



Ceramic substrate (page 38)



**DEPARTMENTS**

-  AEI NEWS 8
-  IN VIEW THIS MONTH 10
-  COMPANY ON THE MOVE 68
-  BUSINESS STRATEGY 69
-  PRODUCT NEWS 71

**ASIA ELECTRONICS INDUSTRY** (ISSN 1342-422X) is published monthly by Dempa Publications, Inc., 1-11-15 Higashi Gotanda, Shinagawa-ku, Tokyo 141-8715, Japan Tel: +81-3-3445-6111 Fax: +81-3-3445-6890. Editorial e-mail: may@dempa.co.jp;

Subscription e-mail: circulationmanila@dempa.co.jp. The magazine is distributed free to qualified subscribers in ASEAN countries (Thailand, Indonesia, The Philippines, Malaysia, Singapore, Brunei, Vietnam, Myanmar, Cambodia and Laos), as well as Korea, Taiwan and Hong Kong.

Paid air mail subscription is available to non-qualified subscribers in the Asian and Pacific regions for US\$150 per year and US\$260 for two years. For other areas, air mail subscription fees are US\$160 per year and US\$280 for two years. Paid subscription is accepted at <http://aei.dempa.net/paidsub/subscription.html>

Send address corrections to Dempa Publications, Inc., c/o Quantum Solutions (HK) Ltd. Unit 3-6, G/F Pacific Trade Centre, 2 Kai Hing Road, Kowloon Bay, Kowloon, Hong Kong

**TAIWAN:** International Dempa Trade Co. Ltd., 7F, No. 34, Sec. 1, Nanjing East Road., Taipei, Taiwan 104 Tel: +886-2-2563 4595 Fax: +886-2-2567-5559  
**KOREA:** Dempa Publications, Seoul Office, Masters Tower, Room 1404, 553 Dohwa-dong, Mapo-ku, Seoul, Korea, 121-040, Tel: +82-2-714-2983 Fax: +82-2-714-2984  
**PHILIPPINES:** Dempa Publications, Inc. - Regional Headquarters, Herrera Tower, Room 2510, 98 V.A. Rufino Street, Salcedo Village, Makati City, Philippines, Tel: +63-2-845-0906 Fax: +63-2-845-1829

President & Publisher: Tetsuo Hirayama  
 Copyright © 2017 by Dempa Publications, Inc.

All rights reserved. The contents of this magazine may not be reproduced in whole or in part without the prior permission of the copyright owner. Printed in Hong Kong.

**IN FOCUS**

NI Brings in Test Flexibility to Solve 5G Challenges \_\_\_\_\_ 12

**SPECIAL REPORT:**

**productronica 2017**

Industry Players Trace Growth of Production Automation \_\_ 14  
 ASM Customizes Best-Fit Solution to Attain Smart Factory \_\_\_\_\_ 16  
 Machine Linkage Forms Base of Fuji Smart Factory Concept \_\_\_\_\_ 18  
 Low-Spattering Solder Suppresses Occurrence of Flux Spatter \_\_\_\_\_ 21  
 Robotic Soldering Speeds up EA Automation \_\_\_\_\_ 24  
 Innovations Spell JUKI's Manufacturing Line Solutions \_\_ 26  
 Omron Highlights 3D-SJI Products in European Market \_\_ 28  
 Panasonic Pitches Industry 4.0-Compliant Smart Factory Solution \_\_\_\_\_ 30  
 Tokyo Weld Adopts CMOS Image Sensors in AOI System \_\_ 32  
 Intelligent Factory Builds on Integration of IoT Open Platform \_\_\_\_\_ 34

**The Connected Industries**

Connected Industries Leverage on Capabilities of IoT \_\_ 36

**TECH FOCUS**

ESD Protected Board Paves Way for LEDs in Adaptive Headlights \_\_\_\_\_ 38  
 The Industry's Highest Step-Down Ratio DC/DC Converter for Mild Hybrid \_\_\_\_\_ 40

**COMPONENT MATERIALS**

\_\_\_\_\_ 43  
**SMT's: IN REVIEW** \_\_\_\_\_ 46

**TEST AND MEASUREMENT**

\_\_\_\_\_ 50  
**TECHNOLOGY HIGHLIGHT** \_\_\_\_\_ 52

**INDUSTRY HIGHLIGHT**

\_\_\_\_\_ 53  
**INDUSTRY REPORT** \_\_\_\_\_ 54

**SHOW REPORT**

SEMICON Taiwan 2017 \_\_\_\_\_ 55  
 electronica and productronica India 2017 \_\_\_\_\_ 58

**SHOW PREVIEW**

HKPCA & IPC Show 2017 \_\_\_\_\_ 66