

2025 IEEE 27th Electronics Packaging Technology Conference (EPTC 2025)

**Singapore, Singapore
2-5 December 2025**

Pages 1–662

IEEE Catalog Number: CFP25453-POD
ISBN: 979-8-3315-6146-8



Copyright © 2025, IEEE

All Rights Reserved

Copyright and Reprint Permissions:

Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

IEEE Catalog Number:	CFP25453-POD
ISBN (Print-On-Demand):	979-8-3315-6146-8
ISBN (Online):	979-8-3315-6145-1

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA

Phone:	(845) 758-0400
Fax:	(845) 758-2633
E-mail:	curran@proceedings.com
Web:	www.proceedings.com

TABLE OF CONTENTS

Device Assembly and Modeling Validation to Analyze Stress for Different Size iBGA Image Sensors Induced by Encapsulant Material	1
<i>Shahram Seyedmohammadi, Ning Liu, Howard Yun, Matthew Tsai, Xuan Hong, Tim Champagne, Lina Bian Jaeik Kang, Rejoy Surendran</i>	
A Packaging Structure for an Antenna-in-Package Module	6
<i>Ra-Min Tain, Chin-Sheng Wang, Chia-Fu Hsu, Po-Wen Hsiao, Chun-Hung Chen, Jun-Ho Chen Tse-Wei Wang, Guang-Hwa Ma</i>	
Comparison of Mechanical, Thermal and Reliability Properties of Sintered Copper, Sintered Silver and Solder Paste	12
<i>Dongfang Dai, Kai Zheng, Yexiong Huang, Jiabin Yu, Xianping Chen</i>	
High Coupling Efficiency Adhesive for Photonic Packaging	16
<i>S.C. Lim, A. Hartwig, S. Seethaler, T.X. Guo, H. Wang, O. Matyssek</i>	
Analysis of Cu and Dielectric Layer Interfacial Delamination in Chip Redistribution Layer	21
<i>Yicheng Yan, Jianhong Yang, Guoliang Xie, Qiunan Shi, Sheng Liu, Zhiwen Chen</i>	
Adaptive Patterning®: Unlocking Scalable Density in Embedded Bridge Die Interposer	25
<i>Clifford Sandstrom, Erick Talain, Benedict San Jose, Jen-Kuang Fang, Ping-Feng Yang, Sheng-Feng Huang Ping-Ching Shen</i>	
Cost Effective PCB Design with Power and Ground Co-Referencing	33
<i>Loke Yip Foo, Soon Seong Yeoh</i>	
TEM/EDX/EELS Analysis the Thermal Growth of Cu Oxide Layer Under Different Surface Medias	39
<i>L. J. Tang, Inez Kwek Jing Lin</i>	
Operational Efficiency Analytical Tool with Machine Data Integration	43
<i>Jian Liang Lim, Li An Tee, Mohamad Syafiq Bin Mokhtar, Qiu Yin Wong, Kim Chuan Lee</i>	
Process-Induced Parasitic Surface Conduction (PSC) in SOI Substrates for 3D-Integrated RF Front-End Applications	50
<i>Mihai Dragos Rotaru, Chai Tai Chong, Xhangyu Wang</i>	
Basic Study on Shielded Capacitive Power Transmission (S-CPT) Using Cast Iron Electrodes Systems	55
<i>Eiichi Tateishi, Hao Chen, Naoki Kojo, Nobuhiro Kai, Yuta Ide, Toru Hashimoto, Kota Uchio Tatsuya Yamaguchi, Reiji Hattori, Haruichi Kanaya</i>	
Delamination Effect Investiagation Near RDL and UBM in WLCSP Packages	60
<i>Leo Huang, Jessie Wei, Baltazar Canete, Holly Lui, Sandeep Shantaram</i>	
Defect Z-Depth Determination in 2.5D ICs Using Magnetic Field Imaging	66
<i>Fengkai Cai, Jayasanker Jayabalan, Lucas Lum, Bernice Zee, Jiann Min Chin, Yeow Kheng Lim</i>	
Study on Microstructural Evolution Mechanisms of Amorphous SiO_2 in Through Glass via Wafer During Thinning	73
<i>Kezhong Xu, Yuqi Zhou, Yuxin Chen, Ziniu Yu, Yuhan Gao, Fulong Zhu</i>	
Study on Solder Core Ball Using Sn-Bi Plating for Low Temperature Bonding	78
<i>HJ Kim, YW Lee, JY Son, SG Lee, JW Park, BW Kim, JJ Shin</i>	

Enhancing Electrochemical Migration Resistance of Sintered Silver by Ceria Additives for Die Attachment Applications	85
<i>W.J. Wang, K.S. Siow</i>	
Study on the Performance Improvement of a 28 GHz One-Sided Directional Slot Antenna Through Modification of Floating Metal	89
<i>Kenta Nakashima, Kazuki Suehiro, Haruichi Kanaya</i>	
The Knowledge of Nodular Defect Prevention in Tin (Sn)-Silver (Ag) Electroplating Process	93
<i>Guo-Shu Chen, Chung-Hsiang Wang, Wei-Chun Lin</i>	
Hybrid Evaluation of Pure Argon Plasma Treatment for Enhanced Wire Bonding and Manufacturing Efficiency in Microelectronics	97
<i>Jorell D. Pelingo</i>	
PDMS Microchannels for Silicon Chip Cooling	105
<i>Kavitha Ravi, Suganya Anbalagan, Sujatha Lakshminarayanan</i>	
Mitigation of Cu Nodule Formation in High Open Area Products for Electroplated Cu RDL Applications	111
<i>Sheng-Wei. Lin, Chung-Hsiang Wang, Wei-Chun Lin</i>	
Development of Warpage Predictive Models Using Physics-Driven Simulation	116
<i>Wei Yu, Faxing Che, Yeow Chon Ong, Ling Pan</i>	
Overview for Overlay Metrology Challenges and Solutions in Advanced Packaging	121
<i>Roie Volkovich, Nimrod Bar-Yaakov, Yoav Grauer</i>	
Analysis of the Pressure-Assisted Sintering Mechanisms of Ag Nanoparticles Based on the Master Sintering Curve and Sinterability Visualization	128
<i>Daisuke Hiratsuka, Shuto Usui</i>	
Simulation-Streamlined Epoxy Molding Compound (EMC) Selection	136
<i>Yosephine Andriani, Timo Michael Mueller, Dharmesh Kumar, Quah Siew Eng, Richard Liu</i>	
Anomalyspy: A Generative Defect Localization in Semiconductor Packages, with X-Ray Microscopy	141
<i>Riko I Made, Pawan Kumar, Pablo Quijano Velasco, Ng Chee Koon, Leong Chang Jie</i>	
Influence of Powder Properties in Lead Free Solder Pastes	146
<i>Leveneur Marjorie, Buret Mathilde, Mathon Mélanie</i>	
Fine Powder Solder Paste with Novel Water Soluble Chemistry — An Enabler for Next Generation System-in-Package Assembly	152
<i>Saurabh Shrivastava, Ansuman Das, MamataRani Patra, Laxminarayana Pai, Ramesh Kumar</i>	
Design of Wire Bonding Schemes for Reliability of CQFP Packages Under Vibration Test	160
<i>Yiyi Ma, Jing-En Luan</i>	
Key Insights into Design for Reliability of 3D NAND Packages in Solid-State Drive	165
<i>Ling Pan, Faxing Che, Yeow Chon Ong, Wei Yu, Hong wan Ng</i>	
Studies and Elimination of F-Induced Corrosion on Al Bondpads and Wafer Fabrication Process Improvement	169
<i>Younan Hua, Lois Liao, Lei Zhu, Ke Xu, Lingxiao Liu, Xiaomin Li</i>	

Analysis on Short-Circuit Behaviors and Failure Mechanisms of Double-Trench SiC MOSFET	172
<i>Jiaju Zhang, Chuang Yan, Sheng Liu, Li Liu, Yang Zhou, Haoze Luo, Zhiwen Chen</i>	
PIV-Based Study of Heat Dissipation and Clogging Phenomenon of TiO ₂ Nanofluid in Microchannels	177
<i>Tieliang Li, Si Chen, Wenchao Tian</i>	
UV-Assisted Fluxless Bonding for Advanced Packaging: Interfacial Mechanisms and Reliability Assessment	182
<i>You-Gwon Kim, Dong-Hoon Yoo, Hyeong-Bin Park, Jong-Whi Park, Hak-Sung Kim, Seungchul Shin, Dongsuk Kang</i>	
Interfacial Reactions of BiIn and SnBi Solders React with Cu Substrate	188
<i>Yi-Wun Wang, Tzu-Yi Lin, Jang-Cheng Fang, Kai-Lin Cheng, Xiang-Ting Lin</i>	
Reliability Study of a New PFAS-Free Passivation Material for WLCSP	192
<i>Yong Chen, David Gani, Jing-En Luan, Corrado Grienti, Yiyi Ma</i>	
Optimization of Shielded Capacitive Power Transfer Systems Using Slotted Electrodes	197
<i>Hao Chen, Eiichi Tateishi, Naoki Kojo, Nobuhiro Kai, Toru Hashimoto, Kota Uchio, Tatsuya Yamaguchi, Reiji Hattori, Haruichi Kanaya</i>	
Correlation Between Thermal Cycling Ramp Rates and its Respective Solder Joint Reliability	202
<i>Yong Tat Chan, Kim-Sing Wong, Lian Geok Joen Oh, Daniel Yap, Phone Maw Hla, Bin Gu</i>	
New Tuning Knob for Reducing Bubble Defect in Electroplating Process	208
<i>Chih Yu Cheng, Chung-Hsiang Wang, Wei-Chun Lin</i>	
112 Gbps SERDES Channel Design with 2.5D Sub-Micron BEOL Interconnect	212
<i>Seann Ayers, Vinay Ramachandra Gowda, Olufemi Dosunmu</i>	
Advanced Bevel Deposition for Enhanced Yield and Cost Efficiency in Wafer-Level Bonding	218
<i>Yun Xiao, Hexin Zhou, Tianqi Wang, Keechan Kim, Xiaohui Ren, Tong Lei, Yushan Chi</i>	
Numerical Investigation on Mold Flow Characteristics of Power μ Module	222
<i>Danni Cao, Qiaobo Dai, Jie Zheng, Liu Li, Wenhui Zhu, Liancheng Wang</i>	
Thermal Design and Power Dissipation of Advanced Package with Heterogenous Integration	227
<i>Yong Han, Sandra San, Tai Chong Chai, Yong Liang Ye, Lai Yee Chia</i>	
Residue Free TaN Etch Method for MIM Capacitor in Advanced Packaging	232
<i>Hexin Zhou, Yun Xiao, Xiaohui Ren, Yushan Chi</i>	
Investigation of Cu Bonding Wire Lifetime Under Accelerated Temperature Environments	236
<i>Shinya Azuma, Noritoshi Araki, Motoki Eto, Takashi Yamada</i>	
Hybrid Evaluation of Pure Argon Plasma Treatment for Enhanced Wire Bonding and Manufacturing Efficiency in Microelectronics	242
<i>Jorell D. Pelingo</i>	
Structurally Integrated Multimodal Capacitive Tactile Sensor for Proximity and 3D Force Sensing	250
<i>Haikun Zhang, Jie Zheng, Yungang Wu, Wenhui Zhu, Jing Wen, Danni Cao</i>	
2.5D Cryogenic Packaging for Advanced Quantum Processors	255
<i>Norhanani Binte Jaafar, Li Hongyu, Ya-Ching Tseng, Yong Chyn Ng, Daniel Lau</i>	

Heat Release Tape Characterization for Panel Level Packaging	260
<i>Shanthini, Chen, Loo</i>	
Thermal Performance Enhancement of Stacked Packages Using Silicon-Based Heat Spreading Die	266
<i>Seokjun Daniel Lee, Young Jong Lee, Juno Kim, Sujie Kang, Jung Shin Lee, Sung Jin Kim</i>	
<i>Minwoo Daniel Rhee, Kwangjin Moon, Sangjin Hyun</i>	
Metallurgical Properties of Sn-3.0 Ag-0.5 Cu Solder Joints with Alumina Layer Deposition	272
<i>Eun-Chae Noh, Jeong-Won Yoon</i>	
Novel TIM1 Paste Development for Enhanced Thermal Management	276
<i>Yile, Senthil Kumar, Abito, Hui Shyan, Miew Wan, Tze Qing, Sungsig</i>	
Enhancing Wafer Bonding Strength Via Surface and Dielectric Modification Using Plasma Activation Process	281
<i>Jaehyung Park, Jihun Kim, Junghan Lee, Myeonggon Jang, Junhong Min, Sohye Cho, Hyewon Ji</i>	
<i>Jintae Park, Joohee Jang, Sekho Kim, Dongchan Lim, Sungho Lee, Hojin Lee, Seunghun Lee, Sangjin Hyun</i>	
Ni-Fe Alloy Filling of Through Glass via for Thermally Reliable Advanced Packaging	287
<i>Fan Yang, Jinhyun Lee, Sanghwa Yoon, Bongyoung Yoo</i>	
Characteristics in the Quasi-Millimeter Wave Band of Planar Transmission Lines Formed on Flexible Substrates Using Direct Patterning Technology	291
<i>Ryoma Kimigawa, Masahiro Ito, Takeshi Ishibashi, Ayato Ueno, Haruichi Kanaya</i>	
Development of Embedded Bridge Die Interposer Using Fan-Out Packaging for Heterogeneous Integration of NPUS and HBMS	295
<i>Jay Kim, In Soo Kang, Jung Won Lee, Sung Hyuk Lee, Han Ju Yu, Min Ji Lee, Seong Hwan Han</i>	
<i>Jae Kyung Lee, Hailey Hwang, Jun Gi Kim, Chan Young Hong, Jade Park, Soo Hyun Kim, Myeong Jin Kim</i>	
Induction Voltage in Different Types of Boxes When a Charging Object Placed in Front of Box is Grounded	300
<i>Norimitsu Ichikawa</i>	
Thin Fan-Out Package Characterization and Evaluation	305
<i>Vito Lin, Tzu Chi Zeng, Andrew Kang, Yu-Po Wang, Don Son Jiang</i>	
Flash Lamp Annealing for Wafer Debonding	310
<i>Nader Jedidi, Koen Kennes, Alice Guerrero, Alain Phommahaxay, Gerald Beyer, Eric Beyne</i>	
Reliability Evaluations of Pb-Free Solder Joint Formed Using Sn-Ag-Cu Solder Ball and Sn-Bi-Ag Solder Paste	317
<i>Jahyeon Kim, Taeyoon Im, Sojeong Lee, Won Bin Im, Yong-Ho Ko</i>	
Study on the Warpage Simulation and its Validation of Lidded FCBGA with Indium Alloy TIM	321
<i>YoonSoo Park, JungHoon Na, MinKeon Lee, EunSook Sohn, KyungRok Park</i>	
Aerosol Jet Printing of Copper Nanoparticles Ink by Controlling the Wetness of Aerosols	327
<i>Cheng Zheng, Alfred A. Zinn, Chee Lip Gan</i>	
An Atomistic Investigation of Grain-Size-Dependent Cu-Cu Interfacial Void Reduction in Hybrid Bonding	332
<i>Junhyeok Park, Juheon Kim, Minki Jang, Hayoung Chung</i>	

Cu/SiCN Wafer-to-Wafer Hybrid Bonding Interface Reliability Down to 400 nm Pitch	337
<i>Emmanuel Chery, Soon-Aik Chew, Théo Bermond, Boyao Zhang, Eric Beyne</i>	
Simulation and Optimization of Defects in Si Wet Etching	343
<i>Zhishen Wang, Zhiwen Chen, Sheng Liu</i>	
Mitigation of TSV Bottom Delamination via In-Trench Liner Density Optimization	348
<i>Huihui Yang, Konner E. K. Holden, Yuzhou Li, Zhengning Gao, Tong Lei, Andrew Collord Vishnuvardhanan Vijayakumar, Yushan Chi</i>	
AI-Powered Super-Resolution for Scalable and Efficient 3D X-Ray Inspection of 3D-Stacked HBMs	352
<i>Yang Yu, Kangkang Lu, Jie Wang, Richard Chang, Meng Keong Lim, Ser Choong Chong Ramanpreet Singh Pahwa, Xulei Yang</i>	
Study of Extremely Low Temperature Organic Hybrid Bonding with Grain Engineered Cu	359
<i>Yoshiki Maruyama, Shigeaki Kessoku, Ayaka Kuwata, Kei Togasaki, Masahiro Kanno, Hiroshi Nakagawa Hitoshi Onozeki</i>	
Defect Localization in Material Surfaces Using Retinal Central Surround Receptive Field Kernel and Statistical Peak Profiling	365
<i>Udaykumar Hanmante, Rahul Reddy Komatireddi, Sachin Dangayach, Indumathi Thiyagarajan Subramanya Gajanana Naik, Patrick Lim, Peng Suo, Gilho Hwang, Rachel Emmanuelle Raphael Peter Fung</i>	
Enhancing Wire Bonding Quality Prediction with a Physics-Informed Ensemble Learning Framework	370
<i>Hsin-Fang Lu, Chun-Shing Yip, Chiu-Ping Chang, Shi-Xiang Chen</i>	
A Novel Interface Characterization Technique for Hybrid Bonding Process Optimization	375
<i>Masahiro Saito, Tomohiro Sakata, Tetsuro Ota, Jumpei Yahiro, Ryu Suzuki</i>	
Study of Coverage Decay Mechanism of Liquid Metal Filler TIM for Advanced Package Application	380
<i>Jyun-De Jhan, Wen-Yu Teng, Liang Yih Hung, Andrew Kang, Yu-Po Wang, Don-Son Jiang</i>	
System Technology Co-Optimization Through Simulation for UCle and HBM3 High-Density Bridges on a Unified 2 μ m RDL Platform	384
<i>Tengiz Svimonishvili, Mihai D. Rotaru, Sandra San, Chai Tai Chong</i>	
Magnetohydrodynamic-Driven Liquid Metal Cooling for High-Power Electronics	390
<i>Huicheng Feng, Gongyue Tang, Wei Kin Tan</i>	
Two-Phase Liquid Cooling With Backside-Embedded Micro-Pin Fins for High-Power Microelectronics	397
<i>Huicheng Feng, Gongyue Tang, Xiaowu Zhang, Boon Long Lau, Ming Ching Jong</i>	
AI-Driven Pixel-Level Defect Localization Using Magnetic Current Images	403
<i>Aye Phyu Phyu Aung, Lucas Yu Xiang Lum, Bernice Zee, Jiann Min Chin, Yeow Kheng Lim, J. Senthilnath</i>	
Improving Package Saw Quality for QFN Packages Through Surfactant-Assisted Sawing Process and High-Pressure Water Jet Implementation	409
<i>Mohd Rozaini Mohd Zali, Aswafi Bin Abdul Aziz</i>	
Growth Behavior of Intermetallic Compounds in Sn-3.5Ag/Cu Solder Joints with Different Furnace Cooling Rate	413
<i>Xingshou Pang, Jingjian Gan, Xiuting Dong, Dazhen Wu, Yanbo Xu, Wenbin Huang</i>	

Characterization of Press-Fit Pin Insertion Behavior in Power Inverter Modules for Vehicles	417
<i>Sosuke Mori, Hibiki Mori, Junichiro Tsuchiya, Hirotoshi Sasaki, Qiang Yu</i>	
Considering Component Placement and Influence of Other Components Vibration Fatigue Life	
Evaluation of Automotive BGA Parts	425
<i>Tomoki Mori, Qiang Yu</i>	
Ultra-Low-TTV Glass Carrier and Temporary Bonding Method to Enable Wafer Ultra-Thinning	430
<i>Ya-Huei Chang, Pei-Lien Tseng, Dih-Yang Kuo, Kuan-Ting Kuo, Jhih-Wei Liang, Jay Zhang</i>	
<i>Julia Brueckner</i>	
In-Situ Package Level Relative Humidity Measurement Using Wet Bulb and Dry Bulb Temperatures	435
<i>Vidya Subramanian Iyer, Michael Joo Zhong Lim, Michael Goroll, Hai Guan Loh, Zhong Chen</i>	
<i>Chuan Seng Tan</i>	
High-Density Interconnect Rdl-Fpc Hybrid Substrate for Compact Sip Packaging	442
<i>Jeng-Ting Li, Chi-Hai Kuo, Shih-Chieh Chen, Hao-Wei Tseng, Ying-Chu Chen, Chun-Jen Chen</i>	
<i>Puru Bruce Lin, Mike Ma</i>	
Extended Isothermal Ageing of Cu-Al Intermetallic Joints: Comparative Wear-Out Study and	
Characterization Methods for Pure and Alloyed Copper Wires	447
<i>Onofrio Davide Caputo, Gabriele Losacco, Alberto Mancaloni, Roberta Carluccio, Riccardo Villa</i>	
<i>Andrea Serafini, Alexandra Colombo, Emiliano Bonera</i>	
A Study on the Reliability of Microvia in the Printed Circuit Boards	455
<i>Haruhito NAMBA, Syed Mujahid Abbas, Qiang YU</i>	
Modelling and Smart in Situ Monitoring for Wafer-to-Wafer Bonding Mechanism	460
<i>Christian Mühlstätter, Lukas Koller, Yan-Wen Tsau, Markus Wimplinger</i>	
The Effects and Mechanism on Bump Reliability of Wafer Surface Protection by Bump Support Film	464
<i>Keisuke Shinomiya, Rikiya Kobashi, Reina Kainuma, Takuo Nishida, Tomoko Noguchi</i>	
An Integrated Computational Materials Engineering Approach for Anisotropic Conductive Films	469
<i>Jiaying Gao, Haohui Long, Jianhui Li</i>	
Optimal Die Bonding Process Parameters for Soft Solder Die Attach Equipment	474
<i>Jiarui Zheng, Junjun Xiao, Han Hu</i>	
Wafer-Level Processes for the Manufacturing of Encapsulated Flexible Polymer-Based Implants	480
<i>Andrei Costina, Markus Wöhrmann, Georgios Alexandros Katirtsidis, Eduard Masvidal Codina</i>	
<i>Jose A. Garrido, Anton Guimerà Brunet, Xavier Illa, Ulrike Ganesh</i>	
TDPNavigator-Placer: Thermal- and Wirelength-Aware Chiplet Placement in 2.5D Systems Through	
Multi-Agent Reinforcement Learning	486
<i>Yubo Hou, Furen Zhuang, Partha Pratim Kundu, Sezin Ata Kircali, Jie Wang, Mihai Dragos Rotaru</i>	
<i>Dutta Rahul, Ashish James</i>	
Effect of Laser Irradiation Time on SAC305 Solder Joints Using ENEPIG Substrate	491
<i>Hyo-won Lee, Jeong-Won Yoon</i>	
Wettability, Mechanical Properties and Intermetallic Compounds Growth of SiC	
Nanoparticle-Reinforced Sn-58Bi Solders on Cu Substrates Under Multiple Reflow Cycles	496
<i>Wang Yao, Bo Zhong, Yumin Zhang, Yufeng Zhou, Huatao Wang</i>	

Enhanced Reliability of Large BGA Assemblies for AI Server and HPC Application	500
<i>Xianfeng Chen, Huaguang Wang, Hongwen Zhang, Wisdom Qu</i>	
Device-to-Package Electrothermal Performance Prediction of Power MOSFETs via Coupled Iterative Dual-Artificial Neural Networks	506
<i>Yuxuan Dai, Jing Chen, Jiafei Yao, Ziwei Hu, Shoukun Huang, Maolin Zhang, Jun Zhang, Zhikuang Cai Yufeng Guo</i>	
Flexural Properties of Sn-Based Solder Alloy and Reliability of its Joint	513
<i>Tan Tze Qing, Sarangapani Murali, Agala Joel, P.A. Mani Siva, Olakkankal Edrina Risson, Chong Mei Hoe Kang Sungsig</i>	
A Compact, High-Speed Energy Efficient Silicon Mach-Zehnder Modulator	518
<i>Feng Xu, Zhenyu Li, Ting-ta Chi, Wen Lee, Xiaojun Yuan</i>	
Characterization of Copper Leadframe for the Non Pressure Silver Sintering Process	522
<i>Liu Yu, Abito Danila Bayaras, Tan Tze Qing, B. Senthil Kumar, Liao Yile, Murali Sarangapani Kang Sungsig</i>	
Investigation on in-Process Crack Propagation Behavior of Al ₂ O ₃ Direct Bond Copper Substrate	527
<i>Yu-Shan Huang, Jen-Chun Chen, Ching-Yao Hsu, Jen-Kuang Fang</i>	
Nanoindentation Tests and Constitutive Study of Sintered Nano-Silver	531
<i>Huachen Yu, Yihang Wei, Zhikuang Cai, Leisheng Jin, Xu He, Lu Liu, Yao Yao</i>	
Nanoindentation Test and Crystal Plasticity Finite Element Model of SAC305 Solder Joint Considering Grain Orientation	537
<i>Huachen Yu, Siyu Li, Zhikuang Cai, Xu He, Lu Liu, Yao Yao</i>	
High-Performance Graphene Coatings for Superior Thermal and Mechanical Properties in Electronic Packaging Enclosures	544
<i>Muralidharan Sundararajan, Mutharasu Devarajan</i>	
Operando Thermal Analysis of CPU and PCB Using a Self-Referenced Emissivity Correction Method	550
<i>Seongjin Kim, Sung Mo Chai, Jae Yong Song</i>	
CFD and Surrogate Model-Driven Optimization of Two-Phase Immersion Cooling Configurations	555
<i>Ramin Jalali, Chi-Chuan Wang, Ming Chang Wu, Chuan Yi Liang</i>	
Mass Transfer Solution for Micro-LEDs Based Displays	563
<i>Abdenacer Ait Mani, Natacha Raphoz, Patrick Peray, Chafik Mhamdi, Olivier Maillart, Pascal Metzger Aurélien Griffart, Gwendal Madiou</i>	
Advanced Liquid Cooling for 2.5D ICs: Integrated Top Diamond Heat Spreader with Embedded Liquid Channels	568
<i>Chia-Wei Tseng, Hsin-Cheng Lin, Ho-Ming Tong, C. W. Liu</i>	
Development of a Wideband Energy Harvesting Circuit Utilizing Terrestrial Digital Broadcast Signals	574
<i>Hayato Tanaka, Nobuya Tagawa, Kaito Nakabuchi, Haruichi Kanaya</i>	
Efficient Thermal Design of Through-Silicon-Via (TSV) Based 3D Packaging for Scalable Quantum Computing Systems	579
<i>Shubham Rathore, Mohit Kumar, Harsh Mishra, Satish Bonam, Pritam Xaxa, Shiv Govind Singh</i>	

Analysis and Comparison of Different Packaging Technologies for 79 Ghz Automotive Wave Guide Radar Antennas	583
<i>Christian Bernd Tschoban, Harald Pötter, Martin Hempel, Karl-Friedrich Becker, Ivan Ndip Martin Schneider-Ramelow</i>	
A Novel Mitigate Solder Bridging in Double-Sided Copper-Exposed Power Modules	589
<i>Yu-Hsien Chien, Ching-Yao Hsu, Jen-Chun Chen, Jen-Kuang Fang</i>	
A Shock Vibration Calculation Method Considering Viscoplastic Behavior of Packaging Systems	593
<i>Honghao Chen, Yuexing Wang, Xu He, Zhikuang Cai, Lu Liu, Yao Yao</i>	
Study on Backside Metallization for the S-SWIFT™ Package	600
<i>Dambi Jo, JiHyun Kim, TaeKyeong Hwang, WonChul Do, KyungRok Park</i>	
Location- Material Dependence of Shear Fracture Characteristics of EMC-Si Interface Fabricated by Wafer Level Molding Process	606
<i>Jingyi Zhao, Rui Ma, Meiying Su, Jun Li, Shanjun Ding, Yang Yang, Hua Long Fu, Qidong Wang</i>	
Research on Intelligent Prediction of 3D-IC Packaging Injection Molding Based on Machine Learning	612
<i>Huachen Yu, Yanyan Yang, Zhikuang Cai, Guibin Liu, Lu Liu, Jie Wu</i>	
Electrical Modeling and Analysis of Hybrid Bonding Vias with Misalignment and Void Defects	620
<i>Vignesh Shanmugam Bhaskar, Mani Raju, Mihai Dragos Rotaru</i>	
Thermal and Mechanical Properties Optimization of TGV Interposer for 2.5D Integrated Transceiver Based on ANN with Particle Swarm Optimization Algorithm	624
<i>Chunlei Li, Zhizhen Wang, Kang Lin, Luming Chen, Yihan Xie, Zhilin Wei, Wenlong Pang, Shuwei He Chengqian Wang, Shenglin Ma</i>	
Copper Pillar Bump FCBGA Underfill Process Characterization for Automotive Application	631
<i>Poh Meng Dominic Koey, Khai Soon Ha, Loganraj Kanagaraj, Mohd Afiz Hashim</i>	
The Analysis of Electric-Thermal Coupled Transient of a Schottky Diode Employing Epitaxial Layer Dynamic Resistivity Simulation	638
<i>Khairul Ikhsan Bin Yahaya, Rüdiger Weber, Marc Schikowski</i>	
Connectivity-Guided Feasibility Masking for Efficient Chiplet Placement in 2.5D Packaging via Reinforcement Learning	642
<i>Partha Pratim Kundu, Furen Zhuang, Sezin Ata Kircali, Yubo Hou, Jie Wang, Mihai Dragos Rotaru Dutta Rahul, Ashish James</i>	
In-Situ AFM Analysis of Thermal Expansion of Cu Pads with Varied Grain Characteristics	648
<i>Gangli Yang, Liu Chang, Keke Tong, Yanan Li, Yi Wang, Liyi Li</i>	
Characterization of Fine Line Width/Spacing RF Interconnects for Co-Packaged Optics with High I/O Density	653
<i>Jiaqi Wu, Sajay B. N. Gourikutty, Sandra San, Mihai Dragos Rotaru</i>	
Low-Temperature Pressure-Assisted Sintering of Oxidation-Resistant Cu Paste for Large-Area Interconnects in Power Electronics Packaging	658
<i>Xiaoting Lin, Wei Cen, Shizhi Zhan, Hao Wu, Siyu Cao, Junjie Li</i>	

Design and Characterization of Direct-to-Die Singlephase Liquid Cooling with Micro-Jet Array for Highperformance Computing Chips	663
<i>Jiapeng Huang, Xiong Xiao, Jiaxin Weng, Zhizhen Wang, Lihui Zhang, Bin Yu, Yelei Xie, Guangyao Li Wenlong Pang, Xiandong Chen, Shenglin Ma</i>	
DIMM Thermal Performance Enhancement with Heat Spreader and Advanced Cooling Solutions	671
<i>Ramesh Nallavelli, Christopher Glancey, Raj Bansal, Ian Searle, Chan Yoo, Gokul Kumar, Kal Wilson Raghavan Narayanan, Derek Nesbitt</i>	
Evaluating Dummy Die Sizes and Compound Adjustments to Reduce Wafer Warpage in FOEB-T Packaging	677
<i>Tzu-Chi Zeng, Vito Lin, Andrew Kang, Yu-PO Wang, Don Son Jiang</i>	
2.5D PIC Photonic Interposer Engine for Next Generation Photonic Link CPO of High-Performance Computing and Data Communications	682
<i>Ting-Ta Chi, Feng Xu, Xiangyu Wang, Zhenyu Li, Wen Lee, Xiao Jun Yuan</i>	
Board Level Solder Reliability and Package Stress for TSICV UBM/Bump IC Package Design	687
<i>Rathin Mandal, Lim Teck Guan</i>	
Surface Activation and Bonding Mechanisms of SiCN and TEOS Dielectrics for Low-Temperature Hybrid Bonding	692
<i>Liu Chang, Gangli Yang, Yuan Xu, Zhiyu Ma, Keke Tong, Long Cheng, Liyi Li</i>	
Dicing Tape Selection and Tape Curing Process Using a Die Size-Based Approach	697
<i>Mohd Khairul bin Zainal, Aswafi bin Abdul Aziz, Mohamad Zamani bin Zamri</i>	
A CFD Analysis on the Cornerfill Encapsulation Process in BGA Package Subjected to Varying Dispensing Paths	701
<i>Fei Chong Ng, ZiJing Yu, Yangming Liu, Bo Yang, Ning Ye</i>	
Parametric Analysis of Diamond-based Lateral Heat Extraction in 3D Heterogeneous Electronic Systems	705
<i>Bin He, Yong Han, Huicheng Feng, Gongyue Tang</i>	
Design and Fabrication of TGV-Integrated Passive Devices on a Glass Substrate	710
<i>Sang-Ho Yi, Yu-Bin Kim, Jong-Min Yook, Jong-Gwan Yook, Je-In Yu</i>	
Microstructure Evaluation of Engineered Cu for Low-Temperature Cu-Cu Hybrid Bonding	716
<i>Fabiana Lie Tanaka, Kenta Hayama, Kohei Nakayama, Yutetsu Kamiya, Ryo Tanaka, Ryota Naka Fumihiko Inoue</i>	
Fabrication Process of Superconductive Through-Si Via for 2.5D Quantum Interposer	723
<i>Yugi Otake, Mai Thi Ngoc La, Fumihiko Inoue</i>	
Real-Time 3D Reconstruction for Wire Bonding Using Multi-View Projection and EM Polynomial Modelling	728
<i>Lin Chih Hui, Chien Yu Hsuan, Yip Chun Shing, Tsai Yi Ru, Tsai Yi Lin</i>	
Generative AI-Powered Defect Detection for 3D X-Ray Microscopy Scans of High Bandwidth Memory Bumps	734
<i>Richard Chang, Jie Wang, Yang Yu, Meng Keong Lim, Ser Choong Chong, Ramanpreet Singh Pahwa Xulei Yang</i>	

Characterization on Fan-Out Heterogeneous Integration Packaging for Premium Smartphone	740
<i>Ching Chia Chen, Yu Po Wang, Chia Chu Lai, Hsing Yu Liu</i>	
Surface Treatment for Wafer Bonding Using Atmospheric Water Vapor Plasma Technology	744
<i>Wonyoung Choi, Seokjun Lee, Jungshin Lee, Wonuk Yoon, Youngjoo Lee, Seunggho Hahn, Minwoo Rhee</i> <i>Kwangjin Moon, Sangjin Hyun</i>	
Semi-Automated Packaging of Optical Micro-Ring Resonator Ultrasound Sensors	749
<i>Evgenii Lepukhov, Aleksandr Vlasov, Santhosh Pandian, Rainer Hainberger, Paul Müllner, Moritz Eggeling</i> <i>Tapio Niemi</i>	
Laser-Assisted Bonding with Through-Silicon Alignment for Heterogeneous Integration onto Silicon Photonic Platform	753
<i>Aleksandr Vlasov, Evgenii Lepukhov, Joel Salmi, Heidi Tuorila, Jukka Viheriälä, Mircea Guina</i>	
Numerical Investigation of Embedded Micro Pin-Fin Two-Phase Liquid Cooling for Dual-Chip Stacks in HPC and AI Systems	760
<i>Chinmaya Kumar Patra, Anandaroop Bhattacharya, Prasanta Kumar Das, Xiaowu Zhang</i> <i>Surya Bhattacharya, Vempati Srinivasa Rao</i>	
Enhancing Predictive Accuracy of Warpage and Reliability for Advanced Packages by Modelling Accurate Poisson's Ratio in Finite Element Analysis	768
<i>Fa Xing CHE, Vance LIU, Yeow Chon ONG, Wei YU, Ling PAN, Hong Wan NG</i>	
Optimizing SSD Performance With One-Part Thermal Gap Fillers: A Sustainable Approach	774
<i>Vigneshwarram Kumaresan, Mutharasu Devarajan</i>	
Selective Post-Soldering Volume Adjustment for Improved Co-Planarity of C4 Bump Interfaces	780
<i>Matthias Fettke, Anne Fisch, Alexander Frick, Thorsten Teutsch</i>	
Simulation and Validation of Warpage in Ultrathin Embedded-Die Substrates for Advanced Packaging	787
<i>Rui Ma, Jingyi Zhao, Zhongyao Yu, Fang Yang, Yang Yang, Meiying Su, Jun Li, Qidong Wang</i>	
Seamless Heterointegration of Components: Advancements in Fanout Technology and Thermal Solutions in System in Package	794
<i>Robert Gernhardt, Marius Adler, Tanja Braun, Markus Wöhrmann, Benoit Lambert, Jesse Riedl</i> <i>Ulrike Ganesh, Martin Schneider-Ramelow</i>	
A Modified Test Vehicle Incorporating Distance from Neutral Point (DNP)-Induced Strain Gradients for Single-Specimen Fatigue Life Assessment of Solder Joints	800
<i>Hyeong-Bin Park, You-Gwon Kim, Jin-Young Bang, Jong-Bum Lee, Hak-Sung Kim</i>	
Delamination Root Cause Analysis in Leaded Package	806
<i>Mun Leit Chai, William K.K. Thong, Stephen C.C. Lee, Jasmine Lim, Dominic Koey Poh Meng</i>	
Design Strategies for Tuning of Copper Dishing Requirements for System-on-Interposer Architectures	813
<i>Edward Y.X. Ong, Ji Lin</i>	
High-Aspect-Ratio, Fine-Pitch Through-Mold Interconnect Fabrication for Heterogeneous Integration of High-Performance Computing Systems	817
<i>Lai Yee Chia, Tran Van Nhat Anh</i>	
High-Aspect-Ratio TSICV Etch Development in 4H-SiC for RF Interposer Applications	821
<i>Ng Yong Chyn, Li Bin, Yoo Jae Ok, Arvind Sundaram, B. S. S. Chandra Rao, Tsang Yat Fung</i> <i>Lim Teck Guan, Li Hongyu</i>	

Heterogeneous Integration of High-Performance Compute, Memory and Optical Engine Chiplet on Large Reconstituted Interposer Package	825
<i>Chai Tai Chong, Mihai Rotaru, BG Sajay, Ji Lin, Han Yong, Chia Lai Yee, Sharon Lim Pei Siang San Sandra, Svimonishvili Tengiz, Wu Jiaqi, Ye Yong Liang, Surya Bhattacharya</i>	
Thick 4 Mils Heavy Cu Wire Ball Bonding Feasibility Study	832
<i>Edsel De Jesus, Loic Renard, Shei Meng Loo</i>	
Development of Pdk Library for Accurate Modeling of 2.5D Interconnect Structures in Heterogeneous Integration	840
<i>Raju Mani, Wu Jiaqi, Lim Teck Guan, Rahul Dutta</i>	
Application of Deep Learning in the Optimization of $1\ \mu\text{m}$ TSV Process Development	845
<i>Mengyang Li, Yong Chyn Ng, Ling Xie</i>	
Design of a Pentagonal Frustum-Shaped Gas Chamber for Multi-Gas NDIR Sensing	851
<i>Jie Zheng, Haikun Zhang, Yungang Wu, Wenhui Zhu, Liu Li, Danni Cao</i>	
Optimization of Warpage and Mechanical Properties for Stacked SiP Package	856
<i>Zhen Liu, Qiaobo Dai, Lanying Xu, Wenjuan Guo, Boyu Zheng</i>	
Design – for – Manufacturability Risk Assessment of Large Strip Size (LSS) Lead Frame Through Simulation Study	859
<i>Jenelyn S. Rodriguez, Marlon D. Bartolo, Yogeswaran Gnanasegaran, Zhaohui Chen, Michael Stadler</i>	
Impact of Storage Conditions on Solder Paste Performance in Power Package Assembly	864
<i>Marlon Bartolo, Ramil Vasquez, Vuenna Rizza San Juan, Dennise Payawal</i>	
Rf and Digital Heterogenous Integration on 2.5D Si-Interposer	868
<i>Leong Ching Wai, Teck Guan Lim, Ser Choong Chong, Yong Chyn Ng, Vempati Srinivasa Rao</i>	
Ultra-Fine Pitch Microbump Bonding by Solid-State Diffusion Combined with Fast Reflow Technology	873
<i>Zheqi Xu, Yao Zheng, Haiyan Ma, Qian Wang, Jian Cai</i>	
Cost Efficient Infrared Laser Debonding Technology Enabled by Si Carrier Reuse	877
<i>François Chancerel, Samuel Suhard, Peter Urban, John Slabbekoorn, Simon Halas, Steven Brems Mario Graml, Julian Bravin, Alain Phommahaxay, Thomas Uhrmann, Markus Wimplinger, Eric Beyne</i>	
Mitigating Connected PAD Corrosion in Hybrid Bonding	882
<i>Soon-Aik Chew, Yoichi Tanaka, Sven Dewilde, SungWoo Park, Soheila Bagherilimaee, Harold Philipsen Joeri De Vos, Steven Deckers, Boyao Zhang, Koji Nakata, Yusuke Okazaki, Nobuko Gan, Hideaki Iino Ryo Takigawa, Tomas Webers, Gerald Beyer, Zsolt Tokei, Eric Beyne</i>	
Using WGAN-Based Data Augmentation Machine Learning Algorithm for Estimating the Equivalent Material Properties of Electronic Packaging	887
<i>Qinghua Su, Y. T. Su, K. N. Chiang</i>	
Impact of Solder Powder Size on Cleaning Efficiency in Chip Resistor Assemblies for Future Advanced Packaging	893
<i>Ravi Parthasarathy, B. Senthil Kumar, Zhang Rui Fen, Zhang Han Wen, SS Kang</i>	
Physics-Informed Graph Convolutional Neural Network for Scalable, and Accurate Thermal Analysis of 2.5D Chiplet-Based Systems	909
<i>Rahul Sahay, Nagarajan Raghavan</i>	

Power and Performance Comparison Between FPGA-Optics Integrated 3D SiP and Equivalent Board Level Test Hardware	917
<i>Jugal Kishore Bhandari, Pamidighantam V Ramana, Mihai D Rotaru, Sandhya Dharavath</i>	
<i>Ming Ching Jong, Rajendra Panda, Rohin Kumar Yeluripati</i>	
Efficient Construction of Wafer-Scale InP/Si and InP InP/LiNb ₃ Heterointerfaces via Quasi-Direct Bonding Strategy	922
<i>Qiushi Kang, Fei Ding, Renxi Jin, Yu Zhang, Yudong Yang, Haibo Yang, Hongchao Zhang, Lingyun Zhang</i>	
<i>Qidong Wang</i>	
Characterization of PVD Seed Layer Contact Resistance in 2.0 to \$20.0 \mu\text{m}\$ Vias for Next-Generation WLP Interconnects	928
<i>Patrik Carazzetti, Carl Drechsel, Nico Härtl, Eleftherios Stampolis, Kay Viehweger, Ewald Strolz</i>	
Fabrication of Parylene-Aluminum Redistribution Layer Interposer for Sensor Packaging Applications	934
<i>Imants Cirulis, Martin Kuehn, Carlos Rincon-Ruiz, Franz Selbmann, Uwe Zschenderlein, Silvia Braun</i>	
<i>Bernhard Wunderle, Frank Roscher, Maik Wiemer, Harald Kuhn</i>	
Novel Ultrasonic Flip Chip Bonding Approach Utilizing Electroplated Aluminium Pillars for Advanced Packaging	942
<i>Imants Cirulis, Silvia Braun, Klaus Vogel, Christian Hofmann, Maik Wiemer, Harald Kuhn</i>	
Automated Metrology of Advanced Package Interconnections Using a High-Speed In-Line 3D X-Ray System	947
<i>Thomas Gregorich, Kamyar Majlan, Johannes Ruoff, Aksel Goehnermeier, Benedikt Imhof, Martin Dietzel</i>	
Cost-Effective Wafer Level Micro Bumping Solution for Advanced Packaging	955
<i>Mani Siva P A, Yam Lip Huei, Senthil Kumar B, Zhang Rui Fen, Zhang Han Wen, Kang Sungsig</i>	
Toward Lifetime Prediction Under Variable Load Conditions in Power Electronics: Evaluation of Damage Accumulation Rules for Solder System Attach	960
<i>Tobias Daniel Horn, Jan Albrecht, Anu Mathew, Rico Eichhorn, Sven Rzepka</i>	
Critical Challenge of IMC Crack-Induced Solderability Failure	967
<i>Narayanasamy Jayaganasan, Akmal Hakimi Bin Mat Noor, Lam Mian Mian, Lim shaw Fa, Poon Yuan Puoh</i>	
<i>Susilo Eko, Neo Chin Yong, Kumar Dharmesh, Khairul Anuar Mohd Padzil</i>	
RDL-First FOWLP Development for III-V Semiconductor Chips in RF Applications	972
<i>Soon Wee Ho, Soh Siew Boon, Hsiao Hsiang-Yao, Eva Wai Leong Ching, Xu Feng, Lim Teck Guan</i>	
<i>Vempati Srinivasa Rao</i>	
Ka-Band Ultra-Short Die-to-Antenna Interconnect Enabled by Embedded Glass Fan-Out Packaging	978
<i>Shengxiang Jin, Qi Wang, Yang Yang, Wei Wang, Yufeng Jin</i>	
Degradation Mechanism of Frequency Stability in MEMS Resonant Accelerometers: Packaging Stress Induced by Solder Layer Thermal Fatigue Delamination	983
<i>Xiaorui Bie, Kunfeng Wang, Wuhao Yang, Zhitian Li, Xudong Zou</i>	
Thermal Sensitivity Analysis of 3D IC Face-to-Back Stacking Using Foundation Models for Physics	990
<i>Kabaria Hardik, Beer Mohideen Sheik Dawood, Davenport John L., Cherukuri Balaji</i>	
<i>Kocheemoolayil Joseph, Patil Nimish, Osentoski Sarah, Stark William, Lew Adrian J.</i>	
Backside Metal Interconnect for High Performance RF Interposer	998
<i>Teck Guan LIM, Eva Wai Leong Ching, Sasi Kumar Tippabhotla, Huicheng Feng, JiaQi Wu</i>	

Unified Approach to Scale AI-Mobile NAND Packages	1003
<i>Matthew Monroe, Md Asaduz Zaman Mamun, Annie Yu, Gokul Kumar</i>	
Thermal Management Verification Platform for Chiplet Functional Unit	1010
<i>Yuxin Ye, Guoran Lu, Peijie Li, Yanbin Hu, Haobing Zhao, Yanmei Kong, Ruiwen Liu, Binbin Jiao</i>	
Advancing Electronic Package Reliability Analysis by Predicting Solder Joint Strain Patterns Using Neural Networks	1014
<i>Karsten Meier, Yichen Qi, Oliver Albrecht, Cristian A. Garzón, Karlheinz Bock</i>	
Atomistic Insights into Ag-Ti Supersaturated Solid Solution Mechanics and Interfacial Bonding Behaviours for High-Density Interconnects	1022
<i>Sichen Liu, Jian Zhang, Taiyu Wang, Liangxuan Chen, Xiuchen Zhao, Gang Zhang, Yongjun Huo</i>	
Direct Die-to-Wafer Bonding on Thin Interposers: Wafer Reconstruction and Back Side Nano-Topography Evaluation	1028
<i>Nader Jedidi, Koen Kennes, Dieter H. Cuypers, Alice Guerrero, Alain Phommahaxay, Gerald Beyer Eric Beyne, Zsolt Tokei</i>	
Prediction of Void-Induced Crack Propagation within Underfill Using the Meshless Material Point Method	1033
<i>Sjoerd D.M. De Jong, Adwait Inamdar, Willem D. Van Driel, GuoQi Zhang</i>	
Low-Profile Ka-Band Antenna-in-Package Array with Broadband and High Aperture Efficiency Using HDI Technology	1039
<i>Yuxiang Zheng, Xin Zhang, Xiuyu Shi, Pei Gan, Yunyan Zhou, Qidong Wang</i>	
High-Temperature Pressure Mapping of TIM Interfaces for Improved Thermal Simulation Accuracy	1045
<i>Srinath U, Vinay Shivaraju, Ghouse Mohammed</i>	
Analysis of Particulate Contamination from UV Tape Residue and Cleaning Process Optimization for Die-to-Wafer Hybrid Bonding	1050
<i>Ziqi Lian, Qiushi Kang, Renxi Jin, Yu Zhang, Fei Ding, Yudong Yang, Haibo Yang, Hongchao Zhang Lingyun Zhang, Qidong Wang</i>	
Novel Selective Deposition of Copper for Through Glass via(TGV) Applications	1056
<i>Jong Hyun Seo, Janghun Lee, Chamin Kim, Yeongjae Yun, Taeyeon Hwang, ChangHyun Song</i>	
Advanced Stco for Next-Gen Automotive Systems	1060
<i>Andy Heinig, Fabian Hopsch</i>	
Challenges of RF Devices in Mold-First FOWLP	1065
<i>Serine Soh Siew Boon, David Ho Soon Wee, Hsiao Hsiang Yao, Chia Lai Yee, Xu Feng, Lim Teck Guan</i>	
Sub-200 °C Gold-Gold Bonding for Reliable 3D Heterogeneous Integration	1069
<i>Nishant Kumar Sharma, Ankit Priya, Prosenjit Sen</i>	
Research on Moisture Barrier Technology and Reliability Evaluation of Flip-Chip Circuit with Organic Substrate	1073
<i>Jingwen Zang, Linfeng Chen, Shimeng Xu, Xiaochen Xie, Pengrong Lin, Lois Liao</i>	
Wafer-to-Wafer Hybrid Bonding and Bonding Energy Measurement: Challenges and Optimization	1078
<i>Hong Miao Ji, Gee Oon Tan Irving, Wei Jie Teo Dickson, Chaeun Lee, Fujino Masahisa, Jian Feng Jin Xiaobo Li, Yubin Zhang, Xing Zhao, Gilbert See, Andy Yong, B.S.S. Chandra Rao</i>	

An Equivalent Modeling and Mesh Reusing Technique for Electro-Thermal Coupled Simulation of Stacked Chips in 3D Packaging	1084
<i>Cong Liu, Jinlin Huang, Jinxuan Xia, Yaya Liang, Pan Ren, Pingan Du</i>	
Chip Stacking: Impact of Chip Spacing in C2W Hybrid Bonding on Temporary Bonding and Debonding	1089
<i>Jaibir Sharma, Dileep Kumar Mishra, Vasarla Nagendra Sekhar, Bhesetti Chandra Rao</i>	
Excellent In-air Sintering Performance of Cu Microparticle Paste Enabling Large-Area Cu-Cu Bonding in Power Device and System-Level Packaging	1093
<i>Hao-Ze Zong, Min-Bo Zhou, Jian-Yun Qin, Bin Hou, Xin-Ping Zhang</i>	
Thermo-Mechanical Coupling Simulation Study of the Fatigue and Fracture Behavior of Cu Traces and Cu/PI Interfaces in 2.5D RDL Interposer Package for Heterogenous Integration	1099
<i>Jia-Ao Chen, Ming-Sheng Luo, Guang-Chao Lyu, Xin-Ping Zhang</i>	
Nanotwin Ag-Assisted Cu-Clip Bonding for Power Module Packaging	1105
<i>Thi Minh Anh Dao, Chun-Hao Chen, Yu-Heng Hong, Mei-Hue Hsu</i>	
Inferring Wire Length and Depth from Magnetic Field Images via Deep-Spatial Physics Informed Model	1110
<i>J. Senthilnath, C. Hao, N. Lettsome, F. Cawthorne, T. Venkatesan, F.C. Wellstood</i>	
Real-Time Effective Mechanical Property Characterization of Redistribution Layer (RDL) for Chiplet Integration	1115
<i>Dingjie Lu, Jun Liu, Wenzu Zhang, Richard Xian-Ke Gao, Enxiao Liu, Mihai D. Rotaru, Dutta Rahul N. Sridhar</i>	
Fabrication of n77/n79 Antenna-Plexer: Integration of BAW Filters with Broadband Glass-IPD Diplexer for 5G Applications	1121
<i>Minsoo Park, Daehee Park, Jongsu Ha, Jong-Min Yook, Jong-Gwan Yook</i>	
Statistical Evaluation of Bond Strength Variation in Hybrid Bonding Interfaces	1126
<i>Daiki Kobayashi, Shunsuke Teranishi, Yuki Yoshihara, Marie Sano, Fumihiko Inoue</i>	
Interfacial Electromigration Behavior and Reliability Evaluation in Cu/Ag Sintered Joints	1131
<i>Yun-Chan Kim, Dong-Yurl Yu, Junhyuk Son, Dongjin Byun, Junghwan Bang</i>	
Innovation and Efficiency in 3D Packaging Enabled by Optimized Integration Processes	1135
<i>Ksenija Varga, Lisa Berger, Tobias Zenger, Jerome Serrand, Loriana Céleste, Jerome Deviot Lynne Michaelson</i>	
Bond Line Thickness Stability of Cu Sintering for Automotive Power Module Packaging	1139
<i>Byeongchan Kim, Byeong Kown Ju, Junwoo Park, Junha Baik, Dongjin Kim</i>	
Quasi-in-Situ XPS Investigation of Surface Chemical State Evolution in Plasma Activation for SiO ₂ Hydrophilic Bonding	1142
<i>Haibo Yang, Fei Ding, Yihao Meng, Yu Zhang, Yudong Yang, Qiushi Kang, Hongchao Zhang Lingyun Zhang, Renxi Jin, Qidong Wang</i>	
Active Measurement Wafer for Thermal Characterization in Chiplet-Based Systems	1147
<i>Andy Heinig</i>	
AI-Empowered 3D X-Ray Analysis of Solder Joint Fatigue After Board Level Vibration Testing	1151
<i>Amir Ghorbani Ghezeljehmeidan, Varun Thukral, Fei Xu, Willem D. Van Driel</i>	

Cross-Domain Adaptation of Automated 3D X-Ray Defect Detection from HBM to Optical Transceivers	1158
<i>Jie Wang, Richard Chang, Sajay Bhuvanendran Nair Gourikutty, Leong Ching Eva Wai, Yang Yu Xulei Yang, Ramanpreet Singh Pahwa</i>	
Simulation and Validation of Mass Transfer Capability and Electric Field Distribution for Wafer-Level TGV Copper Electroplating Process Development	1164
<i>Yihan Xie, Qiqiang Wang, Yan Wang, Yingying Liu, Xinyuan Shen, Zhaowei Jia, Shenglin Ma</i>	
Process Developments of Chip-To-Wafer Assembly with HPC and Photonics Chiplets on Large RDL-First Interposer	1171
<i>Sharon Pei Siang Lim, Lai Yee Chia, Manyi Pan, Ignatius Lim, Mohamed Zakir Hussain Mohamed Ishak Tai Chong Chai</i>	
Applicability of Both-Sided Flash Lamp Annealing (FLA) Method on Heat Treatment Cu Plating Thin Film and Low Dielectric Resin Films	1178
<i>Joo-Hyong Noh, Dong-Jae Yi, Yui Shishido, Jong-Young Park, Hideo Honma</i>	
Simulation-Experiment Correlation of Defect Evolution in FCVA and HCA Deposited ta-C Films for Hermetic Encapsulation in Advanced Electronics Packaging	1184
<i>Li Ying, Tan Yik Kai, Lum Ya Woon, Jason Cheah Jun Wei, Jacob Lim Song Kiat, Zhao Sheng Fu Chen Yutong, Liu Qing, Gan Chee Lip, Tay Beng Kang, Shi Xu, Eric Phua Jian Rong</i>	
ANN-Based Surrogate Modelling Framework for Repeater Optimization in Multi-Layer Graphene Nanoribbon Interconnects under Process Variation	1195
<i>Avneesh Singh, Pinku Ranjan, Somesh Kumar</i>	
Novel UV-USP Laser Grooving and Plasma Dicing Separation Schemes for Next Generation Advanced Packaging	1202
<i>Rogier Evertsen, Simon Dawson, Peter Keukens, Roland Mumford, Oliver Ansell, Samira Kazemi Patrick Huberts, Richard Barnett</i>	
Effect of Glass and Mold Material on Over Molded Glass Wafer Warpage in FOWLP and 2.5D Applications	1207
<i>Pan Manyi, Ji Lin, Sharon Lim Pei Siang, Hipona Randy Tupaen, Serine Soh Siew Boon, Chong Ser Choong</i>	
Low Temperature Post Bond Anneal for Hybrid Bonding Enabled by Interfacial (IF) Metal Capping - An Assessment of Reliability	1212
<i>Santosh Kumar Rath, Xiaodong Chen, Gilbert See, Eric. J. Bergman, Chang Bum Yong Andy Prayudi Lianto</i>	
Feasibility Study of Stacked Sub-THz Band Antenna in Package Modules Based on Warpage and Stress Analysis	1216
<i>Makoto Tsukahara, Hiroshi Taneda, Naoki Kuroiwa, Kei Murayama, Yoko Nakabayashi</i>	
Characterization and Modelling of Inelastic Behavior of Epoxy Molding Compounds	1222
<i>Sasi Kumar Tippabhotla, Ji Lin, Tai-Chong Chai</i>	
Development of a Reproducible, Stable, and Scalable Evaluation Routine for Lifetime Assessment of Power and Microelectronic Devices Based on Physics of Failure Principles	1226
<i>Jan Albrecht, Tobias Daniel Horn, Rainer Dudek, Anu Mathew, Sven Rzepka</i>	
Direct-Bonded Manifold-Jet- Impingement Cooling for High-Performance AI Chips	1234
<i>Yuantong Zhang, Xiaoping Yang, Chengyu Hu, Huanqiang Jing, Shuai Li, Jinjia Wei</i>	

Nanograined/(111)-Oriented Nanotwinned Bilayer Cu for Post-Q-Time Low-Temperature Cu-Cu Bonding	1239
<i>Gangqiang Peng, Chuan He, Yonghan Zhou, Shien-Ping Feng</i>	
A Novel Wafer Warpage Numerical Model Considering Further Shrinkage of Epoxy Molding Compound	1243
<i>Ji Lin, Alfred Yeo, Wang Yifan, Chan Kai Chong</i>	
Wire Bond Challenges of Copper Clip for Multi-Die Controller MOSFET Package	1248
<i>Chantana Tangcharoensuk, Pey Fang Hiew, Eu Poh Leng, Nara Tappech, Zhi Wei Gong Alongkorn Makmeesup</i>	
Investigations on Mutual Effects of Electromigration and Thermal Cycling Failure of TSV Interconnects	1253
<i>Tian Cheng, Jie Zhang, Junliang Lu, Jianguo Yang</i>	
Laser Groove Replacement Through Low Stress Mechanical Sawing Optimization	1259
<i>Wai Wai Lee, Ke Ming Zhou, Khaoula Mahzouli, Lilian Yang</i>	
Delamination in Plastic-Encapsulated Microcircuits Under Hygrothermal Stress: Identifying the Most Critical Interfaces	1263
<i>Wenchao You, Liang Mei, Jiaoying Huang, Kefei Peng</i>	
MDQFN: Panel-Level QFN for Scalable, Cost-Effective Semiconductor Packaging	1270
<i>Chelo Veronica Castillo, Robin Davis</i>	
Enhancing Yield Performance in Chip-to-Wafer Hybrid Bonding in Advanced Development	1278
<i>Ling Xie, Ser Choong Chong, Hipona Randy Tupaen, Ignatius Lim, Mohamed Zakir Hussain Ishak Mishra Dileep Kumar, Ratan Bhimrao Umralkar, Vasarla Nagendra Sekhar, B.S.S. Chandra Rao Vempati Srinivasa Rao</i>	
Enhanced Plasma Process for Extending Shelf-Life and Improving Interfacial Bonding for Chip-to-Wafer Hybrid Bonding Application	1283
<i>Chooi Yuan Zhen, Vasarla Nagendra Sekhar, Puja Priya Mohanty, Dileep Kumar Mishra, Bryan Goh Hasika Bhesetti, Ong Jing Jie, Xie Ling, Chong Ser Choong, Bhesetti Chandra Rao, Vempati Srinivasa Rao</i>	
Solid-State On-Chip Thermal Management Using Micro-Thermoelectric Devices	1292
<i>Jeong-Hwan Kim, Yong-Jin Yoon</i>	
Water Vapor Permeation in Low-Temperature Processable Polyimide Materials for Reliable Polymer Hybrid Bonding	1297
<i>Kota Nomura, Jukei Masaya, Yugo Tanigaki, Kai Ishigami, Takenori Fujiwara, Hitoshi Araki, Yu Shoji</i>	
Array Electrohydrodynamic Cone-Jet Atomization Printing for Ultrathin Film Manufacturing	1302
<i>Chao Hu, Jiankui Chen, Wei Chen, Guozhen Wang</i>	
Development and Monitoring of Gold Electroplating Process on 300 mm Wafer Scale: Impacts of Bath Chemistry and Process Parameters	1306
<i>Tran Van Nhat Anh, Meng Tao</i>	
Development of Temporary Bonding and Debonding (TBDB) Process for Hybrid Bonding Advance Packaging	1310
<i>Hsiao Hsiang-Yao, Sharma Jaibir, Vasarla Nagendra Sekhar, Peng Suo, Andy Yong Chang Bum Xue Yang Goh, Munehiro Hatai</i>	

Modeling and Validation of Capillary Underfill Flow in Multi-Chip Modules: From 3D to Hybrid EBG Approaches	1314
<i>Leo Shen, Ian Hu, Yu-En Liang, Ching-Kai Chou, Zi-Hsuan Wei, Wei-Yu Lin, Ming-Yu Lin</i>	
<i>Chih-Chung Hsu</i>	