,053
1003	Declaration of Dr. Sanjay Banerjee
1004	Curriculum Vitae of Dr. Sanjay Banerjee
1005	File History of U.S. Patent Application No. 14/504,771 (“771 Application”)
1006	EP1732142A1 to Armin Froitzheim (“Froitzheim”)
1007	J.Y. Gan et al., “Polysilicon Emitters for Silicon Concentrator Solar cells,” May 1990, Proceedings of the 21st IEEE-PVSC (“Gan”)
1008	Kwark, Y. H. et al. “SIPOS Heterojunction contacts to silicon.” 1984 International Electron Devices Meeting (1984): 742-745 (“Kwark”)
1009	WO2009/094578 to Borden (“Borden”)
1010	U.S. Provisional Patent Application No. 61/023,342 (EX1010) (“Borden Provisional”), filed January 24, 2008.
1011	U.S. Patent No. 6,262,359 to Meier (“Meier”)
1012	Hartiti, B. et al., “Low Temperature Formation of Emitter and BSF by Rapid Thermal Co-Diffusion of P, Al or B.” Dec. 5-9, 1994, IEEE, First WCPEC
1013	Sivohthaman, S. et al., “Rapid Thermal Processing of Conventionally and Electromagnetically Case 100 cm ² Multicrystalline Silicon.” May 13-17, 1996, IEEE, 25th PVSC
1014	U.S. Patent Pub. No. 2002/0142500 to Foglietti
1015	U.S. Patent Pub. No. 2005/0268963 to Jordan (“Jordan”)
1016	Yablonovitch, Eli et al., “A Study of n ⁺ -SIPOA:p-Si Heterojunction Emitters.” Nov. 1985, IEEE Electron Device Letters, Vol. EDL-6, No. 11 (“Yablonovitch”)

Exhibit #	Reference Name
1017	Sinton, R. A. et al., “Design Criteria for Si Point-Contact Concentrator Solar Cells.” Oct. 1987, IEEE Trans. on Electron Devices, Vol. ED-34, No. 10
1018	File History of U.S. Patent Application No. 16/460,035 (“035 Application”)
1019	Luque, A. et al., “Handbook of Photovoltaic Science and Engineering.” Wiley (2003)
1020	Lindholm, F.A., et al., “Heavily Doped Polysilicon-Contact Solar Cells.” July 1985, IEEE Electron Device Letters, Vol. EDL-6, No. 7
1021	Silvestre, S. et al., “Series Resistance in Double-Polysilicon-Contacted Silicon Solar Cells.” May 13-17, 1996, IEEE 25th PVSC
1022	Duerinckx, F. et al., “Defect passivation of industrial multicrystalline solar cells based on PECVD silicon nitride.” 2002, Elsevier, Solar Energy Materials & Solar Cells
1023	Ashburn, P. et al., “Comparison of Experimental and Theoretical Results on Polysilicon Emitter Bipolar Transistors.” July 1984, IEEE Trans. on Electron Devices, Vol. ED-31, No. 7
1024	U.S. Patent No. 6,998,288 to Smith (“Smith288”)
1025	U.S. Patent No. 5,057,439 to Swanson (“Swanson439”)
1026	June 21, 2022 Director Memo
1027	DocketNavigator Report
1028	Kass, D., “Fintiv Fails: PTAB Uses ‘Remarkably Inaccurate’ Trial Dates.” (Fintiv study) https://www.law360.com/articles/1436071/print?section=ip
1029	Letter from Senator Thom Tillis to Andrew Hirshfeld, dated Nov. 2, 2021 (Senator Tillis Letter)

Exhibit #	Reference Name
1030	Nolan, M. et al., “Spectroscopic Investigations of Borosilicate Glass and Its Application as a Dopant Source for Shallow Junctions.” 2000, Journal of The Electrochemical Society (ResearchGate)
1031	Reserved
1032	Corrected Declaration of Sylvia Hall-Ellis
1033	Curriculum Vitae of Sylvia Hall-Ellis
1034	Press Release, SunPower and Maxeon Solar Technologies Close Spin-Off Transaction, dated Aug. 27, 2020 https://newsroom.sunpower.com/2020-08-27-SunPower-and-Maxeon-Solar-Technologies-Close-Spin-Off-Transaction
1035	Patent Assignment
1036	SunPower Virtual Patent Marketing https://us.sunpower.com/solar-panels-technology/patents
1037	Patents Maxeon Solar Technologies, Ltd. https://corp.maxeon.com/patents
1038	Press Release, SunPower and Maxeon Solar Technologies Close Spin-Off Transaction, dated Aug. 27, 2020 https://mediaroom.maxeon.com/2020-08-27-SunPower-and-Maxeon-Solar-Technologies-Close-Spin-Off-Transaction
1039	SunPower Maxeon Solar Panels https://sunpower.maxeon.com/int/solar-panel-products/maxeon-solar-panels
1040	Feldman, et al., “A Passivated Rear Contact for High-Efficiency n-Type Silicon Solar Cells Enabling High VocS and FF > 82%” at 1 (28th European PV Solar Energy Conference & Exhibition, Paris, Sept. 30 – Oct. 4, 2013) (“Feldman Paper”).
1041	Green, M.A. et al., “High Efficiency N-Silicon Solar Cells Using Rear Junction Structures.” IEEE (1993)

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1042	Murarka, S. et al., “Electronic Materials Science and Technology.” 1989, Academic Press, Inc.
1043	OSTI KwarK Entry, https://www.osti.gov/biblio/5905985
1044	IEEE Xplore KwarK Entry, https://ieeexplore.ieee.org/document/1484603
1045	U.S. Patent No. 5,661,079
1046	IEEE Xplore Gan Entry, https://ieeexplore.ieee.org/document/111625
1047	IEEE Xplore Lemiti Entry, https://ieeexplore.ieee.org/abstract/document/520203/references#citati ons
1048	M. Lemiti, B. Semmache, Q. N. Le, D. Barbier and A. Laugier, “Physical properties of RT-LPCVD and LPCVD polysilicon thin films: application to emitter solar cell,” Proceedings of 1994 IEEE 1st World Conference on Photovoltaic Energy Conversion – WCPEC (A Joint Conference of PVSC, PVSEC and PSEC), Waikoloa, HI, USA, 1994, pp. 1375-1378 vol.2.
1049	IEEE Xplore Sivoththaman Entry, https://ieeexplore.ieee.org/document/564205
1050	P. Doshi, J. Mejia, K. Tate and A. Rohatgi, "Modeling and characterization of high-efficiency silicon solar cells fabricated by rapid thermal processing, screen printing, and plasma-enhanced chemical vapor deposition," in IEEE Transactions on Electron Devices, vol. 44, no. 9, pp. 1417-1424, Sept. 1997
1051	P. Doshi and A. Rohatgi, "18% efficient silicon photovoltaic devices by rapid thermal diffusion and oxidation," in IEEE Transactions on Electron Devices, vol. 45, no. 8, pp. 1710-1716, Aug. 1998
1052	A. Rohatgi, P. Doshi, J. Moschner, T. Lauinger, A. G. Aberle and D. S. Ruby, "Comprehensive study of rapid, low-cost silicon surface

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	passivation technologies," in IEEE Transactions on Electron Devices, vol. 47, no. 5, pp. 987-993, May 2000
1053	IEEE Xplore Hartiti Entry, https://ieeexplore.ieee.org/document/520502
1054	A. M. Jorgensen, T. Clausen and O. Leistiko, "Novel light trapping scheme for thin crystalline cells utilizing deep structures on both wafer sides [solar cells]," Conference Record of the Twenty Sixth IEEE Photovoltaic Specialists Conference - 1997, Anaheim, CA, USA, 1997, pp. 263-266
1055	August 9, 2002 International Search Report of PCT Publication No. 02/103810A1
1056	IEEE Xplore Doshi 1997 Entry, https://ieeexplore.ieee.org/document/622596/references#references
1057	IEEE Xplore Doshi 1998 Entry, https://ieeexplore.ieee.org/document/704369/references#references
1058	IEEE Xplore Rohatgi Entry, https://ieeexplore.ieee.org/document/841230/references#references
1059	IEEE Xplore Jorgensen Entry, https://ieeexplore.ieee.org/document/654079/references#references
1060	<i>Maxeon Solar PTE. Ltd. v. Canadian Solar, Inc.</i> , No. 2:24-cv-210 (E.D. Tex. July 12, 2024), Plaintiff Maxeon Solar PTE. Ltd.'s Disclosure of Asserted Claims and Infringement Contentions
1061	E.D. Tex. Patent Rule 3-6
1062	Declaration of James L. Mullins, Ph.D. [NOT FILED – SERVICE ONLY]
1063	Curriculum Vitae of James L. Mullins, Ph.D. [NOT FILED – SERVICE ONLY]
1064	Nolan, M. et al., "Spectroscopic Investigations of Borosilicate Glass and Its Application as a Dopant Source for Shallow Junctions." 2000,

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	Journal of The Electrochemical Society (ResearchGate) from Linda Hall Library [NOT FILED – SERVICE ONLY]
1065	Nolan, M. et al., “Spectroscopic Investigations of Borosilicate Glass and Its Application as a Dopant Source for Shallow Junctions.” Journal of The Electrochemical Society, 147 (8) 3100-3105 (2000) [NOT FILED – SERVICE ONLY]
1066	Screen capture of Journal of the Electrochemical Society created by James L. Mullins from WorldCat on February 5, 2025 at URL: https://search.worldcat.org/title/1029376 [NOT FILED – SERVICE ONLY]
1067	Screen capture of Journal of the Electrochemical Society created by James L. Mullins from Linda Hall Library (LHL) OPAC on February 4, 2025 at URL: https://catalog.lindahall.org/discovery/fulldisplay?docid=alma992735223405961&context=L&vid=01LINDAHALL_INST:LHL&lang=en&search_scope=MyInstitution&adaptor=Local%20Search%20Engine&tab=LibraryCatalog&query=any,contains,Journal%20of%20The%20Electrochemical%20Society&mode=simple&offset=0 [NOT FILED – SERVICE ONLY]
1068	Duerinckx, F. et al., “Defect passivation of industrial multicrystalline solar cells based on PECVD silicon nitride.” 2002, Elsevier, Solar Energy Materials & Solar Cells from MIT Libraries [NOT FILED – SERVICE ONLY]
1069	Duerinckx, F. et al., “Defect passivation of industrial multicrystalline solar cells based on PECVD silicon nitride.” 2002, Elsevier, Solar Energy Materials & Solar Cells, 72, 231-246 from Elsevier [NOT FILED – SERVICE ONLY]
1070	Screen capture Solar Energy Materials & Solar Cells created by James L. Mullins from WorldCat on February 4, 2025 at URL: https://search.worldcat.org/title/25469470 [NOT FILED – SERVICE ONLY]

Exhibit #	Reference Name
1071	Screen capture of Solar Energy Materials & Solar Cells created by James L. Mullins from MIT Libraries OPAC on February 3, 2025 at URL: https://mit.primo.exlibrisgroup.com/discovery/fulldisplay?context=L&docid=alma990006153500106761&lang=en&search_scope=all&tab=all&vid=01MIT_INST:MIT [NOT FILED – SERVICE ONLY]
1072	Lindholm, F.A., et al., “Heavily Doped Polysilicon-Contact Solar Cells.” July 1985, IEEE Electron Device Letters, Vol. EDL-6, No. 7 from Linda Hall Library [NOT FILED – SERVICE ONLY]
1073	Lindholm, F.A., et al., “Heavily Doped Polysilicon-Contact Solar Cells.” July 1985, IEEE Electron Device Letters, Vol. EDL-6, No. 7 [NOT FILED – SERVICE ONLY]
1074	Screen capture created of IEEE Electron Device Letters by James L. Mullins from Linda Hall Library OPAC on August 24, 2024 at URL: https://search.worldcat.org/title/44507234 [NOT FILED – SERVICE ONLY]
1075	Screen capture created of IEEE Electron Device Letters by James L. Mullins from Linda Hall Library OPAC on August 24, 2024 at URL: https://search.worldcat.org/title/44507234 [NOT FILED – SERVICE ONLY]
1076	Supplemental Declaration of Sanjay Banerjee, Ph.D. [NOT FILED – SERVICE ONLY]
1077	Merabet, A. et. al. “Dopant Redistribution During Rapid Thermal Annealing In A Self-Aligned Polysilicon Emitter Bipolar Structure Compatible With A Complementary Metal-Oxide-Semiconductor Technology,” phys. stat. sol. (a) 145, 77-88 (1994)
1078	Kermani, A. et al., “Single-Wafer Rapid Thermal CVD Technology For Fabrication Of MOS And Bipolar Devices,” in Proceedings Of The Third International Symposium On Ultra Large Scale

Exhibit #	Reference Name
	Integration Science And Technology, 566-573 (1991)
1079	Petitdidier, S. et al., “Growth Mechanism And Characterization Of Chemical Oxide Films Produced In Peroxide Mixtures On Si(100) Surfaces,” Thin Solid Films 476 (2005) 51-58
1080	Wolf, M. & Rauschenbach, H., “Series Resistance Effects On Solar Cell Measurements,” Advanced Energy Conversion, Vol. 3, pp. 455-479 (1963)
1081	June 24, 2025 Deposition Transcript of Douglas S. Ruby, Ph.D.
1082	Supplemental Declaration of Sanjay Banerjee, Ph.D. in Support of Petitioner’s Reply to Patent Owner’s Response
1083	Second Declaration of James L. Mullins, Ph.D. [NOT FILED – SERVICE ONLY]
1084	Attachment A-1, scans from the print copy held by the Linda Hall Library concerning Exhibit 1062, Merabet, A. et. al. “Dopant Redistribution During Rapid Thermal Annealing In A Self-Aligned Polysilicon Emitter Bipolar Structure Compatible With A Complementary Metal-Oxide-Semiconductor Technology,” phys. stat. sol. (a) 145, 77-88 (1994). [NOT FILED – SERVICE ONLY]
1085	Attachment A-2, is a download of Merabet I made through the Purdue University Libraries enabled by my emeritus faculty status at URL: https://onlinelibrary.wiley.com/doi/pdf/10.1002/pssa.2211450107 [NOT FILED – SERVICE ONLY]
1086	Attachment A-3, screen capture of the WorldCat entry for Merabet [NOT FILED – SERVICE ONLY]
1087	Attachment A-4, screen capture from the Linda Hall Library OPAC (online catalog) [NOT FILED – SERVICE ONLY]
1088	Attachment B-1, scans of a print copy of Exhibit 1063, Kermani, A. et al., “Single-Wafer Rapid Thermal CVD Technology For Fabrication Of MOS And Bipolar Devices,” in Proceedings Of The Third

Exhibit #	Reference Name
	International Symposium On Ultra Large Scale Integration Science And Technology, 566-573 (1991) [NOT FILED – SERVICE ONLY]
1089	Attachment B-2, scan of a print copy owned by the Linda Hall Library provided by the Linda Hall Document Delivery Services [NOT FILED – SERVICE ONLY]
1090	Attachment B-3, screen capture of the WorldCat entry for Kermani [NOT FILED – SERVICE ONLY]
1091	Attachment B-4, shows that Kermani is the document associated with WorldCat entry [NOT FILED – SERVICE ONLY]
1092	Attachment B-5, screen capture from the Library of Congress OPAC (online catalog) [NOT FILED – SERVICE ONLY]
1093	Attachment B-6, MARC record for Kermani [NOT FILED – SERVICE ONLY]
1094	Attachment C-1, scans from the print copy of Exhibit 1064, Petitdidier, S. et al., “Growth Mechanism And Characterization Of Chemical Oxide Films Produced In Peroxide Mixtures On Si(100) Surfaces,” Thin Solid Films 476 (2005) 51-58 held by the Linda Hall Library [NOT FILED – SERVICE ONLY]
1095	Attachment C-2, download of Petitdidier through the Purdue University Libraries enabled by my emeritus faculty status at URL: https://sso.purdue.edu/idp/profile/SAML2/Redirect/SSO?execution=e1s2 [NOT FILED – SERVICE ONLY]
1096	Attachment C-3, screen capture of the WorldCat entry for Petitdidier [NOT FILED – SERVICE ONLY]
1097	Attachment C-4, screen capture from the Linda Hall Library OPAC (online catalog) [NOT FILED – SERVICE ONLY]
1098	Attachment D-1, scans of a print copy of Exhibit 1065, Wolf, M. & Rauschenbach, H., “Series Resistance Effects On Solar Cell Measurements,” Advanced Energy Conversion, Vol. 3, pp. 455-479

Exhibit #	Reference Name
	(1963) provided by the Linda Hall Library Document Services [NOT FILED – SERVICE ONLY]
1099	Attachment D-2, download of Wolf through the Purdue University Libraries [NOT FILED – SERVICE ONLY]
1100	Attachment D-3, screen capture of the WorldCat entry for Wolf [NOT FILED – SERVICE ONLY]
1101	Attachment D-4, screen capture from the Linda Hall Library OPAC (online catalog) [NOT FILED – SERVICE ONLY]
1102	Attachment D-5, screen capture from the University of Kansas Library OPAC [NOT FILED – SERVICE ONLY]
1103 [NEW]	Petitioner’s Demonstrative Exhibit

Dated: October 9, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 9th day of October, 2025, a copy of the foregoing and accompanying exhibits, has been served in its entirety by electronic mail on the following counsel of record for patent owner:

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