

Tong An

List of Publications by Year in descending order

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52
papers

346
citations

933447

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all docs

52
docs citations

52
times ranked

189
citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of silicon anisotropy on interfacial fracture for three dimensional through-silicon-via (TSV) under thermal loading. Engineering Fracture Mechanics, 2019, 209, 274-300.	4.3	25
2	Protrusion of electroplated copper filled in through silicon vias during annealing process. Microelectronics Reliability, 2016, 63, 183-193.	1.7	23
3	Failure study of Sn37Pb PBGA solder joints using temperature cycling, random vibration and combined temperature cycling and random vibration tests. Microelectronics Reliability, 2018, 91, 213-226.	1.7	22
4	A Lifetime Prediction Method for IGBT Modules Considering the Self-Accelerating Effect of Bond Wire Damage. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 2271-2284.	5.4	22
5	A Study on the Effect of Microstructure Evolution of the Aluminum Metallization Layer on Its Electrical Performance During Power Cycling. IEEE Transactions on Power Electronics, 2019, 34, 11036-11045.	7.9	21
6	Temperature and grain size dependences of mechanical properties of nanocrystalline copper by molecular dynamics simulation. Modelling and Simulation in Materials Science and Engineering, 2019, 27, 065012.	2.0	21
7	Vibration lifetime estimation of PBGA solder joints using Steinberg model. Microelectronics Reliability, 2019, 102, 113474.	1.7	17
8	Numerical simulation of the wire bonding reliability of IGBT module under power cycling. , 2017, , .		16
9	The experimental analysis and the mechanical model for the debonding failure of TSV-Cu/Si interface. Microelectronics Reliability, 2018, 91, 52-66.	1.7	13
10	The effect of the diffusion creep behavior on the TSV-Cu protrusion morphology during annealing. Journal of Materials Science: Materials in Electronics, 2018, 29, 16305-16316.	2.2	13
11	Microstructure Evolution and Protrusion of Electroplated Cu-Filled Through-Silicon Vias Subjected to Thermal Cyclic Loading. Journal of Electronic Materials, 2017, 46, 5916-5932.	2.2	11
12	Crack Effect on the Equivalent Thermal Conductivity of Porously Sintered Silver. Journal of Electronic Materials, 2020, 49, 5994-6008.	2.2	11
13	Cracking of the Intermetallic Compound Layer in Solder Joints Under Drop Impact Loading. Journal of Electronic Packaging, Transactions of the ASME, 2011, 133, .	1.8	10
14	Experimental and Numerical Investigation of Mechanical Properties of Electroplating Copper Filled in Through Silicon Vias. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2016, 6, 23-30.	2.5	9
15	Electro-thermal and thermal-mechanical FE analysis of IGBT module with different bonding wire shape. , 2017, , .		9
16	Constitutive modelling of annealing behavior in through silicon vias-copper. Materials Characterization, 2021, 179, 111359.	4.4	9
17	Protrusion of Through-Silicon-Via (TSV) Copper with Double Annealing Processes. Journal of Electronic Materials, 2022, 51, 2433-2449.	2.2	9
18	The Effect of the Surface Roughness Characteristics of the Contact Interface on the Thermal Contact Resistance of the PP-IGBT Module. IEEE Transactions on Power Electronics, 2022, 37, 7286-7298.	7.9	8

#	ARTICLE	IF	CITATIONS
19	Thermal fatigue reliability analysis of PBGA with Sn63Pb37 solder joints. , 2016, , .		7
20	A Study of Creep Behavior of TSV-Cu Based on Nanoindentation Creep Test. Journal of Mechanics, 2016, 32, 717-724.	1.4	7
21	FE analysis the effect of bonding wire and solder failure on the resistance and temperature of IGBT. , 2018, , .		7
22	Mechanical properties of silicon in subsurface damage layer from nano-grinding studied by atomistic simulation. AIP Advances, 2018, 8, .	1.3	7
23	Optimization of TSV interconnects and BEOL layers under annealing process through fracture evaluation. Fatigue and Fracture of Engineering Materials and Structures, 2020, 43, 1433-1445.	3.4	6
24	Mechanical properties of intermetallic compounds in solder joints. , 2010, , .		5
25	Study on temperature distribution of IGBT module. , 2017, , .		4
26	Effects of via pitch on silicon stress in TSV interposer. , 2012, , .		3
27	Edge chipping of silicon wafers in rotating grinding. , 2016, , .		3
28	Thickness and metallization layer effect on interfacial and vertical cracking of sintered silver layer: A numerical investigation. Microelectronics Reliability, 2021, 124, 114290.	1.7	3
29	A thermal network model for thermal analysis in automotive IGBT modules. , 2021, , .		3
30	Influence of strain rate effect on behavior of solder joints under drop impact loadings. , 2009, , .		2
31	Effects of IMC thickness on fracturing of solder joints. , 2010, , .		2
32	An equivalent model of TSV silicon interposer. , 2012, , .		2
33	The characterization of TSV Cu protrusion under thermal cycling. , 2015, , .		2
34	Vibration reliability test and analysis of plastic ball grid array. , 2016, , .		2
35	Residual stress distribution in wafers ground by different grinding parameters. , 2017, , .		2
36	Dynamic finite element modeling of backside grinding process for TSV wafer. , 2017, , .		2

#	ARTICLE	IF	CITATIONS
37	Effect of Crack Evolution on the Resistance and Current Density of the Al Metallization in the IGBT Module During Power Cycling. IEEE Transactions on Device and Materials Reliability, 2020, 20, 706-715.	2.0	2
38	Dynamic Stress of Solder Joints under Board-Level Drop/Impact. , 2007, , .		1
39	Fracture simulation of solder joint interface by Cohesive Zone Model. , 2009, , .		1
40	A simplified computational model for solder joints under drop impact loadings. , 2009, , .		1
41	Effect of electroplating parameter on the TSV-Cu protrusion during annealing and thermal cycling. , 2015, , .		1
42	TSV-Cu protrusion induced by thermal cycling test. , 2016, , .		1
43	In-process measurement of the grinding force in silicon wafer self-rotating grinding process. , 2020, , .		1
44	Fracture Simulation of Solder Joints by a Lattice Model. , 2007, , .		0
45	Interfacial stress in Through Silicon Vias. , 2012, , .		0
46	Model simplification method for PBGA assembly simulation under random vibration. , 2016, , .		0
47	Copper pillar bump design optimization based on Taguchi method. , 2016, , .		0
48	Validation of submodel technique for fracture evaluation in wafer-level package under thermal loading. , 2019, , .		0
49	Analysis for thermal contact resistance of Press-Pack IGBTs. , 2021, , .		0
50	Finite element analysis of thermal contact resistance in Press-Pack IGBT module. , 2021, , .		0
51	Comparison of junction temperature variations of IGBT modules under DC and PWM power cycling test conditions. Journal of Power Electronics, 0, , .	1.5	0
52	Mud-Cracking Effect of Sintered Silver Layer on Quantifying Heat Transfer Behavior of SiC Devices Under Power Cycling: Voronoi Tessellation Model. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2022, 12, 964-972.	2.5	0