

## Power Products Article Archive

Articles published in the January through December 2016 issues

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### January 2016:

**16-Cell Li-ion Monitor Eases Battery Management For Hybrids, EVs And Grid Storage**, Texas Instruments' bq76PL455A-Q1 battery monitor and protector

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**Monolithic Sync Buck Regulator Operates Efficiently Up to 18 V**, Alpha and Omega Semiconductor's AOZ3101 synchronous buck regulator.

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**Tiny Low-Side Drivers Ease Power System Design**, Infineon Technologies' IR44252L, IR44272L, and IR44273L low-side drivers

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**Wearable Wireless Charging Products Open New Area—Vertical Charging**, NuCurrent's new wearable products including customizable receivers

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**1600-W Converters And Battery Chargers Endure Severe Environments**, Schaefer's C/B 4500 series 6U dc-dc and ac-dc converter modules and battery chargers

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### February 2016:

**Rectifier Performs Bidirectional AC-DC power Conversion In A Single Module**, Eltek's Rectifier HE power conversion module

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**Power Management ICs Are Optimized For Intel's Skylake Core Processor**, Rohm's BD99991GW and BD99992GW power management ICs

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**Three-Phase, High-Input Voltage AC-DC Power Supplies Deliver Up To 500 W**, ABSOPULSE Electronics' HTP 300-F3 and HTP 500F-FXW series power supplies

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**Mounting Kit May Redefine Performance Of DIN-Rail Power Supplies,** Excelsys Technologies' DIN-rail mounting accessory

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**Probe Adapter For VNA Eases Power Integrity Testing,** Picotest J2160A probe adapter for Keysight E5061B vector network analyzer

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**Reference Design For Medium-Power Wireless Power Receiver Is Qi-Certified,** Reference design using the BD57015GW wireless power receiver IC

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**Compact Regenerative Load To Be Demo'd At APEC,** ELR9000 series of electronic dc loads

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### March 2016:

**Isolated Gate Drivers Offer High Noise Immunity,** Enabling Fast Switching, Silicon Labs' Si827x ISOdriver family of isolated gate drivers

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**Highly Integrated Multi-Phase Boost Controllers Simplify Automotive Designs,** Intersil's ISL78227 and ISL78229 two-phase synchronous boost controllers

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**250-W Power Supplies Suit Extreme Environments,** ABSOPULSE Electronics' PPF 250-P59X ac-dc power supplies

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**Precision P-Channel MOSFETs Revamp Current Mirrors, Sources And Oscillators,** Advanced Linear Devices' ALD310708A and ALD310708 quad p-channel EPAD MOSFET arrays

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**Controllers Feature Ultra-Stable On-Resistance For Power Rail Switching,** Silego Technology's SLG59H100xV integrated power controllers

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**APEC 2016 Exhibition Offers Vast Showcase of Magnetic Components**

- *Planar Transformers From Watts To 100+ kW, Payton Planar's planar transformers*

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- *Single-Turn Inductors for VRM 10.0, Vishay Intertechnology's Vishay Dale IFLR series devices*
- *Metal Hybrid SMD Power Inductors, Sumida America Components' CDMT40D20 series power inductors*
- *Metal Alloy Power Inductors, Chip Bead Ferrites And Design Tools, Würth Electronics Midcom's WE-MAPI metal alloy power inductors, SMD chip bead ferrites and Smart Transformer Selector design tools*
- *Distributed Air Gap Cores, Assembled U Cores And Large Toroids, Magnetics' XFLUX distributed air gap cores, blocks, assembled U cores and toroids*
- *Laser Direct Structuring Bobbins And 3D Printing, Norwe's LDS bobbins and 3D printing technology (rapid prototyping)*
- *Broadband Conical Inductors For Bias Tees, Gowanda Electronics' C550FL series of wirewound, flying-lead broadband conicals*

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### April 2016:

**GaN Power ICs Integrate Power FET With Gate Drive And Logic**, Navitas Semiconductor's 650-V GaN Power ICs

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**1-GHz Optically Isolated Measurement System Offers 120 dB CMRR Up To 100 MHz**, Tektronix's IsoVu measurement system platform

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**650-V GaN FET Delivers Low On-Resistance In TO-247**, Transphorm's TPH3207WS GaN FET

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**Integrated Power Stages Raise Efficiency Of VR Solutions**, Infineon Technologies' Integrated Power Stage family

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**Free Engineering Design Calculators Overcome Limitations Of Existing Math Tools**, OneSolver.com's engineering design calculators

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**1200-V SiC MOSFETs Deliver Dramatic Improvements Versus Silicon IGBTs,**  
*Infineon's CoolSiC MOSFETs and modules*

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**Tool Configures Modular Power Systems From Source To Points Of Load,**  
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**DC Electronic Loads Span 1.25-kW to 120-kW+ Range,** *Magna-Power  
Electronics' MagnaLOAD product line of dc electronic loads*

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**AC To POL Development Kit Enables Fast Evaluation Of Complete Power  
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**Feature-Rich LED Power Supplies Save Space In Industrial Lighting,**  
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**Embedded Component Packaging Leads To Tiny GaN Transistors,** *AT&S's  
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### June 2016:

**1200-V Full SiC Module Boasts More-Efficient High-Frequency Operation,**  
*ROHM Semiconductor's BSM180D12P3C007 SiC power module*

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**POL Modules Offer High Density For Battery-Powered Industrial  
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**High-Temperature DC-DC converters Specify 30-Year Operational Life,**  
*ABSOPULSE Electronics' BHT-319R-F4 series of dc-dc converters*

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**Discrete And Bare Die IGBTs Target Hybrid And All-Electric Vehicles,**  
*Fairchild Semiconductor's FGY160T65SPD\_F085 and FGY120T65SPD\_F085 discrete*

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**All-SiC Half-Bridge Power Module Features Highly Optimized Package Design**, Wolfspeed's CAS325M12HM2 62-mm power module

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**Text Teaches Techniques To Ease Derivation Of Transfer Functions**, "Linear Circuit Transfer Function: An Introduction to Fast Analytical Techniques," by Christophe Basso

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### July 2016:

**GaAs Switches + 3D Package Will Enable Small, Fast Voltage Regulators**, Sarda Technologies' HIPS heterogeneously integrated power stage.

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**Synchronous Rectification ICs Enhance Simplicity And Efficiency In SMPS Designs**, Infineon Technologies' IR1161L and IR11688S secondary synchronous rectification controller ICs.

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**Hi-Rel DC-DC Converters Are Tailored To Non-Flight-Critical Programs**, VPT's VHR series industrial-grade dc-dc converters and EMI filters.

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**Motor Drivers Improve Performance And Design Flexibility For Automotive Powertrains**, Texas Instruments' DRV8305-Q1 three-phase brushless dc gate driver and UCC27211A-Q1 half-bridge gate driver.

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**12-Cell Li-ion Battery Pack Monitor Safeguards Hybrid And EV Battery Systems**, Intersil's ISL78610 Li-ion battery pack monitor.

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**Wireless Charging Demo System Supports Both WPC And AirFuel Standards**, Efficient Power Conversion's EPC9121 10-W multi-mode wireless power charging eGaN FET/IC eval kit.

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- *High-Current Inductors For High-Frequency Applications, Coilcraft's SLR family of shielded power inductors*
- *Automotive-Grade Wound Inductors Come In 1212 Case Size, Murata Manufacturing's LQH3NPN\_ME and LQH3NPZ\_ME series of wound-type power inductors*
- *Surface-Mount Inductor Suits PV Inverters And UPSs, Sumida's CDPQ2419 series of high-current power inductors*
- *High-Current Inductors For LED Headlights, Sumida's CDEP15D90/T150 low-profile power inductors*
- *Metal Hybrid Inductor Offers Low Loss, Reduced Electrical Noise, Sumida's CDMT40D20 series of high-current inductors*
- *Thin-Film Metal Inductor Suits Demanding Automotive Designs, TDK's TFM201610ALMA thin-film metal power inductor*
- *Inductors In 1212 Case Size Feature Profiles Down to 0.8 mm, Vishay Intertechnology's IHHP series of high-current power inductors*
- *Power Inductors Fill Gap Between 1812 And 3013 Case Sizes, Gowanda Electronics' SMP2512 series of wirewound, molded power inductors*
- *Surface-Mount Gate-Drive Transformers Deliver 5000-Vrms Isolation, Pulse Electronics' PH9400 series of gate-drive transformers*
- *Stepdown Power Transformers Are Now Certified to UL 506/UL5085-2, Signal Transformer's SLT series of stepdown power transformers*
- *Web Tool Aids Selection Of Common-Mode Chokes, Coilcraft's Common-Mode Choke Finder*
- *AC Common-Mode Choke Also Prevents Normal-Mode Noise, Sumida's LF2420B ac common-mode choke coil*
- *Output And Storage Chokes Are Compact, TDK's ERU19 series of chokes*
- *Tx Coil Saves Space in Qi-Compatible Wireless Charging Pads, Vishay Intertechnology's Vishay Dale IWTX-47R0BE-11 6.3  $\mu$ H wireless charging transmitter coil*

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**LDO Achieves Ultra-Tiny Size With Bumpless Chip-Scale Package,** STMicroelectronics' LDBL20 low-dropout regulator

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**Modular Power Supplies Offer Fanless Operation, User Configurability And Extensive Feature Set,** Excelsys Technologies' CoolX600 NFF series power supplies

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**Solder-Bond, 50-mm Thyristor/Diode Modules Offer Lower Cost,** Infineon Technologies' 50-mm thyristor/diode modules

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**1700-V SiC MOSFET Reduces Losses In Industrial Applications,** ROHM's SCT2H12NZ SiC MOSFET

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**Speedy FET Driver Unleashes GaN Performance,** Peregrine Semiconductor's UltraCMOS PE29100 GaN's FET driver

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**Active-Bridge Solution Lowers Conduction Losses For PoE-Based IoT Devices,** Fairchild's FDMQ8205 GreenBridge 2 full-bridge IC

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**Lab Kits Teach Practical Power Supply Design,** Texas Instruments' TI-PMLK series Power Management Lab Kit

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### September 2016:

**Power Supply Safety And Compliance Database Helps Designers Identify And Meet The Required Standards,** The Power Sources Manufacturers Association's Safety & Compliance Database

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**1350-V IGBT Is Optimized For Soft-Switching,** Alpha and Omega Semiconductor's AOK30B135W1 IGBT

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**800-V Superjunction MOSFETs Improve Efficiency Of Flyback Converters,** Infineon Technologies' CoolMOS P7 series of superjunction MOSFETs

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**Flyback Converter ICs for Industrial Inverters Feature Improved Load Response,** ROHM's BD7F series of isolated flyback dc-dc converter ICs

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**Monolithic GaN ICs Integrate 650-V Half Bridge With Gate Drivers And Logic,** Dialog Semiconductor's DA8801 GaN half-bridge IC

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**Railway DC-DC Converters Offer 3.5-Vn Surge-Withstand Capacity,** ABSOPULSE Electronics' RWR 252-P400 series of dc-dc converters

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**10-bit High Definition Oscilloscopes Extend Bandwidth To 4 GHz,** Teledyne LeCroy's HDO9000 High Definition Oscilloscopes

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### October 2016:

**Smart Power Amp Generates Multi-Pulse Waveforms For Industrial Ink Jets,** Apex Microtechnology's MP113 printhead driver module

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**800-V SCRs Deliver High Temp Operation In Surface-Mount Package,** STMicroelectronics' TM8050H-8 SCR

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**1000-V SiC MOSFET Raises Power Density Of EV Battery Chargers,** Wolfspeed's C3M0065100K SiC MOSFET

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**1200-V GaN Power Modules Deliver Efficient, High-Speed Switching,** VisIC Technologies' family of 1200-V GaN power modules

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**Railway DC-DC Converters Float Charge Batteries For On-Train Equipment,** ABSOPULSE Electronics' LTH-65R-F3TH series heavy-duty dc-dc converters

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**PCBs Balance Leakage Current In Supercap Stacks, Consume Little To No Power**, Advanced Linear Devices' Supercapacitor Auto Balancing PCBs

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**Digital Multiphase PWM Controllers Feature AVSBus And Synthetic Current Control**, Intersil's ISL681xx and ISL691xx digital multiphase controllers and ISL99227 smart power stage

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**90-W Medical AC-DC Adapters Are Less Than 1-in Thick**, Energy Power's BM90 series ultra-thin BladeAdapters

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**Power Management IC Is Optimized For Intel's Apollo Lake Chip Architecture**, ROHM's BD2670MWV power management IC

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**Comprehensive Platform Eases Evaluation Of GaN Transistors**, GaN Systems' daughterboard-style evaluation kit

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### December 2016:

**High-Voltage Scope Probe Measures Fastest GaN Power Switches**, Picotest.com's P2000A GaN voltage probe

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**1.5-PetaFLOPS/m3 Super Computer Is Powered by High-Performance Power Modules**, Vicor's modules power the ZettaScaler-1.8 Super Computer

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**Power Semiconductor Test System Measures SiC And GaN Devices Up To 3 kV**, Tektronix's Keithley S540 Power Semiconductor Test System

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**Low-Profile Railway Inverters Deliver Three-Phase Pure-Sinewave Output, Absopulse Electronics' CTP-300R-F7 series three-phase sinewave inverters**

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**Simulation Platform Features Extensive Functionality, New SPICE Engine, Powersim's PSIM v11.0 simulation platform**

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**Power Supplies Boost Efficiency In Marine And Industrial Applications, Powerbox's PT570, PT571, PT576 and PT577 Marine Line power supplies**

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**DC-DC Converters Operate Over 12-V To 160-V Input Range, Gaia Converter's MGDDI-06 series of ultra-wide input range dc-dc converters**

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**Probe And Decoder Support PMIC, Power Sequencing, And Power-Integrity Testing, Teledyne LeCroy's RP4030 active voltage rail probe and MIPI System Power Management Interface (SPMI) serial decoder**

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### **Power Magnetics Component Update**

- *Inductors Are Optimized for High-Frequency VRM10.0 Applications, Vishay Intertechnology's, Vishay Dale IFLR series of low-profile, high-current inductors.*
- *Power Inductors Minimize Losses At 2 To 5 MHz And Beyond, Coilcraft's XEL60xx family of high-current inductors*
- *High-Current Inductors Come In Low-Profile Surface-Mount Package, MPS Industries' HWIA2918S series surface-mount inductors*
- *Flat Helical Winding Yields Low-Profile for High-Current Inductors, TDK's EPCOS ERU16 choke series*
- *Company Adds Metal Alloy And Other Power Inductors, Murata Group's Toko metal alloy inductors*
- *Broad Line Of High-Power Toroidal Inductors Offer In-Stock Availability, Abracon Holdings' ATCA-XX line of toroidal inductors*

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- *Nanocrystalline Chokes Deliver Higher Impedance For EMI Filters, Pulse Electronics' PA441xNL series of common-mode chokes*
- *Flyback Transformer Powers PLC Module, Würth Electronics Midcom's 750315856 flyback transformer for TI's TIDA-00550 PLC Analog Input Module*
- *Hybrid Planar Transformers Offer Lower Cost, Smaller Packages, Vishay Intertechnology's TPL-2516 series hybrid planar transformers*
- *AEC-Q200 Certified Flyback Transformer Targets High-Temperature Applications, TT Electronics' HA00-10043ALFTR flyback transformer*
- *Transformers For Iso-Buck Converter, Würth Electronics Midcom's series of isolated buck transformers for Maxim Integrated's MAX17681 Iso-Buck dc-dc converter*

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