Changqing Liu

List of Publications by Year
in descending order

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124
papers

1,333
citations

361413
20
h-index

414414
32
g-index

124
all docs

124
docs citations

124
times ranked

1366
citing authors

#	Article	IF	Citations
1	Creep behavior of intermetallic compounds at elevated temperatures and its effect on fatigue life evaluation of Cu pillar bumps. Intermetallics, 2022, 144, 107526.	3.9	3
2	Fast in-situ synchrotron X-ray imaging of the interfacial reaction during self-propagating exothermic reactive bonding. Materialia, 2022, 23, 101444.	2.7	1
3	Thermo-Mechanical Characteristics and Reliability of Die-Attach Through Self-Propagating Exothermic Reaction Bonding. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 2122-2129.	2.5	6
4	Thermo-elasto-plastic phase-field modelling of mechanical behaviours of sintered nano-silver with randomly distributed micro-pores. Computer Methods in Applied Mechanics and Engineering, 2021, 378, 113729.	6.6	29
5	Nano Ag sintering on Cu substrate assisted by self-assembled monolayers for high-temperature electronics packaging. Microelectronics Reliability, 2021, 126, 114241.	1.7	4
6	Fatigue crack evolution and effect analysis of Ag sintering die-attachment in SiC power devices under power cycling based on phase-field simulation. Microelectronics Reliability, 2021, 126, 114244.	1.7	5
7	Interfacial Characteristics and Mechanical Properties of Cu/Ga/Cu Interconnects by Transient Liquid Phase Bonding. , 2021, , .		4
8	Investigation of Thermo-mechanical and Phase-change Behavior in the Sn/Cu Interconnects during Self-Propagating Exothermic Reaction Bonding. , 2020, , .		3
9	Quasi-ambient Bonding Semiconductor Components for Power Electronics Integration. , 2020, , .		2
10	Ultrasonic-assisted nano Ag-Al alloy sintering to enable high-temperature electronic interconnections. , 2020, , .		1
11	Microstructural and Micromechanical Characteristics of Tin-Based Solders Under Self-Propagating Exothermic Reaction Heating. Journal of Electronic Materials, 2020, 49, 6214-6222.	2.2	3
12	Focused ion beam preparation of microbeams for in situ mechanical analysis of electroplated nanotwinned copper with probe type indenters. Journal of Microscopy, 2020, 279, 212-216.	1.8	1
13	A numerical study of heat transfer in PCM composites for the integration of batteries and power electronics. , 2020, , .		0
14	Poly(4-vinylaniline)/Polyaniline Bilayer-Functionalized Bacterial Cellulose for Flexible Electrochemical Biosensors. Langmuir, 2019, 35, 10354-10366.	3.5	32
15	Carbon Nanotube-Reinforced Poly(4-vinylaniline)/Polyaniline Bilayer-Grafted Bacterial Cellulose for Bioelectronic Applications. ACS Biomaterials Science and Engineering, 2019, 5, 2160-2172.	5.2	19
16	Formation and homogenisation of Sn Cu interconnects by self-propagated exothermic reactive bonding. Materials and Design, 2019, 174, 107781.	7.0	11
17	Further Enhancement of Thermal Conductivity through Optimal Uses of h-BN Fillers in Polymer-Based Thermal Interface Material for Power Electronics. , 2019, , .		3
18	Poly(4-vinylaniline)/polyaniline bilayer functionalized bacterial cellulose membranes as bioelectronics interfaces. Carbohydrate Polymers, 2019, 204, 190-201.	10.2	21

#	Article	IF	Citations
19	Dehydration of bacterial cellulose and the water content effects on its viscoelastic and electrochemical properties. Science and Technology of Advanced Materials, 2018, 19, 203-211.	6.1	62
20	Microstructural evolution of 96.5Snâ€“3Agâ€“0.5Cu lead free solder reinforced with nickel-coated graphene reinforcements under large temperature gradient. Journal of Materials Science: Materials in Electronics, 2018, 29, 5253-5263.	2.2	15
21	Thermal stability of high temperature Pb-free solder interconnect characterised by in-situ electron microscopy. , 2018, , .		0
22	Interaction effects between the preferred growth of Î²-Sn grains and thermo-mechanical response in microbump interconnects under thermal cycling. , 2018, , .		0
23	Copper-based Graphene Nanoplatelet Composites as Interconnect for Power Electronics Pacakging. , 2018, , .		0
24	Microstructural evolution of Cuâ€“Snâ€“Ni compounds in full intermetallic micro-joint and in situ micro-bending test. Journal of Materials Science: Materials in Electronics, 2018, 29, 11920-11929.	2.2	8
25	Diffusion barrier property of electroless Ni-W-P coating in high temperature Zn-5Al/Cu solder interconnects. Journal of Alloys and Compounds, 2017, 722, 746-752.	5.5	18
26	3D multi-nozzle system with dual drives highly potential for 3D complex scaffolds with multi-biomaterials. International Journal of Precision Engineering and Manufacturing, 2017, 18, 755-761.	2.2	8
27	Fabrication and characterization of 3D complex hydroxyapatite scaffolds with hierarchical porosity of different features for optimal bioactive performance. Ceramics International, 2017, 43, 336-344.	4.8	13
28	30-GHz High-Frequency Application of Screen Printed Interconnects on an Organic Substrate. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2017, 7, 1506-1515.	2.5	6
29	Evolution of the hardness and Youngâ€™s moduli of interlayers in Sn99Cu1/Cu solder joints subjected to isothermal ageing. Journal of Materials Science: Materials in Electronics, 2017, 28, 17461-17467.	2.2	7
30	An investigation into the effect of dry bake on the solderability degradation of electrodeposited tin finishes. , 2017, , .		2
31	Mechanical property of Cu-Sn-Ni intermetallics in the full intermetallic micro-joints formed with transient liquid phase soldering. , 2017, , .		1
32	High frequency performance characterization of super-fine inkjet printed silver traces. , 2016, , .		0
33	Characterisation of thermocompression bonds formed using metal coated polymer core particles for fine pitch interconnections. , 2016, , .		0
34	Thermo-migration behavior of SAC305 lead-free solder reinforced with fullerene nanoparticles. Journal of Materials Science, 2016, 51, 10077-10091.	3.7	24
35	Fracture Behaviour of Bacterial Cellulose Hydrogel: Microstructural Effect. Procedia Structural Integrity, 2016, 2, 1237-1243.	0.8	7
36	Micro-mechanical and fracture characteristics of Cu 6 Sn 5 and Cu 3 Sn intermetallic compounds under micro-cantilever bending. Intermetallics, 2016, 76, 10-17.	3.9	41

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37	Through-thickness stress relaxation in bacterial cellulose hydrogel. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 59, 90-98.	3.1	21
38	Microstructures and properties of new Snâ€“Agâ€“Cu lead-free solder reinforced with Ni-coated graphene nanosheets. Journal of Alloys and Compounds, 2016, 656, 500-509.	5.5	109
39	Time-dependent rheological behaviour of bacterial cellulose hydrogel. Materials Science and Engineering C, 2016, 58, 153-159.	7.3	38
40	Perpendicular Growth Characteristics of Cu-Sn Intermetallic Compounds at the Surface of 99Sn-1Cu/Cu Solder Interconnects. Journal of Electronic Materials, 2015, 44, 4836-4845.	2.2	5
41	Effect of fullerene-C60&C70 on the microstructure and properties of 96.5Sn-3Ag-0.5Cu solder. , 2015, , .		3
42	Microstructural and mechanical characteristics of PHEMA-based nanofibre-reinforced hydrogel under compression. Composites Part B: Engineering, 2015, 76, 292-299.	12.0	45
43	Effects of fullerenes reinforcement on the performance of 96.5Snâ€“3Agâ€“0.5Cu lead-free solder. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 636, 484-492.	5.6	27
44	Surface modification of an ambient UV-cured dielectric to realise electrically conducting traces. Surface and Coatings Technology, 2015, 266, 93-104.	4.8	1
45	Study of Height Reduction of Sn99Cu1/Cu Solder Joints as a Result of Isothermal Aging. Journal of Electronic Materials, 2015, 44, 4058-4064.	2.2	1
46	Growth kinetics of IMCs in Cu-Sn intermetallic joints during isothermal soldering process. , 2015, , .		6
47	Process and performance modelling for individual ACA conductor particles. , 2014, , .		1
48	Silver screen printed transmission lines- analyzing the influence of substrate roughness on the RF performance up to 30 GHz. , 2014, , .		1
49	Magnetic deposition of Ni/Au coated polymer core particles for flip-chip interconnection. , 2014, , .		5
50	Hermetical package of infrared sensors by Al/Ni self-propagating joining process. , 2014, , .		0
51	Electroless Ni-W-P alloy as a barrier layer between Zn-based high temperature solders and Cu substrates. , 2014, , .		3
52	An Investigation into Zinc Diffusion and Tin Whisker Growth for Electroplated Tin Deposits on Brass. Journal of Electronic Materials, 2014, 43, 1005-1016.	2.2	14
53	Investigation on the mechanical behavior of poly(2â€hydroxyethyl methacrylate) hydrogel membrane under compression in the assembly process of microfluidic system. Journal of Polymer Science, Part B: Polymer Physics, 2014, 52, 485-495.	2.1	8
54	Effect of Ni-coated graphene on the performance of SAC305 solder. , 2014, , .		2

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55	Electrodeposition of Indium Bumps for Ultrafine Pitch Interconnection. Journal of Electronic Materials, 2014, 43, 594-603.	2.2	12
56	Microstructural and mechanical integrity of Cu/Cu interconnects formed by self-propagating exothermic reaction methods. Microelectronic Engineering, 2014, 128, 24-30.	2.4	15
57	Effect of Ni-coated graphene on the performance of SAC305 solder. , 2014, , .		0
58	Magnetic deposition of Ni/Au coated polymer core particles for flip-chip interconnection. , 2014, , .		0
59	Surface Treatments for Inkjet Printing onto a PTFE-Based Substrate for High Frequency Applications. Industrial & Engineering Chemistry Research, 2013, 52, 11564-11574.	3.7	14
60	A methodology to analyse and simulate mechanical characteristics of poly(2-hydroxyethyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 542 Td	3.1	21
61	Significantly retarded interfacial reaction between an electroless Niâ€"Wâ€"P metallization and lead-free Snâ€"3.5Ag solder. Journal of Alloys and Compounds, 2013, 565, 11-16.	5.5	27
62	Linkages Between Microstructure and Mechanical Properties of Ultrafine Interconnects. Journal of Electronic Materials, 2013, 42, 263-271.	2.2	2
63	Composite inks of poly(3,4-ethylenedioxythiophene)/poly(styrenesulfonate)/silver nanoparticles and electric/optical properties of inkjet-printed thin films. Materials Chemistry and Physics, 2013, 141, 416-422.	4.0	19
64	Electrically conductive adhesive enable to manufacture high performance patch probe for non-invasive physiological assessment. , 2012, , .		0
65	Metal-coated mono-sized polymer core particles for fine pitch flip-chip interconnects. , 2012, , .		8
66	RF performance of inkjet and stencil printed traces for flexible electronics applications. , 2012, , .		0
67	Optimization of inkjet printed PEDOT:PSS thin films through annealing processes. Organic Electronics, 2012, 13, 1532-1540.	2.6	93
68	Copper conductive adhesives for printed circuit interconnects. , 2012, , .		10
69	Investigation of high speed micro-bump formation through electrodeposition enhanced by megasonic agitation. , 2011, , .		0
70	An investigation of the influence of intermetallic compounds on compressivecreep of SAC305/copper solder joints by modeling. , 2011, , .		0
71	Low frequency induction heating for the sealing of plastic microfluidic systems. Microfluidics and Nanofluidics, 2010, 9, 243-252.	2.2	20
72	Growth of Intermetallic Compounds in Thermosonic Copper Wire Bonding on Aluminum Metallization. Journal of Electronic Materials, 2010, 39, 124-131.	2.2	75

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73	Fabrication of a Polymeric Optical Waveguide-On-Flex Using Electrostatic-Induced Lithography. IEEE Photonics Technology Letters, 2010, 22, 957-959.	2.5	8
74	The Thermal Stability of Alkanethiol Self-Assembled Monolayers on Copper for Fluxless Soldering Applications. IEEE Transactions on Components and Packaging Technologies, 2010, 33, 251-259.	1.3	7
75	Polymer bonding by induction heating for microfluidic applications. , 2010, , .		2
76	Near-eutectic Sn-Ag-Cu solder bumps formation for flip-chip interconnection by electrodeposition. , 2010, , .		0
77	Reliability testing of electronic packages in harsh environments. , 2010, , .		9
78	The effect of droplet ejection frequency on inkjet-etched micro via holes. , 2010, , .		0
79	High density indium bumping through pulse plating used for pixel X-Ray detectors. , 2009, , .		3
80	Laser micromachining of polycrystalline alumina and aluminium nitride to enable compact optoelectronic interconnects. , 2009, , .		6
81	Initial formation of CuSn intermetallic compounds between molten SnAgCu solder and Cu substrate. Scripta Materialia, 2009, 60, 333-335.	5.2	53
82	Megasonic agitation for enhanced electrodeposition of copper. Microsystem Technologies, 2009, 15, 1245-1254.	2.0	24
83	Heterogeneous Intragranular Inelastic Behavior of a Sn-Ag-Cu Alloy. Journal of Electronic Materials, 2009, 38, 2429-2435.	2.2	2
84	High density indium bumping using electrodeposition enhanced by megasonic agitation. , 2009, , .		3
85	Direct-write techniques for maskless production of microelectronics: A review of current state-of-the-art technologies. , 2009, , .		50
86	Electrodeposition of Sn-Cu solder alloy for electronics interconnection. , 2009, , .		7
87	Growth and recrystallization of electroplated copper columns. , 2009, , .		0
88	Mechanical characterization of individual Niâˆ•Au coated microsize polymer particles. Applied Physics Letters, 2008, 92, .	3.3	13
89	Effects of process parameters on bondability in thermosonic copper ball bonding. , 2008, , .		14
90	Plastic Packaging Using Low Frequency Induction Heating (LFIH) For Microsystems. , 2008, , .		3

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91	Packaging of polymer based microfluidic systems using low frequency induction heating (LFIH). , 2008, , .		3
92	Growth mechanism of copper column by electrodeposition for electronic interconnections. , 2008, , .		0
93	TEM Microstructural Analysis of As-bonded Copper Ball Bonds on Aluminum Metallization. , 2008, , .		4
94	Megasonic enhanced wafer bumping process to enable high density electronics interconnection. , 2008, , .		1
95	Electrodeposition of Sn-Ag solder alloy for electronics interconnection. , 2008, , .		2
96	Effect of thermal aging on interfacial behaviour of copper ball bonds. , 2008, , .		2
97	Electrodeposition of indium for bump bonding. , 2008, , .		15
98	Crystallographic Features of Copper Column Growth by Reversible Pulse Current Electrodeposition. , 2007, , .		2
99	Surface Micro-patterning with Self-assembled Monolayers Selectively Deposited on Copper Substrates by Ink-jet Printing. , 2007, , .		1
100	Crystallographic Structure and Mechanical Behaviour of SnAgCu Solder Interconnects under a Constant Loading Rate. , 2007, , .		3
101	Patterning Copper using Ink Jet Printing of Self Assembled Monolayers. , 2007, , .		0
102	Materials behaviour and intermetallics characteristics in the reaction between SnAgCu and Snâ€“Pb solder alloys. Journal of Materials Science, 2007, 42, 4076-4086.	3.7	7
103	Deformation Property Measurement for Single Anisotropic Conductive Adhesive Particles. , 2006, , .		3
104	Materials and Processes Issues in Fine Pitch Eutectic Solder Flip Chip Interconnection. IEEE Transactions on Components and Packaging Technologies, 2006, 29, 869-876.	1.3	2
105	Thermal Stability of Self-Assembled Monolayer Copper Preservatives for Fluxless Soldering. , 2006, , .		0
106	Reliability of fine pitch Sn-3.8Ag-0.7Cu flip chip solder joints with different connection pads. , 2006, , .		0
107	Mechanical Behaviour of Grains in SnAgCu Solder Joints. , 2006, , .		0
108	Reliability issues in Pb-free solder joint miniaturization. Journal of Electronic Materials, 2006, 35, 1761-1772.	2.2	38

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109	Microstructure and shear strength evolution of Sn-Ag-Cu solder bumps during aging at different temperatures. Journal of Electronic Materials, 2006, 35, 388-398.	2.2	26
110	Modeling the interdependence of processing and alloy composition on the evolution of microstructure in Sn-based lead-free solders in fine pitch flip chip. IEEE Transactions on Components and Packaging Technologies, 2006, 29, 98-104.	1.3	2
111	Investigation of ink-jet printing of self-assembled monolayers for copper circuit patterning. , 2006, , .		2
112	Mechanical and Electrical Characterisation of Individual ACA Conductor Particles. , 2006, , .		3
113	Effect of solder bump geometry on the microstructure of Snâ€"3.5 wt% Ag on electroless nickel immersion gold during solder dipping. Journal of Materials Research, 2005, 20, 649-658.	2.6	11
114	Analysis of the Micro-Mechanical Properties in Aged Lead-Free, Fine Pitch Flip Chip Joints. , 2003, , .		5
115	Micro-scale mechanical properties of fine feature flip chip with lead free solders. , 0, , .		5
116	Novel surface coatings to enable fluxless soldering of copper surfaces [PCBs]. , 0, , .		0
117	Micromechanical characterisation of Sn-Ag-Cu solder FCOB interconnects at ambient and elevated temperatures. , 0, , .		0
118	Materials behaviour and intermetallics characteristics in the reaction between SnAgCu and Sn-Pb solder alloys. , 0, , .		0
119	Electrical conductive characteristics of ACA bonding: a review of the literature, current challenges and future prospects. , 0, , .		2
120	Electrical conduction characteristics of solid metal anisotropic conductive adhesive particles. , 0, , .		1
121	Stencil Printing Technology for Wafer Level Bumping at sub-100-Micron Pitch Using Pb-Free Alloys. , 0, , .		16
122	Interfacial reactions between Pb-free solders and metallized substrate surfaces. , 0, , .		1
123	Grain Features of SnAgCu Solder and their Effect on Mechanical Behavior of Micro-Joints. , 0, , .		6
124	Effect of Temperature and Storage Environment on the Preservation of Copper Surfaces for Fluxless Soldering. , 0, , .		0