

Lee, Ricky S W

List of Publications by Year in descending order

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431
citing authors

#	ARTICLE	IF	CITATIONS
1	High-Speed Solder Ball Shear and Pull Tests vs. Board Level Mechanical Drop Tests: Correlation of Failure Mode and Loading Speed. , 2007, , .		55
2	Brittle Failure Mechanism of SnAgCu and SnPb Solder Balls during High Speed Ball Shear and Cold Ball Pull Tests. , 2007, , .		52
3	Fan-Out Wafer-Level Packaging for Heterogeneous Integration. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2018, 8, 1544-1560.	2.5	46
4	Critical Review of the Engelmaier Model for Solder Joint Creep Fatigue Reliability. IEEE Transactions on Components and Packaging Technologies, 2009, 32, 693-700.	1.3	42
5	Correlation Between Measurement and Simulation of Thermal Warpage in PBGA With Consideration of Molding Compound Residual Strain. IEEE Transactions on Components and Packaging Technologies, 2008, 31, 683-690.	1.3	37
6	Temperature-Dependent Popcorning Analysis of Plastic Ball Grid Array Package During Solder Reflow With Fracture Mechanics Method. Journal of Electronic Packaging, Transactions of the ASME, 2000, 122, 34-41.	1.8	34
7	Effects of electric fields on the bending behavior of PZT-5H piezoelectric laminates. Smart Materials and Structures, 2000, 9, 824-831.	3.5	29
8	Effects of Room Temperature Storage Time on the Shear Strength of PBGA Solder Balls. , 2002, , 259.		26
9	Wafer level LED packaging with integrated DRIE trenches for encapsulation. , 2008, , .		25
10	Chip-First Fan-Out Panel-Level Packaging for Heterogeneous Integration. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2018, 8, 1561-1572.	2.5	23
11	Effect of Thermal Aging on High Speed Ball Shear and Pull Tests of SnAgCu Lead-free Solder Balls. , 2007, , .		21
12	LED packaging using silicon substrate with cavities for phosphor printing and copper-filled TSVs for 3D interconnection. , 2011, , .		21
13	Super flexible GaN light emitting diodes using microscale pyramid arrays through laser lift-off and dual transfer. Optics Express, 2018, 26, 1817.	3.4	18
14	Nonlinear-Time-Dependent Analysis of Micro Via-In-Pad Substrates for Solder Bumped Flip Chip Applications. Journal of Electronic Packaging, Transactions of the ASME, 2002, 124, 205-211.	1.8	17
15	Comparison of Joint Strength and Fracture Energy of Lead-free Solder Balls in High Speed Ball Shear/Pull Tests and their Correlation with Board Level Drop Test. , 2007, , .		17
16	Integration of phosphor printing and encapsulant dispensing processes for wafer level LED array packaging. , 2010, , .		17
17	Screen-Printing of Yellow Phosphor Powder on Blue Light Emitting Diode (LED) Arrays for White Light Illumination. , 2007, , 19.		15
18	Embedded Three-Dimensional Hybrid Integrated Circuit Integration System-in-Package With Through-Silicon Vias for Opto-Electronic Interconnects in Organic Substrates/Printed Circuit Boards. Journal of Electronic Packaging, Transactions of the ASME, 2011, 133, .	1.8	14

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19	Solder Ball Attachment Assessment of Reballled Plastic Ball Grid Array Packages. IEEE Transactions on Components and Packaging Technologies, 2009, 32, 901-908.	1.3	13
20	Design and Fabrication of a Silicon Interposer With TSVs in Cavities for Three-Dimensional IC Packaging. IEEE Transactions on Device and Materials Reliability, 2012, 12, 189-193.	2.0	13
21	Thermal-Enhanced and Cost-Effective 3D IC Integration With TSV (Through-Silicon Via) Interposers for High-Performance Applications. , 2010, , .		12
22	Embedded 3D Hybrid IC Integration System-in-Package (SiP) for Opto-Electronic Interconnects in Organic Substrates. , 2010, , .		11
23	Effects of corner and edgebond epoxy adhesives on board level solder joint reliability of BGA mezzanine connectors. , 2010, , .		11
24	Experimental Testing and Failure Prediction of PBGA Package Assemblies under 3-Point Bending Condition through Computational Stress Analysis. , 2006, , .		10
25	Enhancement of thermal conductivity of die attach adhesives (DAAs) using nanomaterials for high brightness light-emitting diode (HBLED). , 2011, , .		10
26	Spacing optimization of high power LED arrays for solid state lighting. Journal of Semiconductors, 2011, 32, 014005.	3.7	9
27	Emerging trend for LED wafer level packaging. Frontiers of Optoelectronics, 2012, 5, 119-126.	3.7	9
28	Gold Embrittlement of Solder Joints in Wafer-Level Chip-Scale Package on Printed Circuit Board With Ni/Au Surface Finish. IEEE Transactions on Electronics Packaging Manufacturing, 2008, 31, 185-191.	1.4	8
29	Comparative study of PWB pad cratering subject to reflow soldering and thermal impact. , 2010, , .		8
30	Study on copper plating solutions for fast filling of through silicon via (TSV) in 3D electronic packaging. , 2011, , .		8
31	Detailed investigation on the creep damage accumulation of lead-free solder joints under accelerated temperature cycling. , 2010, , .		7
32	Effect of interfacial strength between Cu$_{6}$Sn$_{5}$ and Cu$_{3}$Sn intermetallics on the brittle fracture failure of lead-free solder joints with OSP pad finish. , 2011, , .		7
33	Determination of driving current of RGB LEDs for white light illumination. , 2012, , .		7
34	Effect of die attach adhesive defects on the junction temperature uniformity of LED chips. , 2012, , .		7
35	Remote phosphor deposition on LED arrays with pre-encapsulated silicone lens. , 2013, , .		7
36	Investigation on the properties and processability of polymeric insulation layers for through silicon via. , 2013, , .		7

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37	Assessment of solder pad cratering strength using cold pin pull test method with pre-fabricated pin arrays. , 2013, , .		7
38	Through silicon underfill dispensing for 3D die/interposer stacking. , 2014, , .		7
39	Fabrication and Reliability Assessment of Cu Pillar Microbumps With Printed Polymer Cores. Journal of Electronic Packaging, Transactions of the ASME, 2021, 143, .	1.8	7
40	Evaluation of Bondability and Reliability of Single Crystal Copper Wire Bonding. , 2005, , .		6
41	Investigation of lead-free BGA solder joint reliability under 4-point bending using PWB strain-rate analysis. , 2009, , .		6
42	Comparison of thermal fatigue reliability of SnPb and SAC solders under various stress range conditions. , 2009, , .		6
43	Effect of UBM and BCB layers on the thermo-mechanical reliability of wafer level chip scale package (WLCSP). , 2009, , .		6
44	Material characterization of corner and edgebond epoxy adhesives for the improvement of board-level solder joint reliability. , 2009, , .		6
45	Fast Copper Plating Process for Through Silicon Via (TSV) Filling. , 2011, , .		6
46	Brittle fracture of intermetallic compounds in SAC solder joints under high speed ball pull/pin pull and Charpy impact tests. , 2013, , .		6
47	Wafer level bumping technology for high voltage LED packaging. , 2015, , .		6
48	Correlation of board and joint level test methods with strain dominant failure criteria for improving the resistance to pad cratering. , 2016, , .		6
49	Characterization of orthotropic CTE of BT substrate for PBGA warpage evaluation. , 2016, , .		6
50	Investigation of reliability of EMC and SMC on reflectance for UV LED applications. , 2016, , .		6
51	Thermal characterization of multi-chip light emitting diodes with thermal resistance matrix. , 2017, , .		6
52	Measurement of Dynamic Junction Temperature for LED Flash Units of Camera. , 2018, , .		6
53	Correlation of Warpage Distribution With the Material Property Scattering for Warpage Range Prediction of PBGA Components. Journal of Electronic Packaging, Transactions of the ASME, 2018, 140, .	1.8	6
54	UV LED Assisted Printing Platform for Fabrication of Micro-Scale Polymer Pillars. Journal of Microelectromechanical Systems, 2020, 29, 1523-1530.	2.5	6

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55	Stress Analysis of Hygrothermal Delamination of Quad Flat No-Lead (QFN) Packages. , 2008, , .		5
56	Advanced LED wafer level packaging technologies. , 2011, , .		5
57	Reverse wire bonding and phosphor printing for LED wafer level packaging. , 2012, , .		5
58	Development of innovative cold pin pull test method for solder pad crater evaluation. , 2012, , .		5
59	TSV plating using copper methanesulfonate electrolyte with single component suppressor. , 2012, , .		5
60	Quasi-conformal phosphor dispensing on LED for white light illumination. , 2013, , .		5
61	O ₂ plasma treatment in polymer insulation process for through silicon vias. , 2014, , .		5
62	Packaging of UV LED with a stacked silicon reflector for converged UV emission. , 2017, , .		5
63	Growth, characterization, and application of well-defined separated GaN-based pyramid array on micropatterned sapphire substrate. Applied Physics Express, 2017, 10, 092101.	2.4	5
64	Evaluation and Benchmarking of Cu Pillar Micro-bumps with Printed Polymer Core. , 2019, , .		5
65	Multilayer dispensing of remote phosphor for LED wafer level packaging with pre-formed silicone lens. , 2014, , .		4
66	Modeling and Parametric Study of Light Scattering, Absorption and Emission of Phosphor in a White Light-Emitting Diode. , 2015, , .		4
67	Effect of substrate dimensions and boundary conditions on the heat spreading of LED package. , 2016, , .		4
68	Quantum Dot Light Emitting Diodes Based on ZnO Nanoparticles. , 2018, , .		4
69	Analysis of Pulse-Driven LED Junction Temperature and its Reliability. , 2018, , .		4
70	A power inductor integration technology using a silicon interposer for DC-DC converter applications. , 2018, , .		4
71	Inkjet Printing PEDOT:PSS without Coffee Ring Effect for QLED Applicaitons. , 2019, , .		4
72	Thermal Resistance Analysis of a Multi-Stack Flip Chip 3-D Package. , 2006, , .		3

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73	Characterization and Comparison of Five SAC-based Solder Pastes for Pb-free Reflow Soldering. , 2007, , .		3
74	Investigation of Moisture Sensitivity Related Failure Mechanism of Quad Flat No-Lead (QFN) Packages. , 2008, , .		3
75	Investigation of mixed SAC and SnPb solder balls under high speed ball shear and pull tests. , 2009, , .		3
76	Modeling of board level solder joint reliability under mechanical drop test with the consideration of plastic strain hardening of lead-free solder. , 2010, , .		3
77	Optical characterization of a light bulb with the waffle pack LED WLP module. , 2013, , .		3
78	Development of a real-time monitoring system with uni-photodetector for LED long term reliability tests. , 2014, , .		3
79	Lens forming by stack dispensing for LED wafer level packaging. , 2014, , .		3
80	Fabricating polymer insulation layer by spin-coating for through silicon vias. , 2015, , .		3
81	Investigation of the influence of Ag reflective layer on the Correlated Color Temperature and the Angular Color Uniformity of LED with conformal phosphor coating. , 2015, , .		3
82	Numerical prediction and experimental validation of multiple phosphor white LED spectrum. , 2016, , .		3
83	Pad Cratering Based Failure Criterion for the Life Prediction of Board Level Cyclic Bending Test. , 2017, , .		3
84	A Novel Approach to Characterize Phosphor Particles for the Color Tuning of WLEDs. IEEE Photonics Technology Letters, 2018, 30, 513-516.	2.5	3
85	Determination of a Meaningful Warpage Acceptance Criterion for Large PBGA Components Through the Correlation with Scattering in Material Properties. , 2018, , .		3
86	Empirical Modeling and measurement of the Pulsed Junction Temperature of VCSEL. , 2019, , .		3
87	Assessment of Fatigue Induced Pad Cratering With a Universal Expression of Printed Circuit Board Fatigue Resistance. Journal of Electronic Packaging, Transactions of the ASME, 2020, 142, .	1.8	3
88	Experimental Investigation of the Effect of Reflow Cooling Rate on the IMC Growth of SAC Lead-Free Solder Alloy. , 2005, , .		3
89	Correlation Between the Strain on the Printed Circuit Board and the Stress in Chips for the Failure Prediction of Passive Components. , 2005, , .		3
90	Comparison between Experimental Measurement and Numerical Analysis of Warpage in PBGA Package and Assembly with the Consideration of Residual Strain in the Molding Compound. , 2006, , .		2

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91	Reliability Assessment on the Re-Balling of PBGA from SnPb to Pb-Free Solder Spheres. , 2006, , .		2
92	Development of Novel Dicing Process by Anisotropic Wet Etching with Convex Corner Compensation. , 2008, , .		2
93	Nondestructive inspection of through silicon via depth using scanning acoustic microscopy. , 2010, , .		2
94	Shock Test Methods and Test Standards for Portable Electronic Devices. , 2011, , 159-173.		2
95	LED wafer level packaging with a remote phosphor cap. , 2012, , .		2
96	Wetting behavior of polymer liquid in insulation process for through silicon via. , 2013, , .		2
97	Design and implementation of fine pitch COB LED display. , 2013, , .		2
98	Comparison of Ball Pull Strength Among Various Sn-Cu-Ni Solder Joints With Different Pad Surface Finishes. Journal of Electronic Packaging, Transactions of the ASME, 2014, 136, .	1.8	2
99	Modeling of residual strain in BGA-PCB assemblies for pad cratering control. , 2017, , .		2
100	Long-term Stability Evaluation of Thermal Interface Materials (TIMs). , 2019, , .		2
101	The Effect of Metallic Interconnect Spacing on the Thermal Resistance of Flip-Chip Light-Emitting Diodes With Underfill Encapsulation. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 871-876.	2.5	2
102	Quantum Dot Film Patterning on a Trenched Glass Substrate for Defining Pixel Arrays of a Full-color Mini/Micro-LED Display. , 2020, , .		2
103	Characterization and Evaluation of 3D-Printed Connectors for Microfluidics. Micromachines, 2021, 12, 874.	2.9	2
104	A novel chip-on-board white light-emitting diode design for light extraction enhancement. , 2016, , .		2
105	Formation of Through-Silicon-Vias by Laser Drilling and Deep Reactive Ion Etching. , 2004, , .		2
106	Dimensionless Correlation between Empirical Modeling and T3ster Measurements for the Dynamic Thermal Characterization of the PWM-mode Current Driving UVLED. , 2020, , .		2
107	Thermal-Fatigue Life Prediction Equation for Plastic Ball Grid Array (PBGA) SnAgCu Lead-Free Solder Joints. , 2005, , 1013.		1
108	Wetting Characteristics of Solder Reflow on Copper Traces without Solder Mask. , 2006, , .		1

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109	Development of 2D Modeling Techniques for the Thermal Fatigue Analysis of Solder Joints of a Module Mounted in a 3D Cavity on a Printed Circuit Board. , 2007, , .		1
110	Effect of V-groove Side Wall Feature on Epoxy Flow in Passive Alignment of Optical Fiber. , 2007, , .		1
111	Characteristics of Copper-to-Silicon diffusion in copper wire bonding. , 2007, , .		1
112	A comprehensive parallel study on the board level reliability of SAC, SACX and SCN solders. , 2008, , .		1
113	Determination of solder bump stand-off height in a flip-chip sub-mount for Micro-Opto-Electro-Mechanical System (MOEMS) packaging applications. , 2008, , .		1
114	Process development and prototyping for the assembly of LED arrays on flexible printed circuit tape for general solid state lighting. , 2009, , .		1
115	Surface analysis of outgassing contamination from edgebond epoxy adhesives on ImAg pads. , 2009, , .		1
116	Solid state light tube with periodic units of lateral-emitting LEDs. , 2010, , .		1
117	A comparison of copper sulfate and methanesulfonate electrolytes in the copper plating process for through silicon via metallization. , 2011, , .		1
118	Evaluation of polymer wafer bonding with silicone adhesive and patterned trenches. , 2011, , .		1
119	Considerations in solution stabilization for thermal fatigue modeling of lead-free solder joints. , 2011, , .		1
120	Comparison of Fatigue Crack Initiation/Propagation and Daisy-Chain Resistance in Lead-Free Solder Joints Under Temperature Cycling Test. , 2011, , .		1
121	Measurement and analysis of interfacial adhesion strength between the silicone encapsulant and the side wall of a SMD LED leadframe cup. , 2013, , .		1
122	Fluxless packaging of an implantable medical device for transcorneal electrical stimulation. , 2015, , .		1
123	Void-free underfill encapsulation for flip chip high voltage LED packaging. , 2016, , .		1
124	Application of Nano Silver sintering technique on the chip bonding for flip-chip and vertical light emitting diodes. , 2016, , .		1
125	Printing Uniform QDs Polymer Thin Film for QLED Applications. , 2020, , .		1
126	Passive Alignment of Optical Fiber in a V-Groove With Low Viscosity Epoxy Flow. , 2003, , .		1

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127	Micro-machined Conformal Silicon Molds for Wafer Bumping and Probing. International Journal of Nonlinear Sciences and Numerical Simulation, 2002, 3, .	1.0	0
128	Fabrication of Sub-Micron Silicon Vias by Deep Reactive Ion Etching. , 2005, , 947.		0
129	Impact of IMC Thickness on Lead-free Solder Joint Reliability under Thermal Aging: Ball Shear Tests vs. Cold Bump Pull Tests. , 2006, , .		0
130	Design, Process Development and Prototyping of 3D Packaging with Multi-Stacked Flip Chips and Peripheral Through Silicon Via Interconnection. Electronics Manufacturing Technology Symposium (IEMT), IEEE/CPMT International, 2006, , .	0.0	0
131	Investigation of the Effect of PCB Base Materials and Pad Surface Finish on the Thermal Fatigue Life of Lead-free Solder Joints of PBGA and Passive Resistors. , 2006, , .		0
132	Numerical analysis and experimental validation for the prediction of flip chip solder joint standoff height in MEMS microphone application. , 2008, , .		0
133	Design and fabrication of an epoxy flow stopper with convex corner compensation of V-grooves on a silicon optical bench for the passive alignment of optical fibers. , 2008, , .		0
134	Development of surface mount compatible reel-to-reel assembly Process of LED arrays for wide area general lighting. , 2008, , .		0
135	Fabrication of Nanoscale Vias by Offset Patterning. , 2008, , .		0
136	Investigation on lead-free solder joint reliability of edge-bonded CBGA under temperature cycling. , 2011, , .		0
137	Assessment of non-uniform temperature effect on BGA de-component process. , 2012, , .		0
138	Effects of GaN blue LED chip and phosphor on optical performance of white light LED. , 2012, , .		0
139	Investigation of fracture behaviors of Cu-Sn intermetallics using impact test. , 2012, , .		0
140	Thermal characterization of a printed circuit board with thermal vias for the application of high brightness light-emitting diodes. , 2013, , .		0
141	Experimental characterization of adhesion strength between the silicone encapsulant and the bottom of a SMD LED leadframe cup. , 2013, , .		0
142	Detection of the non-uniformity of junction temperature in large light-emitting diode using an improved forward voltage method. , 2015, , .		0
143	Thermally conductive adhesives based on silver coated copper flake fillers. , 2015, , .		0
144	Influence of rubber nanoparticles on the properties of Novolac-diazonaphthoquinone based photoresist. , 2015, , .		0

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145	Investigation on the thermal degradation mechanism of Cu-Sn intermetallic compound in SAC solder joints with Cohesive Zone modeling. , 2015, , .		0
146	Experimental parametric study on the bumping and coining of gold studs for flip chip bonding. , 2016, , .		0
147	Sensitivity study on the precision of data acquisition for LED life prediction based on the degradation of luminous output. , 2016, , .		0
148	Investigation on the influence of phosphor particle size gradient on the optical performance of white light-emitting diodes. , 2016, , .		0
149	Fabricating photosensitive polymer insulation layer by spin-coating for through silicon vias. , 2016, , .		0
150	Low-dielectric-constant novel periodic mesoporous organosilica thin film for interlayer dielectric. , 2016, , .		0
151	Effect of the surface curvature of the phosphor layer on the optical performance of a WLED. , 2016, , .		0
152	A method for measuring thermal conductivity of paste materials. , 2016, , .		0
153	Novel periodic mesoporous organosilica thin film with low dielectric constant and high mechanical property. , 2016, , .		0
154	Investigation the effect of silane onto fabricating polymer insulation layer by spin-coating for through silicon vias. , 2017, , .		0
155	Broadband Emission of Asymmetric Pyramids obtained by Laser Drilling and SAG for Application of Phosphor Free White LEDs. , 2018, , .		0
156	Investigation of the Influence of Packaging Material Degradation on the Optical Performance of Phosphor Converted White Light Emitting Diodes. , 2018, , .		0
157	Investigation of Light Scattering Effect Impact on Optical Performance of Phosphor Converted White Light Emitting Diodes. , 2018, , .		0
158	Additive Manufacturing of Micro-channels on a Silicon Substrate based on Coaxial Printing Dispenser with in-situ UV LED Curing. , 2018, , .		0
159	Thermal Simulation for High Power LED Systems with Remote Phosphor Layer. , 2018, , .		0
160	Solderability evaluation of printed silver solder pad for wafer-level packaging. , 2018, , .		0
161	Junction Temperature Prediction of the Multi-LED Module with the Modified Thermal Resistance Matrix. , 2019, , .		0
162	Filler Particle-Induced Light Absorption in Underfill-Encapsulated Flip-Chip Light-Emitting Diodes. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 562-566.	2.5	0

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163	Study on Light Emitting Surface Temperature of LEDs. , 2020, , .		0
164	Evaluation and Reduction of Optical Crosstalk in Quantum Dot Color-Converted Mini/Micro-LED Displays. , 2021, , .		0
165	Effects of Thermal Aging and Au Addition on the Electrical Resistance of Solder Balls in Flip Chip and Ultra-CSP Packages. , 2003, , .		0
166	A New Method for the Solder Ball Pull Test Using a Shape Memory Alloy Tube. , 2004, , .		0
167	Effect of Solder Mask Thickness on Shear and Pull Tests of Lead-Free Solder Balls. , 2006, , .		0
168	Design and Fabrication of MEMS Based Microphone Module by Using 3D Chip-on-Chip Package. , 2007, , .		0
169	Effects of Tooling Tip Wear and Fixture Rigidity on Solder Ball Shear and Ball Pull Tests. , 2007, , .		0
170	Assessment of Relative Thermal Fatigue Life of SAC Lead-Free and Tin-Lead Solders With Custom-Made BGA Assemblies Creating Various Stress Ranges. , 2009, , .		0
171	Knowledge Grows Only by Being Shared. Journal of Japan Institute of Electronics Packaging, 2013, 16, P1-P1.	0.1	0