C Robert Kao

List of Publications by Year
in descending order

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237 papers	6,385 citations	53794 45 h-index	85541 71 g-index
249 all docs	249 docs citations	249 times ranked	1735 citing authors

#	Article	IF	Citations
1	Effect of Cu concentration on the reactions between Sn-Ag-Cu solders and Ni. Journal of Electronic Materials, 2002, 31, 584-590.	2.2	298
2	Interfacial reaction issues for lead-free electronic solders. Journal of Materials Science: Materials in Electronics, 2006, 18, 155-174.	2.2	206
3	Effect of Cu concentration on the interfacial reactions between Ni and Snâ€“Cu solders. Journal of Materials Research, 2002, 17, 263-266.	2.6	203
4	Effects of minor Fe, Co, and Ni additions on the reaction between SnAgCu solder and Cu. Journal of Alloys and Compounds, 2009, 478, 121-127.	5.5	163
5	A study on the reaction between Cu and Sn3.5Ag solder doped with small amounts of Ni. Journal of Electronic Materials, 2003, 32, 1203-1208.	2.2	144
6	Effects of limited cu supply on soldering reactions between SnAgCu and Ni. Journal of Electronic Materials, 2006, 35, 1017-1024.	2.2	138
7	In situ observation of the void formation-and-propagation mechanism in solder joints under current-stressing. Acta Materialia, 2005, 53, 2029-2035.	7.9	134
8	Electromigration failure in flip chip solder joints due to rapid dissolution of copper. Journal of Materials Research, 2003, 18, 2544-2548.	2.6	125
9	Formation and resettlement of (AuxNi1â^'x)Sn4 in solder joints of ball-grid-array packages with the Au/Ni surface finish. Journal of Electronic Materials, 2000, 29, 1175-1181.	2.2	118
10	On the composition dependencies of self-diffusion coefficients in B2 intermetallic compounds. Intermetallics, 1993, 1, 237-250.	3.9	110
11	Solid-state reactions between Ni and Snâ€“Agâ€“Cu solders with different Cu concentrations. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 396, 385-391.	5.6	110
12	Reactions between Snâ€“Agâ€“Cu leadâ€free solders and the Au/Ni surface finish in advanced electronic packages. Soldering and Surface Mount Technology, 2002, 14, 25-29.	1.5	106
13	Controlling the microstructure from the gold-tin reaction. Journal of Electronic Materials, 2005, 34, 182-187.	2.2	99
14	Electromigration-induced failure in flip-chip solder joints. Journal of Electronic Materials, 2005, 34, 27-33.	2.2	94
15	Kirkendall voids formation in the reaction between Ni-doped SnAg lead-free solders and different Cu substrates. Microelectronics Reliability, 2009, 49, 248-252.	1.7	93
16	The effects of solder volume and Cu concentration on the consumption rate of Cu pad during reflow soldering. Journal of Alloys and Compounds, 2010, 492, 99-104.	5.5	93
17	Strong Zn concentration effect on the soldering reactions between Sn-based solders and Cu. Journal of Materials Research, 2006, 21, 2436-2439.	2.6	89
18	Auâ€“Sn bonding material for the assembly of power integrated circuit module. Journal of Alloys and Compounds, 2016, 671, 340-345.	5.5	87

#	Article	IF	Citations
19	Effects of Ti addition to Snâ€“Ag and Snâ€“Cu solders. Journal of Alloys and Compounds, 2012, 520, 244-249.	5.5	86
20	Minimum effective Ni addition to SnAgCu solders for retarding Cu3Sn growth. Journal of Alloys and Compounds, 2009, 478, L1-L4.	5.5	84
21	Strong Effect of Cu Concentration on the Reaction between Lead-Free Microelectronic Solders and Ni. Chemistry of Materials, 2002, 14, 949-951.	6.7	82
22	Critical Concerns in Soldering Reactions Arising from Space Confinement in 3-D IC Packages. IEEE Transactions on Device and Materials Reliability, 2012, 12, 233-240.	2.0	81
23	Elimination of voids in reactions between Ni and Sn: A novel effect of silver. Scripta Materialia, 2012, 66, 171-174.	5.2	80
24	Reaction kinetics of solder-balls with pads in BGA packages during reflow soldering. Journal of Electronic Materials, 1999, 28, 1231-1237.	2.2	79
25	Electromigration-induced grain rotation in anisotropic conducting beta tin. Applied Physics Letters, 2005, 86, 241902.	3.3	74
26	Full intermetallic joints for chip stacking by using thermal gradient bonding. Acta Materialia, 2016, 113, 90-97.	7.9	71
27	Microstructures developed in solid-liquid reactions: using Cu-Sn reaction, Ni-Bi reaction, and Cu-In reaction as examples. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1997, 238, 196-201.	5.6	70
28	Mechanism for serrated cathode dissolution in Cu/Sn/Cu interconnect under electron current stressing. Acta Materialia, 2012, 60, 2082-2090.	7.9	68
29	Reflow soldering and isothermal solid-state aging of Sn-Ag eutectic solder on Au/Ni surface finish. Journal of Electronic Materials, 2001, 30, 1152-1156.	2.2	66
30	Electromigration-induced microstructure evolution in tin studied by synchrotron x-ray microdiffraction. Applied Physics Letters, 2004, 85, 2490-2492.	3.3	66
31	Phase equilibria of the cu-in system I: Experimental investigation. Journal of Phase Equilibria and Diffusion, 1993, 14, 14-21.	0.3	65
32	Inhibiting the formation of (Au1â^'xNix)Sn4 and reducing the consumption of Ni metallization in solder joints. Journal of Electronic Materials, 2002, 31, 1264-1269.	2.2	64
33	Cross-interaction of under-bump metallurgy and surface finish in flip-chip solder joints. Journal of Electronic Materials, 2004, 33, 1424-1428.	2.2	61
34	Cross-Interaction between Ni and Cu across Sn Layers with Different Thickness. Journal of Electronic Materials, 2007, 36, 1455-1461.	2.2	60
35	Reactions of solid copper with pure liquid tin and liquid tin saturated with copper. Scripta Materialia, 1997, 37, 393-398.	5.2	59
36	Interactions between solder and metallization during long-term aging of advanced microelectronic packages. Journal of Electronic Materials, 2001, 30, 379-385.	2.2	58

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37	Local melting induced by electromigration in flip-chip solder joints. Journal of Electronic Materials, 2006, 35, 1005-1009.	2.2	58
38	Effects of Sn grain orientation on substrate dissolution and intermetallic precipitation in solder joints under electron current stressing. Scripta Materialia, 2014, 80, 37-40.	5.2	56
39	Selective Interfacial Reaction between Ni and Eutectic BiSn Lead-Free Solder. Chemistry of Materials, 2001, 13, 1051-1056.	6.7	55
40	Single-joint shear strength of micro Cu pillar solder bumps with different amounts of intermetallics. Microelectronics Reliability, 2013, 53, 47-52.	1.7	54
41	Analysis and experimental verification of the competing degradation mechanisms for solder joints under electron current stressing. Acta Materialia, 2011, 59, 2462-2468.	7.9	52
42	Long-term aging study on the solid-state reaction between 58Bi42Sn solder and Ni substrate. Journal of Electronic Materials, 2000, 29, 1200-1206.	2.2	51
43	Reaction of solder with Ni/Au metallization for electronic packages during reflow soldering. IEEE Transactions on Advanced Packaging, 2001, 24, 493-498.	1.6	50
44	Pronounced electromigration of Cu in molten Sn-based solders. Journal of Materials Research, 2008, 23, 250-257.	2.6	49
45	Direct evidence for a Cu-enriched region at the boundary between Cu6Sn5 and Cu3Sn during Cu/Sn reaction. Scripta Materialia, 2010, 63, 258-260.	5.2	48
46	Effect of Cu concentration, solder volume, and temperature on the reaction between SnAgCu solders and Ni. Journal of Alloys and Compounds, 2010, 499, 149-153.	5.5	46
47	Investigation of growth behavior of Alâ€“Cu intermetallic compounds in Cu wire bonding. Microelectronics Reliability, 2011, 51, 125-129.	1.7	45
48	Reduction of electromigration damage in SAC305 solder joints by adding Ni nanoparticles through flux doping. Journal of Materials Science, 2015, 50, 6748-6756.	3.7	45
49	Site preference of substitutional additions to triple-defect B2 intermetallic compounds. Intermetallics, 1994, 2, 235-247.	3.9	44
50	Electromigration-induced UBM consumption and the resulting failure mechanisms in flip-chip solder joints. Journal of Electronic Materials, 2006, 35, 1010-1016.	2.2	44
51	Low temperature bonding for high temperature applications by using SnBi solders. Journal of Alloys and Compounds, 2015, 647, 681-685.	5.5	43
52	A theoretical analysis for the formation of periodic layered structure in ternary diffusion couples involving a displacement type of reactions. Acta Metallurgica Et Materialia, 1993, 41, 3463-3472.	1.8	42
53	Massive spalling of intermetallic compounds in solder-substrate reactions due to limited supply of the active element. Journal of Applied Physics, 2007, 101, 084911.	2.5	42
54	Effects of silver addition on Cuâ€“Sn microjoints for chip-stacking applications. Journal of Alloys and Compounds, 2014, 605, 193-198.	5.5	42

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55	Dominant effects of Sn orientation on serrated cathode dissolution and resulting failure in actual solder joints under electromigration. Journal of Alloys and Compounds, 2015, 627, 281-286.	5.5	40
56	Interfacial reaction issues for lead-free electronic solders. , 2006, , 155-174.		40
57	Inhibiting the formation of microvoids in Cu3Sn by additions of Cu to solders. Journal of Alloys and Compounds, 2010, 493, 233-239.	5.5	39
58	Interfacial reactions between PbTe-based thermoelectric materials and Cu and Ag bonding materials. Journal of Materials Chemistry C, 2015, 3, 10590-10596.	5.5	37
59	Microstructure evolution of gold-tin eutectic solder on Cu and Ni substrates. Journal of Electronic Materials, 2006, 35, 65-71.	2.2	36
60	Formation and Absence of Intermetallic Compounds during Solid-State Reactions in the Niâˆ'Bi System. Chemistry of Materials, 1999, 11, 292-297.	6.7	33
61	Growth of CuAl intermetallic compounds in Cu and Cu(Pd) wire bonding. , 2011, , .		33
62	Origin and evolution of voids in electroless Ni during soldering reaction. Acta Materialia, 2012, 60, 4586-4593.	7.9	33
63	Growth kinetics of Ag3Sn in silicon solar cells with a sintered Ag metallization layer. Solar Energy Materials and Solar Cells, 2014, 123, 139-143.	6.2	33
64	Phase equilibria of the cu-in system II: Thermodynamic assessment and calculation of phase diagram. Journal of Phase Equilibria and Diffusion, 1993, 14, 22-30.	0.3	32
65	Optimal Ag addition for the elimination of voids in Ni/SnAg/Ni micro joints for 3D IC applications. Journal of Alloys and Compounds, 2015, 629, 16-21.	5.5	32
66	Effect of surface finish on the failure mechanisms of flip-chip solder joints under electromigration. Journal of Electronic Materials, 2006, 35, 2147-2153.	2.2	31
67	Interfacial reactions between Ni substrate and the component Bi in solders. Journal of Electronic Materials, 1999, 28, 57-62.	2.2	30
68	The orientation relationship between Ni and Cu6Sn5 formed during the soldering reaction. Scripta Materialia, 2011, 65, 331-334.	5.2	30
69	Effects of Joining Sequence on the Interfacial Reactions and Substrate Dissolution Behaviors in Ni/Solder/Cu Joints. Journal of Electronic Materials, 2011, 40, 1912-1920.	2.2	30
70	Phase field microelasticity model of dislocation climb: Methodology and applications. Acta Materialia, 2014, 79, 396-410.	7.9	29
71	Enhancement of nano-silver chip attachment by using transient liquid phase reaction with indium. Journal of Alloys and Compounds, 2018, 762, 586-597.	5.5	29
72	Cross-interaction between Au and Cu in Au/Sn/Cu ternary diffusion couples. Journal of Electronic Materials, 2006, 35, 366-371.	2.2	28

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73	Tin Whisker Growth Induced by High Electron Current Density. Journal of Electronic Materials, 2008, 37, 17-22.	2.2	27
74	Uncovering the driving force for massive spalling in the Snâ€“Cu/Ni system. Scripta Materialia, 2010, 63, 47-49.	5.2	27
75	Kinetics of AuSn4 migration in lead-free solders. Journal of Electronic Materials, 2006, 35, 1948-1954.	2.2	26
76	The critical oxide thickness for Pb-free reflow soldering on Cu substrate. Thin Solid Films, 2012, 520, 5346-5352.	1.8	26
77	Volume Shrinkage Induced by Interfacial Reaction in Micro-Ni/Sn/Ni Joints. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 2343-2346.	2.2	26
78	Effect of UBM Thickness on the Mean Time to Failure of Flip-Chip Solder Joints under Electromigration. Journal of Electronic Materials, 2008, 37, 96-101.	2.2	25
79	Silver as a highly effective bonding layer for lead telluride thermoelectric modules assembled by rapid hot-pressing. Energy Conversion and Management, 2015, 98, 134-137.	9.2	25
80	Grain growth sequence of Cu3Sn in the Cu/Sn and Cu/Snâ€“Zn systems. Journal of Alloys and Compounds, 2010, 494, 123-127.	5.5	24
81	Electromigration in flip chip solder joints under extra high current density. Journal of Applied Physics, 2010, 107, 073516.	2.5	22
82	Pattern formation during interfacial reaction in-between liquid Sn and Cu substrates â€“ A simulation study. Acta Materialia, 2016, 113, 245-258.	7.9	22
83	Chip-to-Chip Direct Interconnections by Using Controlled Flow Electroless Ni Plating. Journal of Electronic Materials, 2017, 46, 4321-4325.	2.2	22
84	Diffusional behavior in B2 intermetallic compounds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1995, 192-193, 965-979.	5.6	20
85	Interfacial reaction and the dominant diffusing species in Mgâ€“Ni system. Journal of Alloys and Compounds, 2009, 471, 90-92.	5.5	20
86	Effects of surface diffusion and reaction-induced volume shrinkage on morphological evolutions of micro joints. Materials Chemistry and Physics, 2017, 191, 13-19.	4.0	20
87	Synthesis of in situ composites through solid-state reactions: thermodynamic, mass-balance and kinetic considerations. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1995, 195, 29-37.	5.6	19
88	Precipitation induced by diffusivity anisotropy in Sn grains under electron current stressing. Journal of Alloys and Compounds, 2013, 555, 237-240.	5.5	19
89	Materials Merging Mechanism of Microfluidic Electroless Interconnection Process. Journal of the Electrochemical Society, 2018, 165, D273-D281.	2.9	19
90	A generalized quasi-chemical model for ordered multi-component, multi-sublattice intermetallic compounds with anti-structure defects. Intermetallics, 1995, 3, 233-242.	3.9	18

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91	Analysis and Experimental Verification of the Volume Effect in the Reaction Between Zn-Doped Solders and Cu. Journal of Electronic Materials, 2008, 37, 1591-1597.	2.2	18
92	Mechanism of volume shrinkage during reaction between Ni and Ag-doped Sn. Materials Letters, 2015, 156, 150-152.	2.6	18
93	Hydrothermally constructed AgWO4-rGO nanocomposites as an electrode enhancer for ultrasensitive electrochemical detection of hazardous herbicide crisquat. Chemosphere, 2022, 299, 134434.	8.2	18
94	Effects of the gold thickness of the surface finish on the interfacial reactions in flip-chip solder joints. Journal of Electronic Materials, 2004, 33, 1092-1097.	2.2	17
95	Volume effect on the soldering reaction between SnAgCu solders and Ni. , 0, , .		17
96	Phase formation and microstructure evolution in Cu/In/Cu joints. Microelectronics Reliability, 2019, 95, 18-27.	1.7	17
97	Lowâ€Cost Sensorâ€Rich Fluidic Elastomer Actuators Embedded with Paper Electronics. Advanced Intelligent Systems, 2020, 2, 2000025.	6.1	17
98	Highly uniform microfluidic electroless interconnections for chip stacking applications. Electrochimica Acta, 2021, 376, 138032.	5.2	17
99	Low-pressure micro-silver sintering with the addition of indium for high-temperature power chips attachment. Journal of Materials Research and Technology, 2021, 15, 4541-4553.	5.8	17
100	Pronounced effects of Zn additions on Cu-Sn microjoints for chip-stacking applications. Journal of Alloys and Compounds, 2018, 750, 570-576.	5.5	16
101	Application of thermodynamics, phase equilibria and kinetics to in-situ composite synthesis via ternary solid-state displacement reactions. Pure and Applied Chemistry, 1994, 66, 1797-1806.	1.9	15
102	Gold and palladium embrittlement issues in three-dimensional integrated circuit interconnections. Materials Letters, 2013, 110, 13-15.	2.6	15
103	Interfacial Reaction and Wetting Behavior Between Pt and Molten Solder. Journal of Electronic Materials, 2009, 38, 25-32.	2.2	14
104	Sn concentration effect on the formation of intermetallic compounds in high-Pb/Ni reactions. Journal of Alloys and Compounds, 2010, 504, 341-344.	5.5	14
105	Copper sulfide nano-globules reinforced electrodes for high-performance electrochemical determination of toxic pollutant hydroquinone. New Journal of Chemistry, 2021, 45, 3215-3223.	2.8	14
106	Model for micelle formation in copolymer/homopolymer blends. Journal of Chemical Physics, 1990, 93, 8284-8293.	3.0	13
107	Effects of Aspect Ratio on Microstructural Evolution of Ni/Sn/Ni Microjoints. Journal of Electronic Materials, 2019, 48, 9-16.	2.2	13
108	Self-assembly of reduced Au atoms for vertical interconnections in three dimensional integrated circuits. Scripta Materialia, 2019, 159, 119-122.	5.2	13

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109	Novel Cuâ€“RuNx composite layer with good solderability and very low consumption rate. Journal of Alloys and Compounds, 2010, 504, L25-L27.	5.5	12
110	Micromechanical behavior of single-crystalline Cu6Sn5 by picoindentation. Journal of Materials Science, 2017, 52, 7166-7174.	3.7	12
111	Fast Atom Beam- and Vacuum-Ultraviolet-Activated Sites for Low-Temperature Hybrid Integration. Langmuir, 2017, 33, 8413-8419.	3.5	12
112	Analyses and design for electrochemical migration suppression by alloying indium into silver. Journal of Materials Science: Materials in Electronics, 2018, 29, 13878-13888.	2.2	11
113	A mechanism for reactive diffusion between Si single crystal and NbC powder compact. Journal of Materials Research, 1996, 11, 850-854.	2.6	10
114	Binary compounds in the Geâ€“Ti system. Journal of Alloys and Compounds, 1999, 282, L9-L12.	5.5	10
115	Effect of Sn concentration on massive spalling in high-Pb soldering reaction with Cu substrate. Journal of Materials Research, 2009, 24, 3407-3411.	2.6	10
116	Inhibition of Gold Embrittlement in Micro-joints for Three-Dimensional Integrated Circuits. Journal of Electronic Materials, 2014, 43, 4262-4265.	2.2	10
117	Amorphous Pd layer as a highly effective oxidation barrier for surface finish of electronic terminals. Corrosion Science, 2014, 83, 419-422.	6.6	10
118	Micromechanical behavior of single crystalline Ni3Sn4 in micro joints for chip-stacking applications. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 685, 123-130.	5.6	10
119	Mechanical characterizations of single-crystalline (Cu, Ni)6Sn5 through uniaxial micro-compression. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 753, 22-30.	5.6	10
120	In-situ observation of material migration in flip-chip solder joints under current stressing. Journal of Electronic Materials, 2006, 35, 1781-1786.	2.2	9
121	Interaction Between Ni and Cu Across 95Pb-5Sn High-Lead Layer. Journal of Electronic Materials, 2010, 39, 2662-2668.	2.2	9
122	Roles of phosphorous in Sn4Ag0.5Cu solder reaction with electrolytic Niâ€“Au. Journal of Alloys and Compounds, 2012, 539, 57-62.	5.5	9
123	Reactions of Sn-4.0Ag-0.5Cu on Cu and Electroless Ni Substrate in Premelting Soldering Process. Journal of Electronic Materials, 2013, 42, 1254-1259.	2.2	9
124	Reaction Within Ni/Sn/Cu Microjoints for Chip-Stacking Applications. Journal of Electronic Materials, 2019, 48, 25-31.	2.2	9
125	Artifact-free microstructures of the Cuâ€“In reaction by using cryogenic broad argon beam ion polishing. Journal of Materials Research and Technology, 2020, 9, 12946-12954.	5.8	9
126	Tin whisker growth induced by high electron current density. , 2007, , .		8

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127	Interfacial Reaction Between 95Pb-5Sn Solder Bump and 37Pb-63Sn Presolder in Flip-Chip Solder Joints. Journal of Electronic Materials, 2010, 39, 1289-1294.	2.2	8
128	Effects of Ni Additions on the Growth of Cu3Sn in High-Lead Solders. Journal of Electronic Materials, 2010, 39, 2636-2642.	2.2	8
129	Critical new issues relating to interfacial reactions arising from low solder volume in 3D IC packaging. , 2011, , .		8
130	Cu(TiWNx) Film as a Barrierless Buffer Layer for Metallization Applications. Japanese Journal of Applied Physics, 2013, 52, 01AC12.	1.5	8
131	Creep Behaviors Along Characteristic Crystal Orientations of Sn and Sn-1.8Ag by Using Nanoindentation. Jom, 2019, 71, 2998-3011.	1.9	8
132	Development of high copper concentration, low operating temperature, and environmentally friendly electroless copper plating using a copper â€•glycerin complex solution. Electrochimica Acta, 2022, 425, 140710.	5.2	8
133	The effect of Ni on the interfacial reaction between Sn-Ag solder and Cu metallization. , 0, , .		7
134	Assembly of N type Bi₂(Te, Se)₃ thermoelectric modules by low temperature bonding. Science and Technology of Welding and Joining, 2013, 18, 421-424.	3.1	7
135	Development of Die Attachment Technology for Power IC Module by Introducing Indium into Sintered Nano-Silver Joint. , 2017, , .		7
136	Abnormal Cu3Sn growth through grain boundary penetration in space-confined Ni-Sn-Cu diffusion couples. Journal of Alloys and Compounds, 2019, 799, 108-112.	5.5	7
137	Phase stabilities and interfacial reactions of the Cuâ€“In binary systems. Journal of Materials Science: Materials in Electronics, 2020, 31, 10161-10169.	2.2	7
138	The Demonstration of Carbon Nanotubes (CNTs) as Flip-Chip Connections in 3-D Integrated Circuits With an Ultralow Connection Resistance. IEEE Transactions on Electron Devices, 2020, 67, 2205-2207.	3.0	7
139	Development of Agâ€“In Alloy Pastes by Mechanical Alloying for Die Attachment of High-Power Semiconductor Devices. Materials, 2022, 15, 1397.	2.9	7
140	On the optimization of solution model parameter values of phases and the calculation of phase diagrams. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1993, 17, 47-56.	1.6	6
141	Dissolution and interfacial reaction between Cu and Sn-Ag-Cu solders. , 2007, , .		6
142	Fundamental Study of the Intermixing of 95Pb-5Sn High-Lead Solder Bumps and 37Pb-63Sn Pre-Solder on Chip-Carrier Substrates. Journal of Electronic Materials, 2009, 38, 2234-2241.	2.2	6
143	Soldering reactions under space confinement for 3D IC applications. , 2012, , .		6
144	Novel Self-shrinking Mask for Sub-3â€‰nm Pattern Fabrication. Scientific Reports, 2016, 6, 29625.	3.3	6

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145	Bonding of Copper Pillars Using Electroless Cu Plating. , 2019, , .		6
146	Organic-Inorganic Solid-State Hybridization with High-Strength and Anti-Hydrolysis Interface. Scientific Reports, 2019, 9, 504.	3.3	6
147	Prior-to-bond annealing effects on the diamond-to-copper heterogeneous integration using silverâ€“indium multilayer structure. Journal of Materials Science: Materials in Electronics, 2020, 31, 8059-8071.	2.2	6
148	Vertical Interconnections by Electroless Au Deposition on Electroless Ni Immersion Au Surface Finish. Journal of Electronic Materials, 2020, 49, 5003-5008.	2.2	6
149	Low-temperature transient liquid phase bonding via electroplated Sn/Inâ€“Sn metallization. Journal of Materials Research and Technology, 2022, 19, 2510-2515.	5.8	6
150	Phase Relation in the Titanium-Rich Region of the Ge–Si–Ti Ternary System. Materials Transactions, JIM, 1999, 40, 307-313.	0.9	5
151	Effect of multiple reflow cycles on ball impact responses of Snâ€Agâ€Cu solder joints. Soldering and Surface Mount Technology, 2009, 21, 4-9.	1.5	5
152	Study of Sintered Nano-Silver Die Attachment Materials Doped with Indium. , 2016, , .		5
153	High Reliability Sintered Silver-Indium Bonding with Anti-Oxidation Property for High Temperature Applications. , 2018, , .		5
154	Surface Diffusion and the Interfacial Reaction in Cu/Sn/Ni Micro-Pillars. Journal of Electronic Materials, 2020, 49, 88-95.	2.2	5
155	Foldable Kirigami Paper Electronics. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900891.	1.8	5
156	Synchrotron white Laue nanodiffraction study on the allotropic phase transformation between hexagonal and monoclinic Cu6Sn5. Journal of Materials Research and Technology, 2021, 13, 1316-1322.	5.8	5
157	Interfacial Reactions and Electromigration in Flip-Chip Solder Joints. , 2013, , 503-560.		5
158	Liquid/solid and solid/solid reactions between SnAgCu lead-free solders and Ni surface finish. , 0, , .		4
159	Synchrotron X-ray Micro-diffraction Analysis on Microstructure Evolution in Sn under Electromigration. Materials Research Society Symposia Proceedings, 2005, 863, B9.10-1.	0.1	4
160	Serrated cathode dissolution under high current density: Morphology and root cause. Journal of Applied Physics, 2013, 114, .	2.5	4
161	Low-temperature, pressureless Cu-to-Cu bonding by electroless Ni plating. , 2016, , .		4
162	A new spalling mechanism of intermetallics from the adhesion layer in the terminal-stage reaction between Cu and Sn. Intermetallics, 2021, 138, 107342.	3.9	4

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163	Phase equilibria of the Si-Ge-Ti system relevant to the reactions between SiGe alloys and Ti. Journal of Electronic Materials, 1998, 27, 842-847.	2.2	3
164	Phase diagrams of important electronic materials. Jom, 2002, 54, 44-44.	1.9	3
165	Minor Fe, Co, and Ni additions to SnAgCu solders for retarding Cu<inf>3</inf>Sn growth. , 2008, , .		3
166	Development of lead-free solders with superior drop test reliability performance. , 2009, , .		3
167	Interfacial Energy Effect on the Distribution of Ag₃Sn in Full Intermetallic Joints. Advanced Engineering Materials, 2015, 17, 1528-1531.	3.5	3
168	In situ observations of micromechanical behaviors of intermetallic compounds for structural applications in 3D IC micro joints. , 2015, , .		3
169	Thermal Stress of Surface Oxide Layer on Micro Solder Bumps During Reflow. Journal of Electronic Materials, 2015, 44, 744-750.	2.2	3
170	Bonding of copper pillars using electroless Ni plating. , 2016, , .		3
171	Critical Factors Affecting Structural Transformations in 3D IC Micro Joints. , 2017, , .		3
172	Organic/inorganic interfacial microstructures achieved by fast atom beam bombardment and vacuum ultraviolet irradiation. , 2018, , .		3
173	Low Temperature and Pressureless Microfluidic Electroless Bonding Process for Vertical Interconnections. , 2019, , .		3
174	The real demonstration of High-Quality Carbon Nano-Tubes (CNTs) as the electrical connection for the potential application in a vertical 3D integrated technology. , 2020, , .		3
175	Numerical Analysis of an Electroless Plating Problem in Gasâ€“Liquid Two-Phase Flow. Fluids, 2021, 6, 371.	1.7	3
176	Bifunctional Nanocomposites Based on SiO₂/NiS₂ Combination for Electrochemical Sensing and Environmental Catalysis. Electroanalysis, 2022, 34, 111-121.	2.9	3
177	Fine-Pitch 30 Î¼m Cu-Cu Bonding by Using Low Temperature Microfluidic Electroless Interconnection. , 2022, , .		3
178	Thermal Compression Cu-Cu bonding using electroless Cu and the evolution of voids within bonding interface. , 2022, , .		3
179	Schottky enhancement of contacts to n-GaAs via the exchange mechanism using NiAl[sub x]Ga[sub 1â^'x] as a metallization. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 432.	1.6	2
180	Electromigration Induced Metal Dissolution in Flip-Chip Solder Joints. Materials Science Forum, 2005, 475-479, 2655-2658.	0.3	2

#	Article	IF	Citations
181	Transmission Electron Microscopy Characterization of Ni(V) Metallization Stressed Under High Current Density in Flip Chip Solder Joints. Journal of Electronic Materials, 2010, 39, 2528-2535.	2.2	2
182	Choice of Intermetallic Compounds for Structural Applications in Near Submicron Joints. , 2016, , .		2
183	Bonding of copper pillars using electroless Au plating. , 2018, , .		2
184	Interfacial Reactions of Cu and In for Low-Temperature Processes. , 2019, , .		2
185	Polyimide-Polyetheretherketone and Tin-Polyimide Direct Bonding via Ethanol-Assisted Vacuum Ultraviolet Irradiation. Transactions of the Japan Institute of Electronics Packaging, 2019, 12, E19-012-1-E19-012-8.	0.4	2
186	Highly Robust Ti Adhesion Layer during Terminal Reaction in Micro-Bumps. Materials, 2022, 15, 4297.	2.9	2
187	Electromigration in tin thin film. , 0, , .		1
188	Materials interaction between Pb-free Sn-9Zn solder and Au pad in advanced electronic packages. , 0, , .		1
189	Recent progress in phase diagram calculation and application. Jom, 2003, 55, 47-47.	1.9	1
190	Effect of Zn Addition on the Interfacial Reactions between Cu and Lead-Free Solders. Materials Research Society Symposia Proceedings, 2006, 968, 1.	0.1	1
191	Massive Spalling of Intermetallic Compound in Lead-Free Solder Joints. Materials Research Society Symposia Proceedings, 2006, 968, 1.	0.1	1
192	Massive Spalling of Intermetallics in Solder Joints: a General Phenomenon that Can Occur in Multiple Solder-Substrate Systems. , 2007, , .		1
193	The effects of minor Fe, Co, and Ni additions to lead-free solders on the thickness of Cu<inf>3</inf>Sn at the interface. , 2007, , .		1
194	Microstructure Study of High Lead Bump FCBGA Bending Test. , 2008, , .		1
195	Effect of Multiple Reflow Cycles on Ball Impact Responses of Sn-4Ag-0.5Cu Solder Joints with Immersion Tin Substrate Pad Finish. , 2008, , .		1
196	Experimental Evidence for Formation of Ni-Al Compound in Flip-Chip Joints Under Current Stressing. Journal of Electronic Materials, 2011, 40, 2076-2080.	2.2	1
197	Au and Pd embrittlement in space-confined soldering reactions for 3D IC applications. , 2013, , .		1
198	Volume shrinkage induced by interfacial reactions in micro joints. , 2013, , .		1

#	Article	IF	Citations
199	Morphological evolution induced by volume shrinkage in micro joints. , 2016, , .		1
200	Micropillar Mechanics of Sn-Based Intermetallic Compounds. , 2018, , 1-28.		1
201	Effects of plating conditions on electroless Ni-P plating in the microchannel. , 2018, , .		1
202	Microstructure Evolution of Cu/In/Cu Joints After Solid-Liquid Interdiffusion. , 2018, , .		1
203	A Single Process for Homogeneous and Heterogeneous Bonding in Flexible Electronics : Ethanol-Assisted Vacuum Ultraviolet (E-VUV) Irradiation Process. , 2019, , .		1
204	Mechanical Reliability Assessment of Cu_6Sn_5 Intermetallic Compound and Multilayer Structures in Cu/Sn Interconnects for 3D IC Applications. , 2019, , .		1
205	Micropillar Mechanics of Sn-Based Intermetallic Compounds. , 2019, , 873-899.		1
206	Sintered Micro-Silver Paste Doped with Indium for Die Attachment Applications of Power ICs. , 2020, , .		1
207	Interconnections of Low-Temperature Solder and Metallizations. , 2020, , .		1
208	Electrical Resistance of Cu-Cu Interconnection Using Electroless Ni(P) and Au Plating. Transactions of the Japan Institute of Electronics Packaging, 2020, 13, E20-013-1-E20-013-3.	0.4	1
209	Grain Boundary Diffusion of Ni through Au-Doped Ni3Sn2 Intermetallic Compound for Technological Applications. Journal of Electronic Materials, 0, , 1.	2.2	1
210	Effects of Bonding Pressures on Microstructure and Mechanical Properties of Silver-Tin Alloy Powders Synthesized by Ball Milling for High-Power Electronics Packaging. Journal of Materials Research and Technology, 2022, , .	5.8	1
211	Development of Cu-Cu Side-by-Side Interconnection Using Controlled Electroless Cu Plating. , 2022, , .		1
212	A novel method of low temperature, pressureless interconnection for wafer level scale 3D packaging. , 2022, , .		1
213	Key steps from laboratory towards mass production: Optimization of electroless plating process through numerical simulation. , 2022, , .		1
214	Optimizing the wireâ€bonding parameters for second bonds in ball grid array packages. Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers,Series A/Chung-kuo Kung Ch'eng Hsuch K'an, 2000, 23, 625-632.	1.1	0
215	New failure mode induced by electric current in flip chip solder joint. , 0, , .		0
216	Role of minor Zn addition in the interfacial reaction between lead-free solders and Cu. , 2007, , .		0

#	Article	IF	Citations
217	Lead-free and lead-bearing electronic solders: Implementation, reliability, and new technology. Jom, 2008, 60, 60-60.	1.9	0
218	Effects of Ni addition to high-lead solders on the growth of Cu<inf>3</inf>Sn and micro voids. , 2009, , .		0
219	Effects of Cu content on the dissolution rate of Cu for real solder joint during reflow soldering. , 2009, , .		0
220	Transmission electron microscopy characterization of the porous structure induced by high current density in the flip-chip solder joints. , 2009, , .		0
221	Temperature effects on electromigration behavior of solder joints. , 2010, , .		0
222	Cross-interaction between Ni and Cu across a high-lead solder joint with different solder volume. , 2010, , .		0
223	Consumption of Cu pad during multiple reflows of Ni-doped SnAgCu solder. International Journal of Materials Research, 2011, 102, 579-583.	0.3	0
224	Laminar pattern induced by cycling thermomechanical stress in two-phase materials. Materials Chemistry and Physics, 2011, 130, 413-417.	4.0	0
225	Effects of Ag concentration on the Ni-Sn interfacial reaction for 3D-IC applications. , 2013, , .		0
226	Grain refinement of solder materials by minor element addition. , 2013, , .		0
227	Interfacial reactions between Cu and Sn, Sn-Ag, Sn-Bi, Sn-Zn solder under space confinement for 3D IC micro joint applications. , 2014, , .		0
228	Effect of Ag concentration on Ni/Sn-xAg/Ni micro joints under space confinement. , 2015, , .		0
229	Development of interconnection materials for Bi<inf>2</inf>Te<inf>3</inf> and PbTe thermoelectric module by using SLID technique. , 2015, , .		0
230	Grain Boundary Penetration of Various Types of Ni Layer by Molten Metals. Journal of Electronic Materials, 2017, 46, 4147-4151.	2.2	0
231	A Single Bonding Process for Diverse Organic-Inorganic Integration in IoT Devices. , 2019, , .		0
232	Hydrolysis-Tolerant Hybrid Bonding in Ambient Atmosphere for 3D Integration. , 2019, , .		0
233	Lowâ€Cost Sensorâ€Rich Fluidic Elastomer Actuators Embedded with Paper Electronics. Advanced Intelligent Systems, 2020, 2, 2080073.	6.1	0
234	Different interfacial structures of Cu/In obtained by surface activated bonding (SAB) in vacuum and vapor-assisted vacuum ultraviolet (V-VUV) at atmospheric pressure. Materials and Design, 2020, 195, 109065.	7.0	0

#	Article	IF	Citations
235	Low Temperature SLID Bonding Approach in Fine Pitch Chip-stacking Structure with 30 Î¼m-pitch Interconnections. Transactions of the Japan Institute of Electronics Packaging, 2020, 13, E20-010-1-E20-010-4.	0.4	0
236	Effects of Isothermal Heat Treatment on Microstructure Evolution of Microfluidic Electroless Ni-P Interconnection Structure. , 2020, , .		0
237	Terminal Reaction Behaviors in Micro Bumps: Comparison of Ti and Cr Adhesion Layers. , 2022, , .		0