Tohru Sugahara

List of Publications by Year
in descending order

129	4,493	109321 35	110387 64
papers	citations	h-index	g-index

132	132	132	5309
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Flexible Ceramic Film Sensors for Free-Form Devices. Sensors, 2022, 22, 1996.	3.8	15
2	Effects of additive NH₃ with citric acid in the precursor and controlling the deposited thickness for growing molybdenum oxide crystals and nanorods. Materials Chemistry Frontiers, 2021, 5, 386-395.	5.9	5
3	Online Thermal Resistance and Reliability Characteristic Monitoring of Power Modules With Ag Sinter Joining and Pb, Pb-Free Solders During Power Cycling Test by SiC TEG Chip. IEEE Transactions on Power Electronics, 2021, 36, 4977-4990.	7.9	41
4	Effect of W content in Co-W-P metallization on both oxidation resistance and resin adhesion. Journal of Materials Science, 2020, 55, 644-659.	3.7	2
5	Effects of microstructure of Ni barrier on bonding interface diffusion behaviors of Biâ€“Te-based thermoelectric material. Journal of Alloys and Compounds, 2020, 817, 152731.	5.5	12
6	Formation of Metal-Organic Decomposition Derived Nanocrystalline Structure Titanium Dioxide by Heat Sintering and Photosintering Methods for Advanced Coating Process, and Its Volatile Organic Compoundsâ€™ Gas-Sensing Properties. ACS Applied Electronic Materials, 2020, 2, 1670-1678.	4.3	14
7	Fabrication and Characterization of Ultraâ€Lightweight, Compact, and Flexible Thermoelectric Device Based on Highly Refined Chip Mounting. Advanced Materials Technologies, 2020, 5, 1901128.	5.8	12
8	Fabrication with Semiconductor Packaging Technologies and Characterization of a Largeâ€Scale Flexible Thermoelectric Module. Advanced Materials Technologies, 2019, 4, 1800556.	5.8	26
9	Ag particles for sinter bonding: Flakes or spheres?. Applied Physics Letters, 2019, 114, .	3.3	33
10	In situ TEM observation of sintered Ag die-attach layer with added tungsten carbide particles while heating to high temperature. Japanese Journal of Applied Physics, 2019, 58, 100910.	1.5	2
11	3D imaging of backside metallization of SiC-SBD influenced by annealing. Journal of Materials Science: Materials in Electronics, 2019, 30, 10848-10856.	2.2	2
12	Thermal stability improvement of sintered Ag die-attach materials by addition of transition metal compound particles. Applied Physics Letters, 2019, 114, .	3.3	9
13	Alloying and Embedding of Cu-Core/Ag-Shell Nanowires for Ultrastable Stretchable and Transparent Electrodes. ACS Applied Materials & Interfaces, 2019, 11, 18540-18547.	8.0	45
14	Thermal shock reliability of a GaN die-attach module on DBA substrate with Ti/Ag metallization by using micron/submicron Ag sinter paste. Japanese Journal of Applied Physics, 2019, 58, SBBD15.	1.5	17
15	Development of high-strength and superior thermal shock-resistant GaN/DBA die attach structure with Ag sinter joining by thick Ni metallization. Microelectronics Reliability, 2019, 100-101, 113380.	1.7	15
16	Improvement of the Bond Strength of Ag Sinter-Joining on Electroless Ni/Au Plated Substrate by a One-Step Preheating Treatment. Journal of Electronic Materials, 2019, 48, 1106-1115.	2.2	22
17	Low-temperature and pressureless sinter joining of Cu with micron/submicron Ag particle paste in air. Journal of Alloys and Compounds, 2019, 780, 435-442.	5.5	98
18	Strongly anisotropic thermal conductivity and adequate breathability of bilayered films for heat management of on-skin electronics. 2D Materials, 2018, 5, 035013.	4.4	13

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19	Electrodeposition and growth mechanism of preferentially orientated nanotwinned Cu on silicon wafer substrate. Journal of Materials Science and Technology, 2018, 34, 1885-1890.	10.7	29
20	Ethanol gas sensing performance of high-dimensional fuzz metal oxide nanostructure. Japanese Journal of Applied Physics, 2018, 57, 040316.	1.5	10
21	Nanoridge patterns on polymeric film by a photodegradation copying method for metallic nanowire networks. RSC Advances, 2018, 8, 40740-40747.	3.6	5
22	Highly Conductive Stretchable Wirings Composed of Ag Foils and Elastomer. , 2018, , .		3
23	Heat-resistant packaging technology for wide bandgap power devices and thermal reliability testing. , 2018, , .		0
24	Nearly perfect Ag joints prepared by Ag stress-migration-bonding (SMB) process. , 2018, , .		0
25	Development of thermal shock-resistant of GaN/DBC die-attached module by using Ag sinter paste and thermal stress relaxation structure. Microelectronics Reliability, 2018, 88-90, 779-787.	1.7	16
26	(Invited) Packaging Material Technology for Wide Band Gap Power Devices and Its Performance/Reliability Evaluation. ECS Transactions, 2018, 86, 17-22.	0.5	3
27	The comprehensive effects of visible light irradiation on silver nanowire transparent electrode. Nanotechnology, 2018, 29, 435701.	2.6	28
28	Thin Film of Amorphous Zinc Hydroxide Semiconductor for Optical Devices with an Energy-Efficient Beneficial Coating by Metal Organic Decomposition Process. Scientific Reports, 2018, 8, 10839.	3.3	20
29	A nearly-perfect Ag joints prepared by novel Ag to Ag direct bonding. , 2018, , .		0
30	Macroscale and microscale fracture toughness of microporous sintered Ag for applications in power electronic devices. Acta Materialia, 2017, 129, 41-51.	7.9	74
31	Silver sinter joining for WBG die-attach. , 2017, , .		3
32	First failure point of a SiC power module with sintered Ag die-attach on reliability tests. , 2017, , .		4
33	High temperature SiC power device realized by electroless plating diffusion barrier for Ag sinter die-attach. , 2017, , .		0
34	Effect of size and shape of Ag particles for mechanical properties of sintered Ag joints evaluated by micro-compression test. , 2017, , .		3
35	Modifying the valence state of molybdenum in the efficient oxide buffer layer of organic solar cells via a mild hydrogen peroxide treatment. Journal of Materials Chemistry C, 2017, 5, 889-895.	5.5	15
36	Mechanical Deformation of Sintered Porous Ag Die Attach at High Temperature and Its Size Effect for Wide-Bandgap Power Device Design. Journal of Electronic Materials, 2017, 46, 1576-1586.	2.2	72

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37	Prominent interface structure and bonding material of power module for high temperature operation. , 2017, , .		3
38	Ag sinter joining and wiring for high power electronics. , 2017, , .		2
39	Die Bonding Performance Using Bimodal Cu Particle Paste Under Different Sintering Atmospheres. Journal of Electronic Materials, 2017, 46, 4575-4581.	2.2	78
40	Printable and Flexible Copperâ€“Silver Alloy Electrodes with High Conductivity and Ultrahigh Oxidation Resistance. ACS Applied Materials & Interfaces, 2017, 9, 24711-24721.	8.0	79
41	Investigation on the melting and tensile properties of Bi-containing SAC105 lead-free solder alloys. , 2017, , .		2
42	Composition of Copper Nanowires and Preparation of Transparent Conductive Film by Intense Pulse Light Sintering. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2017, 81, 383-388.	0.4	0
43	Thermostable electroless plating optimized for Ag sinter die-attach realizing high T<inf>J</inf> device packaging. , 2016, , .		2
44	Diverse Adsorption/Desorption Abilities Originating from the Nanostructural Morphology of VOC Gas Sensing Devices Based on Molybdenum Trioxide Nanorod Arrays. Advanced Materials Interfaces, 2016, 3, 1600252.	3.7	21
45	Self-healing of cracks in Ag joining layer for die-attachment in power devices. Applied Physics Letters, 2016, 109, .	3.3	40
46	Low-Stress Design for SiC Power Modules with Sintered Porous Ag Interconnection. , 2016, , .		5
47	Dry-growth of silver single-crystal nanowires from porous Ag structure. Applied Physics Letters, 2016, 108, 263105.	3.3	10
48	Gas Sensors: Diverse Adsorption/Desorption Abilities Originating from the Nanostructural Morphology of VOC Gas Sensing Devices Based on Molybdenum Trioxide Nanorod Arrays (Adv. Mater.) Tj ETQq0 0 0 rgBT /Overlock 10 T	8.7	0
49	Silver sinter joining and stress migration bonding for WBG die-attach. , 2016, , .		6
50	A new micro-silver paste for high power semiconductor devices. , 2016, , .		0
51	Facile fabrication of stretchable Ag nanowire/polyurethane electrodes using high intensity pulsed light. Nano Research, 2016, 9, 401-414.	10.4	128
52	Die-attaching silver paste based on a novel solvent for high-power semiconductor devices. Journal of Materials Science, 2016, 51, 3422-3430.	3.7	70
53	One-Step Fabrication of Stretchable Copper Nanowire Conductors by a Fast Photonic Sintering Technique and Its Application in Wearable Devices. ACS Applied Materials & Interfaces, 2016, 8, 6190-6199.	8.0	146
54	Targeted kinetic strategy for improving the thermal conductivity of epoxy composite containing percolating multi-layer graphene oxide chains. EXPRESS Polymer Letters, 2015, 9, 608-623.	2.1	12

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55	Heel crack propagation mechanism of cold-rolled Cu/Al clad ribbon bonding in harsh environment. Journal of Materials Science: Materials in Electronics, 2015, 26, 7277-7289.	2.2	7
56	The effect of ultraviolet radiation on silver nanowire transparent electrode based on flexible polymeric film substrate. , 2015, , .		3
57	Reliability of silver nanowire transparent electrode under atmospheric environment. , 2015, , .		2
58	Facile identification of the critical content of multi-layer graphene oxide for epoxy composite with optimal thermal properties. RSC Advances, 2015, 5, 20376-20385.	3.6	10
59	Growth and Extension of One-Step Solâ€“Gel Derived Molybdenum Trioxide Nanorods via Controlling Citric Acid Decomposition Rate. Crystal Growth and Design, 2015, 15, 4536-4542.	3.0	34
60	Ultra thermal stability of LED die-attach achieved by pressureless Ag stress-migration bonding at low temperature. Acta Materialia, 2015, 89, 133-140.	7.9	47
61	Surface modification of Cu flakes through Ag precipitation for low-temperature pressureless sintering bonding. Materials Letters, 2015, 151, 68-71.	2.6	5
62	Solidification and thermal degradation of printable, stretchable electrical conductor from waterborne polyurethane and silver flakes. Journal of Thermal Analysis and Calorimetry, 2015, 122, 295-305.	3.6	4
63	High performance heat curing copper-silver powders filled electrically conductive adhesives. Electronic Materials Letters, 2015, 11, 315-322.	2.2	15
64	The effect of light and humidity on the stability of silver nanowire transparent electrodes. RSC Advances, 2015, 5, 27657-27664.	3.6	94
65	Highly Reliable Silver Nanowire Transparent Electrode Employing Selectively Patterned Barrier Shaped by Self-Masked Photolithography. ACS Applied Materials & Interfaces, 2015, 7, 23297-23304.	8.0	57
66	Metastable pitting and its correlation with electronic properties of passive films on Snâ€“xZn solder alloys. Corrosion Science, 2015, 99, 154-163.	6.6	39
67	Fast fabrication of copper nanowire transparent electrodes by a high intensity pulsed light sintering technique in air. Physical Chemistry Chemical Physics, 2015, 17, 31110-31116.	2.8	50
68	Fabrication of a flexible copper pattern based on a sub-micro copper paste by a low temperature plasma technique. RSC Advances, 2015, 5, 90202-90208.	3.6	19
69	A highly sensitive and flexible pressure sensor with electrodes and elastomeric interlayer containing silver nanowires. Nanoscale, 2015, 7, 2926-2932.	5.6	249
70	Silver Nanowire Electrodes: Conductivity Improvement Without Post-treatment and Application in Capacitive Pressure Sensors. Nano-Micro Letters, 2015, 7, 51-58.	27.0	118
71	Using the Friedman method to study the thermal degradation kinetics of photonically cured electrically conductive adhesives. Journal of Thermal Analysis and Calorimetry, 2015, 119, 425-433.	3.6	37
72	â€˜Chrysanthemum petalâ€™ arrangements of silver nano wires. Nanotechnology, 2014, 25, 485705.	2.6	5

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73	Refinement of the Microstructure of Sn-Ag-Bi-In Solder, by Addition of SiC Nanoparticles, to Reduce Electromigration Damage Under High Electric Current. Journal of Electronic Materials, 2014, 43, 4428-4434.	2.2	15
74	Silver nanowire: Synthesis, conductivity improvement and application to pressure sensor. , 2014, , .		0
75	Effect of electromigration on mechanical shock behavior in solder joints of surface mounted chip components. Japanese Journal of Applied Physics, 2014, 53, 04EB02.	1.5	1
76	Mechanical stabilities of ultrasonic Al ribbon bonding on electroless nickel immersion gold finished Cu substrates. Japanese Journal of Applied Physics, 2014, 53, 04EP06.	1.5	7
77	Nano-SiC added Ag paste sintering die-attach for SiC power devices. , 2014, , .		2
78	Mitigation of Sn Whisker Growth by Small Bi Additions. Journal of Electronic Materials, 2014, 43, 1-8.	2.2	35
79	Facile synthesis of very-long silver nanowires for transparent electrodes. Journal of Materials Chemistry A, 2014, 2, 6326-6330.	10.3	241
80	Low haze transparent electrodes and highly conducting air dried films with ultra-long silver nanowires synthesized by one-step polyol method. Nano Research, 2014, 7, 236-245.	10.4	161
81	Enhanced reliability of Snâ€“Agâ€“Biâ€“In joint under electric current stress by adding Co/Ni elements. Journal of Materials Science: Materials in Electronics, 2014, 25, 3090-3095.	2.2	13
82	Solâ€“Gelâ€Derived Highâ€Performance Stacked Transparent Conductive Oxide Thin Films. Journal of the American Ceramic Society, 2014, 97, 3238-3243.	3.8	21
83	Ultra-fast photonic curing of electrically conductive adhesives fabricated from vinyl ester resin and silver micro-flakes for printed electronics. RSC Advances, 2014, 4, 15914-15922.	3.6	55
84	Pressure-less plasma sintering of Cu paste for SiC die-attach of high-temperature power device manufacturing. , 2014, , .		3
85	Low-pressure sintering bonding with Cu and CuO flake paste for power devices. , 2014, , .		11
86	Hillock growth dynamics for Ag stress migration bonding. Materials Letters, 2014, 137, 170-173.	2.6	21
87	Photonic sintering of thin film prepared by dodecylamine capped CuIn Ga1â^'Se2 nanoparticles for printed photovoltaics. Thin Solid Films, 2014, 565, 11-18.	1.8	19
88	Thin-Film Copper Indium Gallium Selenide Solar Cell Based on Low-Temperature All-Printing Process. ACS Applied Materials & Interfaces, 2014, 6, 16297-16303.	8.0	60
89	Using Ozawa method to study the curing kinetics of electrically conductive adhesives. Journal of Thermal Analysis and Calorimetry, 2014, 117, 1365-1373.	3.6	9
90	Uniformly connected conductive networks on cellulose nanofiber paper for transparent paper electronics. NPG Asia Materials, 2014, 6, e93-e93.	7.9	204

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91	Evaluation of Stretchable Conductor for Measuring Clothing Pressure. Lecture Notes in Computer Science, 2014, , 191-197.	1.3	0
92	Ag nanowires: large-scale synthesis via a trace-salt-assisted solvothermal process and application in transparent electrodes. Journal of Nanoparticle Research, 2013, 15, 1.	1.9	31
93	Thermal stress driven Sn whisker growth: in air and in vacuum. Journal of Materials Science: Materials in Electronics, 2013, 24, 3897-3904.	2.2	1
94	Least lead addition to mitigate tin whisker for ambient storage. Journal of Materials Science: Materials in Electronics, 2013, 24, 3108-3115.	2.2	17
95	Microstructural stability of Ag sinter joining in thermal cycling. Journal of Materials Science: Materials in Electronics, 2013, 24, 1332-1340.	2.2	59
96	Cu Salt Ink Formulation for Printed Electronics using Photonic Sintering. Langmuir, 2013, 29, 11192-11197.	3.5	82
97	La doped effects on structure and thermoelectric properties of Sr₂MnMoO₆ double-perovskite oxides. Journal of Asian Ceramic Societies, 2013, 1, 282-288.	2.3	17
98	High thermal stability of optical transparency in cellulose nanofiber paper. Applied Physics Letters, 2013, 102, .	3.3	112
99	Retarding intermetallic compounds growth of Zn high-temperature solder and Cu substrate by trace element addition. Journal of Materials Science: Materials in Electronics, 2013, 24, 4704-4712.	2.2	22
100	High-intensity pulse light sintering of silver nanowire transparent films on polymer substrates: the effect of the thermal properties of substrates on the performance of silver films. Nanoscale, 2013, 5, 11820.	5.6	100
101	High-strength Si wafer bonding by self-regulated eutectic reaction with pure Zn. Scripta Materialia, 2013, 68, 591-594.	5.2	4
102	Silver nanowires transparent conductive films: Fabrication using different sintering techniques. , 2013, , .		4
103	Electrically conductive bacterial cellulose composite membranes produced by the incorporation of graphite nanoplatelets in pristine bacterial cellulose membranes. EXPRESS Polymer Letters, 2013, 7, 756-766.	2.1	54
104	Oxidation resistance and joining properties of Cr-doped Zn bonding for SiC die-attachment. , 2013, , .		0
105	Effect of Void Volume and Silver Loading on Strain Response of Electrical Resistance in Silver Flakes/Polyurethane Composite for Stretchable Conductors. Japanese Journal of Applied Physics, 2012, 51, 11PD01.	1.5	3
106	Influence of tin plating thickness on whisker growth during thermal cycling. , 2012, , .		0
107	Structure and thermoelectric properties of double-perovskite oxides: Sr_{2â^'}<i>_x</i>K<i>_x</i>FeMoO₆ Journal of the Ceramic Society of Japan, 2012, 120, 211-216.		
108	Effect of the Amount of Vacancies on the Thermoelectric Properties of Cu–Ga–Te Ternary Compounds. Materials Transactions, 2012, 53, 1212-1215.	1.2	26

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109	Ag/TiO2 coreâ€“shell nanocables prepared with a one-step polyol process. Journal of Nanoparticle Research, 2012, 14, 1.	1.9	13
110	Enhanced ductility and oxidation resistance of Zn through the addition of minor elements for use in wide-gap semiconductor die-bonding materials. Journal of Alloys and Compounds, 2012, 542, 236-240.	5.5	25
111	Effects of additional Ni and Co on microstructural evolution in Sn-Ag-Bi-In solder under current stressing. , 2012, , .		1
112	High-temperature thermoelectric properties of non-stoichiometric Ag1â^'InTe2 with chalcopyrite structure. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2012, 177, 999-1002.	3.5	23
113	Transparent Electrodes Fabricated via the Self-Assembly of Silver Nanowires Using a Bubble Template. Langmuir, 2012, 28, 9298-9302.	3.5	91
114	Strongly adhesive and flexible transparent silver nanowire conductive films fabricated with a high-intensity pulsed light technique. Journal of Materials Chemistry, 2012, 22, 23561.	6.7	209
115	Thermoelectric properties and microstructures of AgSbTe₂â€added pâ€type Pb_{0.16}Ge_{0.84}Te. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 167-170.	1.8	6
116	Chalcopyrite CuGaTe₂: A Highâ€Efficiency Bulk Thermoelectric Material. Advanced Materials, 2012, 24, 3622-3626.	21.0	311
117	Structure and thermoelectric properties of Ca2â^'xSrxFeMoO6 (0â‰¤xâ‰¤0.3) double-perovskite oxides. Materials Chemistry and Physics, 2012, 133, 630-634.	4.0	27
118	Thermodynamic Equilibrium Calculations on the Oxidation Behavior of the Mo-Ru-Rh-Pd Alloys. Transactions of the Atomic Energy Society of Japan, 2012, 11, 30-36.	0.3	2
119	Effect of Void Volume and Silver Loading on Strain Response of Electrical Resistance in Silver Flakes/Polyurethane Composite for Stretchable Conductors. Japanese Journal of Applied Physics, 2012, 51, 11PD01.	1.5	14
120	Structural and semiconductor-to-metal transitions of double-perovskite cobalt oxide Sr2â^'xLaxCoTiO6â^'Î´ with enhanced thermoelectric capability. Applied Physics Letters, 2011, 99, .	3.3	27
121	Thermoelectric properties of Ga-added CoSb3 based skutterudites. Journal of Applied Physics, 2011, 110, 013521.	2.5	33
122	Synthesis and high-temperature thermoelectric properties of Ni3GaSb and Ni3InSb. Journal of Alloys and Compounds, 2011, 509, 4014-4017.	5.5	7
123	Synthesis and thermal conductivities of ZnIn2Te4 and CdIn2Te4 with defect-chalcopyrite structure. Journal of Alloys and Compounds, 2011, 509, 7484-7487.	5.5	12
124	Thermoelectric properties of Ag1â^'xGaTe2 with chalcopyrite structure. Applied Physics Letters, 2011, 99, .	3.3	108
125	High-temperature thermoelectric properties of Cu2Ga4Te7 with defect zinc-blende structure. Applied Physics Letters, 2011, 98, 172104.	3.3	26
126	Phase State and Physical Properties of the Mo-Ru-Ph-Pd Alloys. Materials Research Society Symposia Proceedings, 2011, 1298, 41.	0.1	0

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127	Thermoelectric properties of double-perovskite oxide Sr_{2-<i>x</i>}<i>M</i>_{<i>x</i>}FeMoO<sub>6</su (<i>M</i> = Ba, La). Journal of the Ceramic Society of Japan, 2008, 116, 1278-1282.		
128	Pressureless Ag Thin-Film Die-Attach for SiC Devices. Materials Science Forum, 0, 821-823, 919-922.	0.3	0
129	Nanoscale Dynamic Mechanical Analysis on Heat-Resistant Silsesquioxane Nanocomposite for Power-Device Packaging. Materials Science Forum, 0, 821-823, 923-926.	0.3	3