







Insulated step-down DC/DC converter (page 19)

DEPARTMENTS				
6	AEI NEWS	8		
0	IN VIEW THIS MONTH	10		
Ŵ	COMPANY ON THE MOVE	53		
æ	PRODUCT NEWS	62		

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;

may@cempa.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 Quantium 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: Tsutomu Hirayama Copyright © 2018 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.



SPECIAL REPORT:

Semiconductor Market Breaches New Industry High	12
Cutting-Edge Equipment, Materials Converge	
for Semiconductors	14
Higher-Functionality Chips Drive Thriving	
Equipment Market	17

TECH FOCUS

PCB Promotes Low-Cost Packaging Technology for	
Power Electronics	19
Carbon-Nanotube Sheets Top Heat Dissipation of	
Silicon Materials	_ 24
LPWA-Compliant Sensor Avoids Battery Replacement	26

ZOOM-IN

Korean IC Sector Tracks Path of Global Chip Market Murata Manufacturing Ramps up Production of	28
Multilayered Substrates	52
COMPONENT MATERIALS	30
SMT's: IN REVIEW	32
TEST AND MEASUREMENT	36
IN THE KNOW	
New Technique Sets to Revolutionize Display Production	37
TECHNOLOGY HIGHLIGHT	

Wireless Multi-Hop Transmission Frees up	
Surveillance Systems	40
Silver Nano Ink Printing Yields Bendable Touch Panels	41
Tamura Develops Gallium Oxide-Based MOS	
Power Transistor	42

PRODUCT HIGHLIGHT

Shield FFC Connector Satisfies V-by-One US Standards	43
Thin Film Redistribution Yields Space Transformer	
LTCC Substrate	44
Three Wafer Structure Realizes 3G Crystal Timing Device	45

INDUSTRY REPORT

TOP INTERVIEW

SHOW REPORT

ELEXCON 2017	56
CES 2018	58

46

54