

Hidetaka Takato

List of Publications by Year in descending order

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102
papers

920
citations

567281

15
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102
all docs

102
docs citations

102
times ranked

786
citing authors

#	ARTICLE	IF	CITATIONS
1	Characterization of polycrystalline silicon wafers for solar cells sliced with novel fixed abrasive wire. Progress in Photovoltaics: Research and Applications, 2010, 18, 485-490.	8.1	103
2	Quinhydrone/Methanol Treatment for the Measurement of Carrier Lifetime in Silicon Substrates. Japanese Journal of Applied Physics, 2002, 41, L870-L872.	1.5	61
3	III-V/Si multijunction solar cells with 30% efficiency using smart stack technology with Pd nanoparticle array. Progress in Photovoltaics: Research and Applications, 2020, 28, 16-24.	8.1	43
4	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
5	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
6	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
7	Probing the surface potential of oxidized silicon by assessing terahertz emission. Applied Physics Letters, 2017, 110, .	3.3	30
8	Surface Passivation Effect of Silicon Substrates due to Quinhydrone/Ethanol Treatment. Japanese Journal of Applied Physics, 2001, 40, L1003-L1004.	1.5	27

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#	ARTICLE	IF	CITATIONS
19	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
20	The impact of damage etching on fracture strength of diamond wire sawn monocrystalline silicon wafers for photovoltaics use. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 126501.	1.5	12
21	Nonequilibrium Theory of the Conversion Efficiency Limit of Solar Cells Including Thermalization and Extraction of Carriers. <i>Physical Review Applied</i> , 2018, 10, .	3.8	12
22	Assisted passivation by a chemically grown SiO ₂ layer for p-type selective emitter-passivated emitter and rear cells. <i>Solar Energy Materials and Solar Cells</i> , 2018, 186, 84-91.	6.2	12
23	The impact of subsurface damage on the fracture strength of diamond-wire-sawn monocrystalline silicon wafers. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 08RB08.	1.5	12
24	2¼m thin film c-Si cells on near-Lambertian Al ₂ O ₃ substrates. <i>Solar Energy Materials and Solar Cells</i> , 2001, 65, 593-598.	6.2	11
25	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
26	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
27	Effect of Series Resistances on Conversion Efficiency of GaAs/Si Tandem Solar Cells With Areal Current-Matching Technique. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 654-660.	2.5	10
28	The impact of saw mark direction on the fracture strength of thin (120 Åµm) monocrystalline silicon wafers for photovoltaic cells. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 095501.	1.5	10
29	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
30	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
31	Thin-film silicon solar cells using an adhesive bonding technique. <i>IEEE Transactions on Electron Devices</i> , 2001, 48, 2090-2094.	3.0	9
32	Method of Removing Single-Side Doped Layer While Maintaining Pyramid Textured Surface of n-Type Bifacial Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2017, 7, 458-462.	2.5	9
33	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. <i>Journal of Crystal Growth</i> , 2017, 468, 705-709.	1.5	9
34	Effects of different particle-sized Al pastes on rear local contact formation and cell performance in passivated emitter rear cells. <i>Energy Procedia</i> , 2017, 124, 412-417.	1.8	9
35	Cu Nanoparticle Array-Mediated III-V/Si Integration: Application in Series-Connected Tandem Solar Cells. <i>ACS Applied Energy Materials</i> , 2020, 3, 3445-3453.	5.1	9
36	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

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37	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
38	Lifetime improvement of photovoltaic silicon crystals grown by Czochralski technique using α -quartz crucibles. Journal of Crystal Growth, 2016, 438, 76-80.	1.5	8
39	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
40	Application of polydimethylsiloxane surface texturing on III-V//Si tandem achieving more than 2 % absolute efficiency improvement. Optics Express, 2020, 28, 3895.	3.4	8
41	Surface Passivation of Thin Silicon Solar Cells Using Silicon-on-Insulator Wafer. Japanese Journal of Applied Physics, 1995, 34, 6358-6363.	1.5	7
42	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
43	Transfer-printed silver nanodisks for plasmonic light trapping in hydrogenated microcrystalline silicon solar cells. Applied Physics Express, 2014, 7, 112302.	2.4	7
44	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
45	Mechanism of Metallization-Induced Losses in the Rear-Side of Fully Screen-Printed <i>p</i> -type PERC Solar Cells. IEEE Journal of Photovoltaics, 2020, 10, 407-416.	2.5	7
46	Characteristics of Three- μm -Thick Silicon Solar Cells Using Bonded Silicon-on-Insulator Wafer. Japanese Journal of Applied Physics, 1994, 33, L1396-L1398.	1.5	6
47	A α -smart stack α -triple-junction cell consisting of InGaP/GaAs and crystalline Si. , 2016, , .		6
48	Thermal Treatment Effects on Flat-band Voltage Shift in Atomic-layer-deposited Alumina or Aluminum Oxide/Silicon Nitride Passivation Stacks. Energy Procedia, 2016, 92, 353-358.	1.8	6
49	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
50	Bifacial interdigitated-back-contact (IBC) crystalline silicon solar cell: fabrication and evaluation by internal quantum efficiency mapping. , 2018, , .		6
51	MBE-grown InGaAsP solar cells with 1.0 eV bandgap on InP(001) substrates for application to multijunction solar cells. Japanese Journal of Applied Physics, 2015, 54, 08KE10.	1.5	5
52	Effect of soldering on the module degradation along bus bar in DH test and PCT for crystalline Si PV modules. , 2018, , .		5
53	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
54	Reduction of bonding resistance of two-terminal III α -V/Si tandem solar cells fabricated using smart-stack technology. Japanese Journal of Applied Physics, 2017, 56, 122302.	1.5	4

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55	Stencil-masked phosphorus-implanted silicon for solar cell applications. <i>Materials Science in Semiconductor Processing</i> , 2021, 124, 105589.	4.0	4
56	Passivation of Germanium Surfaces by a Quinhydroneâ€“Methanol Solution Treatment. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 071302.	1.5	3
57	Implementation of Selective Emitter for Industrial-Sized PERCs Using Wet Chemical Etch-Back Process. <i>IEEE Journal of Photovoltaics</i> , 2018, , 1-7.	2.5	3
58	Internal quantum efficiency mapping for evaluation of rear surface of passivated emitter and rear cell. <i>Applied Physics Express</i> , 2018, 11, 086601.	2.4	3
59	Heat-Recovery Solar Cell. <i>Physical Review Applied</i> , 2019, 12, .	3.8	3
60	Investigation of electrical shading loss of bifacial interdigitated-back-contact (IBC) crystalline silicon solar cells with screen-printed electrode. <i>Japanese Journal of Applied Physics</i> , 2020, 59, 116503.	1.5	3
61	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
62	Hydrogen Annealing of Transparent Gate MOS Diodes. <i>Japanese Journal of Applied Physics</i> , 1990, 29, L1984-L1986.	1.5	2
63	Modification of Surface Potential of Silicon by Organic Molecules. , 2006, , .		2
64	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
65	Impact of Post-Implantation Annealing Conditions on Electrical Characteristics of a Phosphorus-Implanted Emitter Crystalline Silicon Solar Cell. <i>IEEE Journal of Photovoltaics</i> , 2017, 7, 741-746.	2.5	2
66	A solar cell enabling heat recovery without fast carrier extraction. , 2018, , .		2
67	Refractive index of PECVD-SiNy rear passivation films and its effect on assisted passivation of PERCs. <i>AIP Conference Proceedings</i> , 2018, , .	0.4	2
68	The impact of surface finish conditions of silicon bricks on the mechanical strength of diamond-wire-sawn thin wafers (120â€“Åµm). <i>AIP Conference Proceedings</i> , 2019, , .	0.4	2
69	Effect of Oxygen Precipitation in Silicon Wafer on Electrical Characteristics of Fully Ion-Implanted n-Type PERT Solar Cells. <i>ECS Journal of Solid State Science and Technology</i> , 2019, 8, P596-P601.	1.8	2
70	Metal-induced Recombination Losses associated with Si present within Passivation Layers and Aluminum Paste for PERCs. , 2019, , .		2
71	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
72	Instantaneous Photocurrent Transport at the Interface in Perovskite Solar Cells to Generate Photovoltage. <i>Photonics</i> , 2022, 9, 316.	2.0	2

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73	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
74	Two-dimensional analysis of carrier distribution in phosphorus-implanted emitter and phosphorus-diffused emitter using super-higher-order scanning nonlinear dielectric microscopy. , 2016, , .		1
75	Light-induced Recovery of Effective Carrier Lifetime in Boron-doped Czochralski Silicon at Room Temperature. Energy Procedia, 2016, 92, 801-807.	1.8	1
76	Optical design for 2-terminal III-V/Si SMAC module. , 2017, , .		1
77	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
78	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
79	Investigation of the Reaction Mechanisms of Lead-free and Bismuth-free Tellurite glass in Front Silver Paste for c-Si Solar Cells. , 2018, , .		1
80	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
81	Evaluation of dissolved oxygen concentration in silicon wafers by measuring infrared attenuated total reflection. AIP Conference Proceedings, 2019, , .	0.4	1
82	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
83	Phosphorus gettering of impurities at low-temperature annealing for enhancing the performance of p-type PERC. AIP Conference Proceedings, 2019, , .	0.4	1
84	Influence of Module Structure on Reliability of Silicon Solar Cells. , 2019, , .		1
85	A New Route to Carbon Film Coating by Anodic Electrodeposition from Ionic Liquid Containing Different Phenylsilane Derivatives. Chemistry Letters, 2020, 49, 1349-1352.	1.3	1
86	An Influence of the Module Structure on Reliability of Crystalline Silicon Solar Cells. Transactions of the Japan Institute of Electronics Packaging, 2020, 13, E19-010-1-E19-010-6.	0.4	1
87	Passivation of Germanium Surfaces by a Quinhydroneâ€“Methanol Solution Treatment. Japanese Journal of Applied Physics, 2011, 50, 071302.	1.5	1
88	Advanced damage-free neutral beam etching technology to texture Si wafer with honeycomb pattern for broadband light trapping in photovoltaics. Journal of Materials Science: Materials in Electronics, 2021, 32, 27449.	2.2	1
89	Effects of the Non-Radiative Recombination and Bandgap Reduction in Heat-Recovery Solar Cell. , 2020, , .		1
90	Surface passivation at a SiO ₂ +layer interface. Solar Energy Materials and Solar Cells, 1997, 48, 117-121.	6.2	0

#	ARTICLE	IF	CITATIONS
91	Long retention time of embedded DRAM macro with thin gate oxide film transistors. , 0, , .		0
92	Integration of Light Trapping Silver Nanostructures in Hydrogenated Microcrystalline Silicon Solar Cells by Transfer Printing. Journal of Visualized Experiments, 2015, , e53276.	0.3	0
93	Phosphorus-Implanted Emitter Crystalline Silicon Solar Cell with AL-BSF. , 2016, , .		0
94	Potential of a-Si:H/c-Si Heterojunction Solar Cells with Very thin Wafers. , 2017, , .		0
95	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
96	Broadband Reflectance Reduction for Wafer Bonded III-V//Si tandem Cell Using Polydimethylsiloxane -Replicated Surface Texturing. , 2018, , .		0
97	Local Evaluation of Al ₂ O ₃ Passivation Layers for Monocrystalline Silicon Solar Cells by Super-Higher-Order Scanning Nonlinear Dielectric Microscopy. , 2018, , .		0
98	Quantitative Evaluation of Carrier Distribution in Silicon Solar Cell Using Scanning Nonlinear Dielectric Microscopy. , 2018, , .		0
99	Evaluation of Si-SiO _x Interface using Laser Terahertz Emission Microscope (LTEM). , 2016, , .		0
100	Two-dimensional analysis of carrier distribution in phosphorus-implanted emitter and phosphorus-diffused emitter using super-higher-order scanning nonlinear dielectric microscopy. , 2017, , .		0
101	A concept of nonequilibrium solar cell heat recovery solar cell. , 2019, , .		0
102	Formation of Local Rear Contacts Stimulated by Al-Si Interdiffusion within Different Al Grid Widths. , 2020, , .		0