

IEEE TRANSACTIONS ON COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY

A PUBLICATION OF THE COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY SOCIETY



IEEE COMPONENTS, PACKAGING, AND
MANUFACTURING TECHNOLOGY SOCIETY

WWW.CPMT.ORG

MARCH 2016
APRIL 2016

VOLUME 6
VOLUME 6

NUMBER 3
NUMBER 4

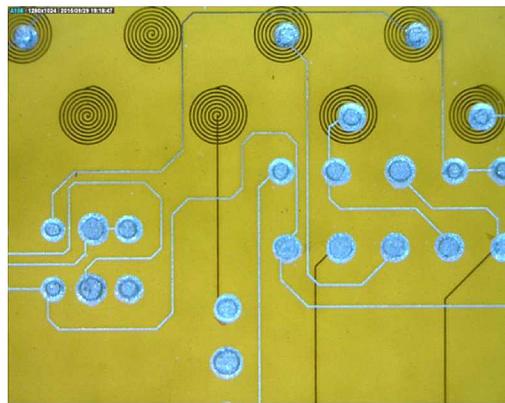
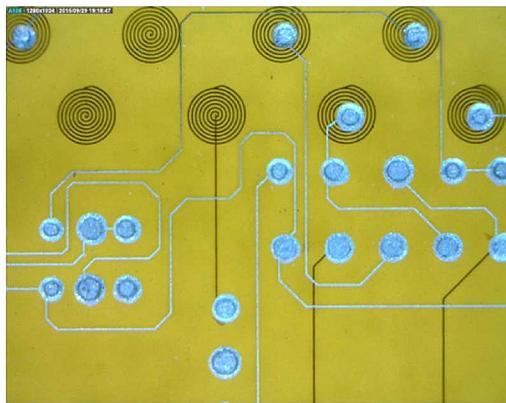
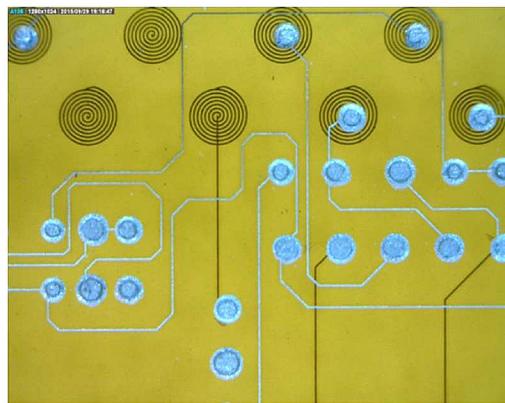
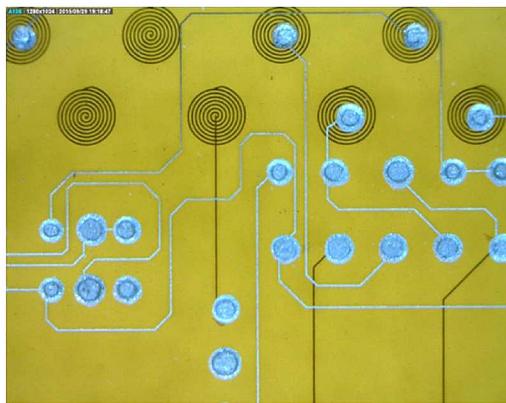
ITCPC8

(ISSN 2156-3950)

For the March 2016 issue, see p. 333 for Table of Contents.

For the April 2016 issue, see p. 499 for Table of Contents.

Cover art from: "Integration of Miniature Electronic Assemblies Using Nanoparticle Silver Conductors, Polymer Bump Connections, and Encapsulated Component Blocks" by C. Paul Christensen and Natalya Christensen (p. 527–532, Fig. 5).



IEEE TRANSACTIONS ON COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY

A PUBLICATION OF THE COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY SOCIETY



IEEE COMPONENTS, PACKAGING, AND
MANUFACTURING TECHNOLOGY SOCIETY

WWW.CPMT.ORG

APRIL 2016

VOLUME 6

NUMBER 4

ITCPC8

(ISSN 2156-3950)

REGULAR PAPERS

Advanced Packaging Technologies

Study of Vacuum-Assisted Spin Coating of Polymer Liner for High-Aspect-Ratio Through-Silicon-Via Applications	<i>Y. Yan, Y. Ding, T. Fukushima, K.-W. Lee, and M. Koyanagi</i>	501
Copper-Filled Through-Silicon Vias With Parylene-HT Liner	<i>T. T. Bui, N. Watanabe, X. Cheng, F. Kato, K. Kikuchi, and M. Aoyagi</i>	510
Electrothermal Cosimulation of 3-D Carbon-Based Heterogeneous Interconnects	<i>N. Li, J. Mao, W.-S. Zhao, M. Tang, W. Chen, and W.-Y. Yin</i>	518
Integration of Miniature Electronic Assemblies Using Nanoparticle Silver Conductors, Polymer Bump Connections, and Encapsulated Component Blocks	<i>C. P. Christensen and N. Christensen</i>	527
Arbitrarily Shaped Rigid and Smart Objects Using Stretchable Interconnections	<i>I. Chtioui, F. Bossuyt, M. de Kok, J. Vanfleteren, and M. H. Bedoui</i>	533

Components: Characterization and Modeling

Transient Recovery Voltage Distribution Ratio and Voltage Sharing Measure of Double- and Triple-Break Vacuum Circuit Breakers	<i>D. Huang, S. Shu, and J. Ruan</i>	545
The Effect of Electrical Fast Transients on Multilayer Ceramic Capacitors	<i>D. Zhang, T. Hubing, A. Ritter, and C. Nies</i>	553
Examining Steinberg's Octave Rule Applicability for Electronic Systems Exposed to Multiaxial Vibration	<i>M. Ernst, E. Habtour, and A. Dasgupta</i>	561
Microstructural Indicators for Prognostication of Copper-Aluminum Wire Bond Reliability Under High-Temperature Storage and Temperature Humidity	<i>P. Lall, S. Deshpande, L. Nguyen, and M. Murtuza</i>	569
Predicting Heat Transfer for Low- and High-Frequency Central-Orifice Synthetic Jets	<i>M. Ikhlaq, O. Ghaffari, and M. Arik</i>	586

(Contents Continued on Page 500)

Electrical Performance of Integrated Systems		
Synthesis and Implementation of LTCC Bandpass Filter With Harmonic Suppression	J.-X. Xu, X. Y. Zhang, X.-L. Zhao, and Q. Xue	596
Theoretical Design of Broadband Multisection Wilkinson Power Dividers With Arbitrary Power Split Ratio	M. M. Honari, L. Mirzavand, R. Mirzavand, A. Abdipour, and P. Mousavi	605
Novel Subregional Embedded Electromagnetic Bandgap Structure for SSN Suppression	L.-F. Shi, G. Zhang, M.-M. Jin, S. Chen, and X.-J. Hu	613
Electronics Manufacturing		
Inkjet-Printed Multilayer Bandpass Filter Using Liquid Crystal Polymer System-on-Package Technology	C.-L. Cho, H.-L. Kao, L.-C. Chang, Y.-H. Wu, and H.-C. Chiu	622
A Systematic Study of Pattern Compensation Methods for All-Inkjet Printing Processes	F. Vila, J. Pallarès, E. Ramon, and L. Terés	630
Probe-Pad Placement for Prebond Test of 3-D ICs	S. Panth and S. K. Lim	637
A New Automatic Testing System Based on Image Processing and Microprobes for IC-Testing	H. Liao, J. Li, C. Xiao, Q. Tian, C. Zhou, F. Li, X. Zhang, D. Ge, and W. Zhu	645
Nondestructive Monitoring of Die Warpage in Encapsulated Chip Packages	A. Bose, R. Vijayaraghavan, A. Cowley, V. Cherman, O. Varela Pedreira, B. K. Tanner, A. N. Danilewsky, I. De Wolf, and P. J. McNally	653
