Chris Bailey

List of Publications by Year
in descending order

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111	661	932766 10	794141 19
papers	citations	h-index	g-index

111	111	111	541
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A vertex-based finite volume method applied to non-linear material problems in computational solid mechanics. International Journal for Numerical Methods in Engineering, 2003, 56, 507-529.	1.5	61
2	Prognostic and health management for engineering systems: a review of the dataâ€driven approach and algorithms. Journal of Engineering, 2015, 2015, 215-222.	0.6	61
3	Prognostics and Health Monitoring of High Power LED. Micromachines, 2012, 3, 78-100.	1.4	37
4	Ultra-Fine Pitch Stencil Printing for a Low Cost and Low Temperature Flip-Chip Assembly Process. IEEE Transactions on Components and Packaging Technologies, 2007, 30, 129-136.	1.4	25
5	Megasonic agitation for enhanced electrodeposition of copper. Microsystem Technologies, 2009, 15, 1245-1254.	1.2	24
6	Modelling the fatigue life of solder joints for surface mount resistors. , 0, , .		20
7	Design, manufacture and test for reliable 3D printed electronics packaging. Microelectronics Reliability, 2018, 85, 109-117.	0.9	20
8	Data driven prognostics for predicting remaining useful life of IGBT. , 2016, , .		16
9	Predictive analytics methodology for smart qualification testing of electronic components. Journal of Intelligent Manufacturing, 2019, 30, 1497-1514.	4.4	16
10	Machine learning for additive manufacturing of electronics. , 2017, , .		15
11	Multiphysics simulation of microwave curing in microâ€electronics packaging applications. Soldering and Surface Mount Technology, 2007, 19, 26-33.	0.9	14
12	Modelling methodology for thermal analysis of hot solder dip process. Microelectronics Reliability, 2013, 53, 1055-1067.	0.9	14
13	Computational Modelling of Multi-Physics and Multi-Scale Processes in Parallel. International Journal for Computational Methods in Engineering Science and Mechanics, 2007, 8, 63-74.	1.4	12
14	Electro-thermo-mechanical modelling and analysis of the press pack diode in power electronics. , 2015, , .		12
15	3D-printing and electronic packaging. , 2016, , .		11
16	An integrated modeling approach to solder joint formation. IEEE Transactions on Components and Packaging Technologies, 1999, 22, 497-502.	1.4	10
17	Multiphysics modelling for electronics design. , 0, , .		10
18	Modelling and prototyping the conceptual design of 3D CMM micro-probe. , 2008, , .		10

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19	Optimization of an Open-Ended Microwave Oven for Microelectronics Packaging. IEEE Transactions on Microwave Theory and Techniques, 2008, 56, 2635-2641.	2.9	10
20	Encapsulation of Microelectronic Components Using Open-Ended Microwave Oven. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2012, 2, 799-806.	1.4	10
21	Prognostics of automotive electronics with data driven approach: A review. , 2016, , .		10
22	Simulation of the stencil printing process [solder pastes]. , 0, , .		9
23	Comparative Reliability of Inkjet-Printed Electronics Packaging. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 351-362.	1.4	9
24	A comparison study of the prognostics approaches to Light Emitting Diodes under accelerated aging. , 2012, , .		8
25	Solder life prediction in a thermal analysis software environment. , 0, , .		7
26	Open ended microwave oven for flip-chip assembly. , 2007, , .		7
27	Prognostics and reliability assessment of light emitting diode packaging. , 2011, , .		7
28	Evaluation of SiC Schottky Diodes Using Pressure Contacts. IEEE Transactions on Industrial Electronics, 2017, 64, 8213-8223.	5.2	7
29	Developing Computational Intelligence for Smart Qualification Testing of Electronic Products. IEEE Access, 2020, 8, 16922-16933.	2.6	7
30	Numerical modelling and validation of Marangoni and surface tension phenomena using the finite volume method. International Journal for Numerical Methods in Fluids, 2000, 32, 1021-1047.	0.9	6
31	Thermo-mechanical modelling of power electronics module structures. , 2006, , .		6
32	Reliability Based Design Optimisation for System-in-Package. , 2007, , .		6
33	Finite element modelling of failures in thick film chip resistor solder joints. , 2010, , .		6
34	A Multiphysics Modeling and Experimental Analysis of Pressure Contacts in Power Electronics Applications. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2017, 7, 893-900.	1.4	6
35	Reliability Testing and Stress Measurement of QFN Packages Encapsulated by an Open-Ended Microwave Curing System. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 173-180.	1.4	6
36	Multi-Material Heatsink Design Using Level-Set Topology Optimization. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 1504-1513.	1.4	6

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37	Low Reynolds number turbulence models for accurate thermal simulations of electronic components. , 0, , .		5
38	Advanced microwave oven for rapid curing of encapsulant. , 2008, , .		5
39	Numerical simulation of encapsulant curing within a Variable Frequency Microwave processing system. , 2008, , .		5
40	Predictive reliability and prognostics for electronic components: Current capabilities and future challenges. , 2008, , .		5
41	Modelling and testing the impact of hot solder dip process on leaded components. , 2012, , .		5
42	Application of nonlinear fatigue damage models in power electronic module wirebond structure under various amplitude loadings. Advances in Manufacturing, 2014, 2, 239-250.	3.2	5
43	Multi-physics models and condition-based monitoring for 3D-Printing of electronic packages. , 2017, , .		5
44	Thermomechanical Analysis of Conformally Coated QFNs for High-Reliability Applications. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 2210-2218.	1.4	5
45	NUMERICAL MODELLING OF MULTIPHASE PARTICULATE FLOW AND ITS APPLICATION TO SEDIMENTATION. Particulate Science and Technology, 1987, 5, 357-370.	1.1	4
46	Mathematical modelling: a laser soldering process for an optoelectronics butterfly package. , 0, , .		4
47	Accuracy of turbulence models and CFD for thermal characterisation of electronic systems. , 0, , .		4
48	Investigation into the performance of turbulence models for fluid flow and heat transfer phenomena in electronic applications. , 0, , .		4
49	Turbulence Modelling for Electronic Cooling: A Review. , 0, , .		4
50	Modelling the behavior of solder joints for wafer level SiP. , 2006, , .		4
51	Thermal modelling and optimisation of hot solder dip process. , 2012, , .		4
52	Modelling methodologies for assessment of 3D inkjet-printed electronics. , 2016, , .		4
53	Predictive modelling for 3D inkjet printing processes. , 2016, , .		4
54	Design of Additively Manufactured Heatsinks for Power Electronics Thermal Management using Adjoint Level-set Topology Optimization. , 2019, , .		4

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55	An integrated approach to flow, thermal and mechanical modeling of electronics devices. , 0, , .		3
56	Microwave cure of conductive adhesives for flip-chip & microsystems applications. , 0, , .		3
57	Numerical modelling methodology for design of miniaturised integrated products - an application to 3D CMM micro-probe development. , 2010, , .		3
58	Reliability Assessment of QFN Components for Aerospace Applications. , 2016, , .		3
59	Computer simulation of the reliability of wire bonds and ribbon bonds in power electronics modules. , 2017, , .		3
60	Reliability Impact of Assembly Materials for Micro-BGA Components in High Reliability Applications. , 2020, , .		3
61	Deep Learning Modelling for Composite Properties of PCB Conductive Layers. , 2022, , .		3
62	Predicting the movement of voids in solder bumps and subsequent reliability [flip chip assembly]. , 0, , .		2
63	Finite element modelling of crack detection tests. , 0, , .		2
64	Optimisation Modelling for Design of Advanced Interconnects. , 2006, , .		2
65	Comparison of encapsulant curing with convection and microwave systems. , 2008, , .		2
66	Influence of megasonic agitation on the electrodeposition of high aspect ratio blind vias. , 2008, , .		2
67	Co-design and multi-physics analysis for power electronic modules. , 2009, , .		2
68	Statistical analysis of the impacts of refinishing process on the reliability of microelectronics components. , 2012, , .		2
69	Application of Kriging and Radial Basis Function for Reliability Optimization in Power Modules. Journal of Electronic Packaging, Transactions of the ASME, 2013, 135, .	1.2	2
70	Co-design, modelling and simulation challenges: From components to systems. , 2017, , .		2
71	Numerical Simulation of the Junction Temperature, the Coolant Flow Rate and the reliability of an IGBT Module. , 2018, , .		2
72	Mechanical Modelling of High Power Lateral IGBT for LED Driver Applications. , 2018, , .		2

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73	Packaging Challenges and Reliability Performance of Compound Semiconductor Focal Plane Arrays. , 2019, , .		2
74	Applying Model Order Reduction to the Reliability Prediction of Power Electronic Module Wirebond Structure. , 2021, , .		2
75	An integrated modelling approach to solder joint formation. , 0, , .		1
76	Computer based modeling for predicting reliability of flip-chip components on printed circuit boards. , 0, , .		1
77	Modelling technology to predict flip-chip assembly. , 0, , .		1
78	Stencil printing at sub-100 microns pitch. , 0, , .		1
79	Variable Frequency Microwave Curing of Polymer Materials in Microelectronics Packaging Applications. , 2007, , .		1
80	Modelling of the Electric Field Assisted Capillarity Effect used for the fabrication of hollow polymer microstructures. , 2012, , .		1
81	Computational electrohydrodynamics in the fabrication of hollow polymer microstructures. , 2015, , .		1
82	Data-driven prognostics for smart qualification testing of electronic products. , 2017, , .		1
83	Numerical Analysis of the Design and Manufacture of Inkjet Printed Electronics Packaging. , 2018, , .		1
84	Data Driven Prognostics for Failure of Power Semiconductor Packages. , 2018, , .		1
85	Electro-thermal behaviour using finite volume and Finite Element method. , 2018, , .		1
86	Time Integration Damage Model for Sn3.5Ag Solder Interconnect in Power Electronic Module. IEEE Transactions on Device and Materials Reliability, 2019, 19, 140-148.	1.5	1
87	Characterization and Validation Techniques for Thermo-Mechanical Models of Electronic Packages and Assemblies. , 2019, , .		1
88	Polymer waveguide and VCSEL array multi-physics modelling for OECB based optical backplanes [opto-electrical circuit boards]. , 0, , .		0
89	Modeling and experiments on an isothermal fatigue test for solder joints. , 0, , .		0
90	Microwave Curing of Materials for High Density Packaging. , 2007, , .		0

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91	Corrections to "Ultra-fine pitch stencil printing for a low cost and low temperature flip-chip assembly process". IEEE Transactions on Components and Packaging Technologies, 2007, 30, 359-359.	1.4	0
92	Impact of assembly process technologies on electronic packaging materials. , 2008, , .		0
93	Design for Reliability for Wafer Level System in Package. , 2008, , .		0
94	Impact of assembly process technologies on electronic packaging materials. , 2008, , .		0
95	Polymer Curing within an Optimised Open-Ended Microwave Oven. , 2008, , .		0
96	Modelling the Nano-Imprint Forming process for the production of miniaturised 3D structures. , 2008, , .		0
97	Minimising the risk of defects in nano-imprint forming. , 2008, , .		0
98	Numerical analysis of thermal stresses induced during VFM encapsulant curing. , 2008, , .		0
99	Nanopackaging Simulation. IEEE Nanotechnology Magazine, 2009, 3, 34-37.	0.9	0
100	Modelling and process capability analysis of Focused Ion Beam. , 2009, , .		0
101	Packaging of LED backlights for ruggedised displays. , 2010, , .		0
102	Multi-physics modelling for packaging of Liquid Crystal Displays in harsh environments. , 2010, , .		0
103	Reduced order modelling for risk mitigation in design of miniaturised/integrated products. , 2010, , .		0
104	Experimental and modelling study on the effects of refinishing lead-free microelectronic components. , 2012, , .		0
105	Modelling the 3D-printing process for electronics packaging. , 2016, , .		0
106	Optimising thermo mechanical behaviour of power electronic module structures. , 2016, , .		0
107	Chip-on-board assembly of 800V Si L-IGBTs for high performance ultra-compact LED drivers. , 2017, , .		0
108	Co-design/simulation of flip-chip assembly for high voltage IGBT packages. , 2017, , .		0

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109	Data analytics approach for optimal qualification testing of electronic components. , 2018, , .		0
110	Experimental and Modeling Study on Delamination Risks for Refinished Electronic Packages Under Hot Solder Dip Loads. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2020, 10, 502-515.	1.4	0
111	Reliability Optimisation and Lifetime Modelling of micro-BGA Assemblies in Harsh Environment Applications. , 2021, , .		0