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Effect of Interfacial Cracks Between TSV and RDL on Electromigration Reliability 1860
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Time-Dependent Evolution Study of Plasma-Treated Al Surface Enabling Two-Step Al-Al Direct Bonding in Ambient 1865
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Research on 3D Assembly Process Based on Wafer-Level Electroplated Microbump Structures 1886
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Multi Component Alloy Properties and Thermal Conductivity of Sn-In-Ag-Al-Zn Solder Alloy 1890
Qian Zhou, Donghua Yang, Jun Luo, Bin Jiang, Zhenhua Wang, Kailun Hu, Chunhong Zhang

Structural Evolution of Chip to Chip Hybrid Bonding Interface After Temperature Cycling and High Temperature Storage Tests 1895
Yuting Liang, Junpeng Fang, Haiyan Ma, Yalu Chen, Yao Zheng, Qian Wang, Jian Cai

Texture Modulated Cobalt Film with Improved Soft Magnetic Properties for Low-Loss High-Frequency Signal Transmission 1900
Longsheng Fang, Wei Shen, Mengyun Zhang, Shimiao Wang, Tao Hang

Active Thermography for Quantitative Assessment of Solder Fill Height in Through-Hole Interconnects: A Coupled Numerical-Experimental Investigation 1904
Wei Zhang, Liang Ren, Weiqi Wang, Wenming Xie, Lingchao Kong, Yanhong Tian

Influence of Underfill and EMC Material Properties on Bump Stresses in 2.5D CoWoS Packaging 1908
Yik Fan Chen, Zirou Chen, Jun Wang

Synthesis of Fluorinated Alkali-Soluble Photosensitive Resin and Study on the Application in Solder Resist 1912
Jialin Zhang, Hangqian Wang, Shuye Zhang, Xialei Lv, Jinhui Li, Guoping Zhang, Rong Sun

Microstructural Hierarchy Data Insights from Ag Paste and Cu-Cu Hybrid Bonding 1918
Sichen Liang, Zhiheng Huang, Kaiwen Zheng, Min Xiao, Yuezhong Meng, Yang Liu

Thermo-Mechanical Coupling Simulation of Laser-Based Mass Transfer for Micro-LEDs 1924
Yuke Jin, Zhu Yang, Xinhui Meng, Hao Fu, Luqiao Yin, Xiuzhen Lu

Spurious Mode Suppression in Lamb Wave MEMS Resonators Based on 128°Y-Cut LiNbO3/SiO2 1928
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High-Coupling and Lithographic Frequency Tunable Solidly Mounted Resonator (SMR) with Alternating Polarity-Inverted Piezoelectric Layer 1932
Xitong Wang, Jiewei Jiang, Chen Ma, Zhiyu Wang, Feixuan Huang, Renzhe Li, Ziyi Ge, Chunmiao Qi, Nan Wang

WBLGA SiP High-Reliability and High-Thermal Conductivity Design Optimization and Interconnect Process Exploration 1935
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Study on Synergistic Effects of Additives in Wafer-Level Electroplating Bath for Sn-Ag Micro-Bumps........ 1941
Yan Yan, Feifei Huang, Jing Ren, Mingliang Huang

Effect of Additive Adsorption on Morphology of Sn-Ag Micro-Bumps 1945
Fengrui Zhang, Feifei Huang, Yan Yan, Jing Ren, Lipeng Zheng, Mingliang Huang

A Novel Design of Adaptive Turbulation Structures for Liquid Cooling Heat Sinks........ 1949
Yichi Zhu, Jun Wang

Mechanical Properties and Reliability of Cu Pillar Micro-Bump Interconnect for Micro-LED Integration 1954
Mingjie Li, Yang Liu, Yun Wu, Xiuzhen Lu

Liquid Gated Network-Based Signal Integrity Analysis for Heterogeneous Integration System in Display 1960
Yuxiang Tian, Jiarui Qiu, Yiqin Xiang, Hanzhi Ma

Finite Element Optimization of Thermal-Mechanical Coupling in Smart P2 Packagingaging Frontal Interconnects 1965
Xiaowei Zhang, Jieming Lin, Shenglin Zhang, Xu Liu, Peng Ding, Guoshuai Li, Yuqi Wang, Shaogang Wang, Lingen Wang, Renhui Liu, Chenshan Gao, Huaiyu Ye

Accurate Material Characterization on HDI PCB with Heterogeneous Layers for mmW Applications........ 1970
Jiayao Fan, Haoshen Zhu, Junjie Liao, Shaowei Liao

Thermal and Mechanical Finite Element Analysis of Stacking Co-Packaged GaN/SiC Device........ 1975
Mian Tao, Ji Shu, Kevin J. Chen, S. W. Ricky Lee

LTCC Warpage Reduction Via Interlayer Shrinkage Mismatch Control for RF Electronic Packaging........ 1979
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Time Dependent Behavior of Sintering Mechanism and Mechanical Failure Response of Nano-Silver Under Pressure-Assisted Bonding........ 1983
Weishan Lv, Jiaxin Liu, Liu Yang, Yuebin Zhou, Daming Wang, Cai Chen

Modified Composite Nonlinear Active Disturbance Rejection Control Method for Linear Motion Platforms in High-Speed Wire Bonding Machines........ 1988
Yachao Liu, Bin Ren, Bin Liu

A Study on the Bonding Reliability of SiC Waveguide Loads for Satellite Communication........ 1993
Dan Zhu, Shiqi Zhang, Tian Fan, Junqi Wang, Xiao Liu, Wenjian Li, Zhen Ma

Numerical Optimization of Inlet Designs for Diamond Microchannel Heat Sinks........ 1999
Rui Tang, Jinwen Zhang, Jianyu Du, Wei Wang

A Low-Thermal-Resistance Packaging Technology in Multi-Chip Microsystem 2004
Kui Li, Zihang Yuan, Chao Zhao, Yanmei Kong, Ruiwen Liu, Binbin Jiao, Wu Gao

Direct Plated Copper Diamond Substrates and Their Heat Dissipation Applications for Laser Diodes..2011
Yongjie Ding, Qing Wang, Yang Peng, Mingxiang Chen

Effect of CH4 Plasma Pretreatment on Cu-To-Cu Bonding Applications 2016
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Research on Reliability Risk of Flip Chip Copper Pillar Bumping Design.. 2021
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Cryogenic Reliability and Electrical Performance of TVS Diodes 2025
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Comparison of Moisture Penetration Speed in Two Types of SOP 2092
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