

Hidetaka Takato

List of Publications by Year in descending order

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102
papers

920
citations

567281

15
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552781

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102
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102
docs citations

102
times ranked

786
citing authors

#	ARTICLE	IF	CITATIONS
1	Room-Temperature Preparation of Ta Ions-Containing Ionic Liquid and its Vapor Deposition toward Ta-Oxide Film Coating. <i>Journal of the Electrochemical Society</i> , 2022, 169, 013504.	2.9	2
2	Integration of Si Heterojunction Solar Cells with III-V Solar Cells by the Pd Nanoparticle Array-Mediated "Smart Stack" Approach. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 11322-11329.	8.0	9
3	Instantaneous Photocarrier Transport at the Interface in Perovskite Solar Cells to Generate Photovoltage. <i>Photonics</i> , 2022, 9, 316.	2.0	2
4	Catalytic reduction and reductive functionalisation of carbon dioxide with waste silicon from solar panel as the reducing agent. <i>Energy Advances</i> , 2022, 1, 385-390.	3.3	3
5	Stencil-masked phosphorus-implanted silicon for solar cell applications. <i>Materials Science in Semiconductor Processing</i> , 2021, 124, 105589.	4.0	4
6	Impact of loading topology and current mismatch on current-voltage curves of three-terminal tandem solar cells with interdigitated back contacts. <i>Solar Energy Materials and Solar Cells</i> , 2021, 221, 110901.	6.2	10
7	Advanced damage-free neutral beam etching technology to texture Si wafer with honeycomb pattern for broadband light trapping in photovoltaics. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 27449.	2.2	1
8	The impact of silicon brick polishing on thin (120-140 μm) silicon wafer sawing yields and fracture strengths in diamond-wire sawing. <i>Materials Science in Semiconductor Processing</i> , 2020, 105, 104751.	4.0	15
9	III-V/Si multijunction solar cells with 30% efficiency using smart stack technology with Pd nanoparticle array. <i>Progress in Photovoltaics: Research and Applications</i> , 2020, 28, 16-24.	8.1	43
10	Investigation of Degradation Mode Spreading Interconnectors by Pressure-Cooker Testing of Photovoltaic Cells. <i>IEEE Journal of Photovoltaics</i> , 2020, 10, 188-196.	2.5	11
11	Three-Terminal Tandem Solar Cells With a Back-Contact-Type Bottom Cell Bonded Using Conductive Metal Nanoparticle Arrays. <i>IEEE Journal of Photovoltaics</i> , 2020, 10, 358-362.	2.5	10
12	A New Route to Carbon Film Coating by Anodic Electrodeposition from Ionic Liquid Containing Different Phenylsilane Derivatives. <i>Chemistry Letters</i> , 2020, 49, 1349-1352.	1.3	1
13			

#	ARTICLE	IF	CITATIONS
19	Formation of Local Rear Contacts Stimulated by Al-Si Interdiffusion within Different Al Grid Widths. , 2020, , .		0
20	Effects of the Non-Radiative Recombination and Bandgap Reduction in Heat-Recovery Solar Cell. , 2020, , .		1
21	The impact of surface finish conditions of silicon bricks on the mechanical strength of diamond-wire-sawn thin wafers (120 μ m). AIP Conference Proceedings, 2019, , .	0.4	2
22	Effect of Oxygen Precipitation in Silicon Wafer on Electrical Characteristics of Fully Ion-Implanted n-type PERC Solar Cells. ECS Journal of Solid State Science and Technology, 2019, 8, P596-P601.	1.8	2
23	Evaluation of dissolved oxygen concentration in silicon wafers by measuring infrared attenuated total reflection. AIP Conference Proceedings, 2019, , .	0.4	1
24	Impact of electrical shading loss suppression on interdigitated-back-contact Si solar cells with screen printing metallization concepts. AIP Conference Proceedings, 2019, , .	0.4	1
25	Phosphorus gettering of impurities at low-temperature annealing for enhancing the performance of p-type PERC. AIP Conference Proceedings, 2019, , .	0.4	1
26	An Investigation of Internal Quantum Efficiency of Bifacial Interdigitated Back Contact (IBC) Crystalline Silicon Solar Cell. IEEE Journal of Photovoltaics, 2019, 9, 1526-1531.	2.5	7
27	Influence of Module Structure on Reliability of Silicon Solar Cells. , 2019, , .		1
28	Metal-induced Recombination Losses associated with Si present within Passivation Layers and Aluminum Paste for PERCs. , 2019, , .		2
29	Heat-Recovery Solar Cell. Physical Review Applied, 2019, 12, .	3.8	3
30	A concept of nonequilibrium solar cell heat recovery solar cell. , 2019, , .		0
31	Effect of Series Resistances on Conversion Efficiency of GaAs/Si Tandem Solar Cells With Areal Current-Matching Technique. IEEE Journal of Photovoltaics, 2018, 8, 654-660.	2.5	10
32	Improved Rear Local Contact Formation Using Al Paste Containing Si for Industrial PERC Solar Cell. IEEE Journal of Photovoltaics, 2018, 8, 54-58.	2.5	20
33	Evaluation of carrier collection probability in bifacial interdigitated-back-contact crystalline silicon solar cells by the internal quantum efficiency mapping method. Japanese Journal of Applied Physics, 2018, 57, 040315.	1.5	6
34	Implementation of Selective Emitter for Industrial-Sized PERCs Using Wet Chemical Etch-Back Process. IEEE Journal of Photovoltaics, 2018, , 1-7.	2.5	3
35	Corrosion of the Glass and Formation of Lead Compounds in the Metallization by High Temperature and High Humidity Test of Crystalline Silicon PV Module. , 2018, , .		8
36	A solar cell enabling heat recovery without fast carrier extraction. , 2018, , .		2

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37	A novel approach for suppression of oxygen precipitation in CZ silicon wafers of solar cells by pre-thermal treatment. AIP Conference Proceedings, 2018, , .	0.4	1
38	Broadband Reflectance Reduction for Wafer Bonded III-V//Si tandem Cell Using Polydimethylsiloxane-Replicated Surface Texturing. , 2018, , .		0
39	Quality of n-Type Czochralski Silicon Crystals for Solar Cells Grown from the Melt in Liquinert Crucibles. ECS Journal of Solid State Science and Technology, 2018, 7, P562-P566.	1.8	1
40	The impact of damage etching on fracture strength of diamond wire sawn monocrystalline silicon wafers for photovoltaics use. Japanese Journal of Applied Physics, 2018, 57, 126501.	1.5	12
41	Local Evaluation of Al ₂ O ₃ Passivation Layers for Monocrystalline Silicon Solar Cells by Super-Higher-Order Scanning Nonlinear Dielectric Microscopy. , 2018, , .		0
42	Investigation of the Reaction Mechanisms of Lead-free and Bismuth-free Tellurite glass in Front Silver Paste for c-Si Solar Cells. , 2018, , .		1
43	Effect of soldering on the module degradation along bus bar in DH test and PCT for crystalline Si PV modules. , 2018, , .		5
44	Bifacial interdigitated-back-contact (IBC) crystalline silicon solar cell: fabrication and evaluation by internal quantum efficiency mapping. , 2018, , .		6
45	Nonequilibrium Theory of the Conversion Efficiency Limit of Solar Cells Including Thermalization and Extraction of Carriers. Physical Review Applied, 2018, 10, .	3.8	12
46	Screen-printed contacts with H-patterned n-type passivated emitter rear totally diffused solar cell and front-side boron selective emitter formed by wet chemical etching. Japanese Journal of Applied Physics, 2018, 57, 08RB09.	1.5	1
47	Quantitative Evaluation of Carrier Distribution in Silicon Solar Cell Using Scanning Nonlinear Dielectric Microscopy. , 2018, , .		0
48	Refractive index of PECVD-SiN _y rear passivation films and its effect on assisted passivation of PERCs. AIP Conference Proceedings, 2018, , .	0.4	2
49	Assisted passivation by a chemically grown SiO ₂ layer for p-type selective emitter-passivated emitter and rear cells. Solar Energy Materials and Solar Cells, 2018, 186, 84-91.	6.2	12
50	Impact of silicon wafer thickness on photovoltaic performance of crystalline silicon heterojunction solar cells. Japanese Journal of Applied Physics, 2018, 57, 08RB10.	1.5	26
51	Internal quantum efficiency mapping for evaluation of rear surface of passivated emitter and rear cell. Applied Physics Express, 2018, 11, 086601.	2.4	3
52	The impact of subsurface damage on the fracture strength of diamond-wire-sawn monocrystalline silicon wafers. Japanese Journal of Applied Physics, 2018, 57, 08RB08.	1.5	12
53	The impact of saw mark direction on the fracture strength of thin (120 Åµm) monocrystalline silicon wafers for photovoltaic cells. Japanese Journal of Applied Physics, 2018, 57, 095501.	1.5	10
54	Method of Removing Single-Side Doped Layer While Maintaining Pyramid Textured Surface of n-Type Bifacial Solar Cells. IEEE Journal of Photovoltaics, 2017, 7, 458-462.	2.5	9

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55	Impact of Post-Implantation Annealing Conditions on Electrical Characteristics of a Phosphorus-Implanted Emitter Crystalline Silicon Solar Cell. IEEE Journal of Photovoltaics, 2017, 7, 741-746.	2.5	2
56	Feasibility study of two-terminal tandem solar cells integrated with smart stack, areal current matching, and low concentration. Progress in Photovoltaics: Research and Applications, 2017, 25, 255-263.	8.1	18
57	Applications of novel effects derived from Si ingot growth inside Si melt without contact with crucible wall using noncontact crucible method to high-efficiency solar cells. Journal of Crystal Growth, 2017, 468, 705-709.	1.5	9
58	Internal quantum efficiency mapping analysis for a >20%-efficiency n-type bifacial solar cell with front-side emitter formed by BBr ₃ thermal diffusion. Japanese Journal of Applied Physics, 2017, 56, 102303.	1.5	4
59	Effects of different particle-sized Al pastes on rear local contact formation and cell performance in passivated emitter rear cells. Energy Procedia, 2017, 124, 412-417.	1.8	9
60	Probing the surface potential of oxidized silicon by assessing terahertz emission. Applied Physics Letters, 2017, 110, .	3.3	30
61	Quantitative measurement of active dopant density distribution in phosphorus-implanted monocrystalline silicon solar cell using scanning nonlinear dielectric microscopy. Applied Physics Letters, 2017, 111, .	3.3	15
62	High-efficiency III-V/Si tandem solar cells enabled by the Pd nanoparticle array-mediated "smart stack" approach. Applied Physics Express, 2017, 10, 072301.	2.4	34
63	Optical design for 2-terminal III-V/Si SMAC module. , 2017, , .		1
64	Potential of a-Si:H/c-Si Heterojunction Solar Cells with Very thin Wafers. , 2017, , .		0
65	Quantitative Analysis of Active Dopant Distribution and Estimation of Effective Diffusivity in Phosphorus- Implanted Emitter of Si Solar Cell Using Scanning Nonlinear Dielectric Microscopy. , 2017, , .		0
66	Reduction of bonding resistance of two-terminal III-V/Si tandem solar cells fabricated using smart-stack technology. Japanese Journal of Applied Physics, 2017, 56, 122302.	1.5	4
67	Two-dimensional analysis of carrier distribution in phosphorus-implanted emitter and phosphorus-diffused emitter using super-higher-order scanning nonlinear dielectric microscopy. , 2017, , .		0
68	Palladium nanoparticle array-mediated semiconductor bonding that enables high-efficiency multi-junction solar cells. Japanese Journal of Applied Physics, 2016, 55, 025001.	1.5	37
69	Phosphorus-Implanted Emitter Crystalline Silicon Solar Cell with AL-BSF. , 2016, , .		0
70	Solar-cell radiance standard for absolute electroluminescence measurements and open-circuit voltage mapping of silicon solar modules. Journal of Applied Physics, 2016, 119, .	2.5	24
71	A "smart stack"-triple-junction cell consisting of InGaP/GaAs and crystalline Si. , 2016, , .		6
72	Two-dimensional analysis of carrier distribution in phosphorus-implanted emitter and phosphorus-diffused emitter using super-higher-order scanning nonlinear dielectric microscopy. , 2016, , .		1

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73	Light-induced Recovery of Effective Carrier Lifetime in Boron-doped Czochralski Silicon at Room Temperature. <i>Energy Procedia</i> , 2016, 92, 801-807.	1.8	1
74	Thermal Treatment Effects on Flat-band Voltage Shift in Atomic-layer-deposited Alumina or Aluminum Oxide/Silicon Nitride Passivation Stacks. <i>Energy Procedia</i> , 2016, 92, 353-358.	1.8	6
75	Lifetime improvement of photovoltaic silicon crystals grown by Czochralski technique using α -quartz crucibles. <i>Journal of Crystal Growth</i> , 2016, 438, 76-80.	1.5	8
76	Evaluation of Si-SiO _x Interface using Laser Terahertz Emission Microscope (LTEM). , 2016, , .		0
77	Integration of Light Trapping Silver Nanostructures in Hydrogenated Microcrystalline Silicon Solar Cells by Transfer Printing. <i>Journal of Visualized Experiments</i> , 2015, , e53276.	0.3	0
78	MBE-grown InGaAsP solar cells with 1.0 eV bandgap on InP(001) substrates for application to multijunction solar cells. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 08KE10.	1.5	5
79	Transfer-printed silver nanodisks for plasmonic light trapping in hydrogenated microcrystalline silicon solar cells. <i>Applied Physics Express</i> , 2014, 7, 112302.	2.4	7
80	Low-Temperature Back-Surface-Field Structures Applied to Crystalline Silicon Solar Cells: Two-Step Growth with Hydrogen Plasma Treatment for Improving the Reproducibility. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 10NA13.	1.5	2
81	Ambient stability of wet chemically passivated germanium wafer for crystalline solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2011, 95, 84-88.	6.2	13
82	Passivation of Germanium Surfaces by a Quinhydrone-Methanol Solution Treatment. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 071302.	1.5	3
83	Passivation of Germanium Surfaces by a Quinhydrone-Methanol Solution Treatment. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 071302.	1.5	1
84	Characterization of polycrystalline silicon wafers for solar cells sliced with novel fixed-abrasive wire. <i>Progress in Photovoltaics: Research and Applications</i> , 2010, 18, 485-490.	8.1	103
85	Oxygen-atmosphere heat treatment in spin-on doping process for improving the performance of crystalline silicon solar cells. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	11
86	Wet Chemical Surface Passivation of Germanium Wafers by Quinhydrone-Methanol Treatment for Minority Carrier Lifetime Measurements. <i>Applied Physics Express</i> , 2009, 2, 105501.	2.4	12
87	Low Temperature Back-Surface-Field (BSF) Technology for Crystalline Silicon (c-Si) Thin Film Solar Cells Based on Heterojunctions between Boron-Doped P-Type Hydrogenated Amorphous Silicon and c-Si. , 2006, , .		1
88	Modification of Surface Potential of Silicon by Organic Molecules. , 2006, , .		2
89	Quinhydrone/Methanol Treatment for the Measurement of Carrier Lifetime in Silicon Substrates. <i>Japanese Journal of Applied Physics</i> , 2002, 41, L870-L872.	1.5	61
90	Surface Passivation Effect of Silicon Substrates due to Quinhydrone/Ethanol Treatment. <i>Japanese Journal of Applied Physics</i> , 2001, 40, L1003-L1004.	1.5	27

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91	2¼m thin film c-Si cells on near-Lambertian Al ₂ O ₃ substrates. Solar Energy Materials and Solar Cells, 2001, 65, 593-598.	6.2	11
92	Thin-film silicon solar cells using an adhesive bonding technique. IEEE Transactions on Electron Devices, 2001, 48, 2090-2094.	3.0	9
93	Optical confinement in thin-film crystalline silicon solar cells by adhesive bonding of ceramic substrate. IEEE Electron Device Letters, 2000, 21, 387-389.	3.9	7
94	An interface circuit for a Josephson-CMOS hybrid digital system. IEEE Transactions on Applied Superconductivity, 1999, 9, 3314-3317.	1.7	18
95	Surface passivation at a SiO ₂ n+-layer interface. Solar Energy Materials and Solar Cells, 1997, 48, 117-121.	6.2	0
96	Surface Passivation of Thin Silicon Solar Cells Using Silicon-on-Insulator Wafer. Japanese Journal of Applied Physics, 1995, 34, 6358-6363.	1.5	7
97	Characteristics of Three- Åµm-Thick Silicon Solar Cells Using Bonded Silicon-on-Insulator Wafer. Japanese Journal of Applied Physics, 1994, 33, L1396-L1398.	1.5	6
98	Doping Profile Measurement of a Bonded Silicon-on-Insulator Wafer by Capacitance-Voltage Measurements. Japanese Journal of Applied Physics, 1992, 31, L1529-L1531.	1.5	8
99	Effects of Optical Confinement in Textured Antireflection Coating using ZnO Films for Solar Cells. Japanese Journal of Applied Physics, 1992, 31, L1665-L1667.	1.5	34
100	Hydrogen Annealing of Transparent Gate MOS Diodes. Japanese Journal of Applied Physics, 1990, 29, L1984-L1986.	1.5	2
101	Evaluation of the Si-SiO ₂ Interface by the Measurement of the Surface Recombination VelocitySby the Dual-Mercury Probe Method. Japanese Journal of Applied Physics, 1990, 29, L2300-L2303.	1.5	12
102	Long retention time of embedded DRAM macro with thin gate oxide film transistors. , 0, , .		0