

Power Products Article Archive

Articles published in the January through December 2025 issues

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High-Density Configurable Power Supply For Industrial And Medical Applications, *Advanced Energy's NP05 ac-dc power supply*

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Multiphase PWM Controller For AI Server And Graphic Cards Is OVR4-22-Compliant, *Alpha & Omega Semiconductor's AOZ73004CQI four-phase controller for Blackwell GPUs*

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Solar Optimizer Reference Design Demonstrates Efficiency Of GaN FETs, *EPC's EPC9178 reference design for PV optimizers*

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Advanced Hot-Swap E-Fuse Provides Robust Load Protection, *HMI's HL8520E hot-swap/e-fuse device*

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SiC Process Platform Streamlines Custom Power MOSFET Development, *X-FAB Silicon Foundries' XSICM03 next-generation XbloX platform*

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Half-Bridge Gate Drivers Deliver Robustness And High Efficiency In Automotive Applications, *Nexperia's NGD4300 and NGD4300-Q100 series gate-driver ICs*

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Wide-Creepage Switcher IC Meets IEC60664-1 For 800-V EVs, *Power Integrations' wide-creepage package option for its InnoSwitch3-AQ flyback switcher IC*

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USB PD EPR Chipset Offers Efficiency And Safety, *Renesas Electronics' RAA489118 buck-boost battery charger IC and RAA489400 USB Type-C port controller IC*

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February 2025:

PMIC Powers Automotive MCUs In Functional Safety Applications, Infineon Technologies' TLF35585 OPTIREG PMIC

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Software Drives FOC Motors Without Shunts Or Sensors, Has Improved GUI, Power Integrations' MotorXpert v3.0 software suite

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Programmable Mixed-Signal ICs Feature Low-Power Device With 14-Bit SAR ADC, Renesas Electronics' SLG47011, SLG47004-A and SLG47001/3 AnalogPAK ICs

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Evaluation Board Offers High-Efficiency 3-kW Totem-Pole PFC, Cambridge GaN Devices' CGD-ASY-EVB030FA-01 TP-PFC eval board

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Toolbox Streamlines Battery Management System Design, Testing And Algorithm Deployment, MathWorks' Simscape Battery and NXP's Model-Based-Design Toolbox

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3.3-V-Based BCD Platform Supports Development Of High-Performance PMICs, Tower Semiconductor's PML 300-nm, 65-nm, 3.3-V-based BCD power management platform

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660-W CF-Rated Medical Power Supplies Speed Customer Time-to-Market, Advanced Energy Industries' NCF660 convection-cooled medical power supplies

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Industrial Power Supplies Feature Built-In Circuit Breakers, RS offers the Phoenix Contact TRIO3 Power Supplies

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100-V MOSFETs Leverage New Process Technology For Higher Performance, Renesas Electronics' RBA300N10EANS and RBA300N10EHPF n-channel MOSFETs

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Configurable PMIC For Automotive Microcontrollers, STMicroelectronics' SPSB100 flexible power-management IC

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GaN Transistors Come In Silicon-Footprint Packages, Infineon Technologies' IGD015S10S1 and IGE033S08S1 CoolGaN G3 transistors

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200-V GaN FET Driver Is Space Grade, Texas Instruments' TPS7H6003-SP, TPS7H6013-SP, TPS7H6023-SP and TPS7H6005-SEP and other gate drivers

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LLC Switcher IC Delivers 1650 W Of Continuous Output Power, Power Integrations' LCS7269Z HiperLCS2-HB controller

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Automotive-Grade LDOs Offer High Accuracy And Low Quiescent Current, Nexperia's NEX90XXXX-Q100 voltage regulators

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650-V GaN HEMT Comes In a Compact TOLL Package, ROHM Semiconductor's GNP2070TD-Z 70-m Ω GaN HEMT

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Snapback TVS Delivers Improved Overvoltage Protection, Taiwan Semiconductor's LTD7524CAH SUPER CLAMP Snapback TVS

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April 2025:

APEC 2025: Industry Crafts Vertical Power Delivery Solutions For AI Processors, APEC report mentions Infineon's OptiMOS TDM2454xx quad-phase power modules, Texas Instruments' two-phase power modules in a 9-mm x 10-mm x 5-mm format (not released yet), Empower Semiconductor's Crescendo platform for vertical power delivery, Ferric's Fe1736 16-phase buck converter and Fe1728 quad-output converter, Infineon's XDP711-001 digital hot swap controller (see below), Texas Instruments' TPS1685 hot-swap eFuse, TI's 3.6-kW CRPS power supply reference design, TI's 8-kW server PSU reference design, TI's 8.1-kW OCP-V3 battery backup unit, Efficient Power Conversion's EPC9159 48-V to 12-V LLC-based bus converter reference design, EPC's 5-kW OCP-style, ac-dc server power supply, EPC's motor drive reference design for robot joints using EPC23104 power stages, Infineon's 1200-V CoolSiC MOSFET product line in Q-DPAK packages, Infineon's CiPOS Maxi IPMs (intelligent power modules), Infineon's Easy 2 series packaging for power modules, Nexperia's NSF030120T2A0, NSF040120T2A1, and NSF060120T2A0 1200-V SiC MOSFETs in the top-side cooled X.PAK, Infineon's first SiC JFETs, Power Integrations' TinySwitch-5 switcher, Nexperia's 12 new devices in

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its e-mode GaN FET portfolio, TI's QR flyback design based on the UCG28226 converter IC, TI's wired BMS for energy storage (BESSs) comprised of three reference design boards (the TIDA-010279 battery management unit, the TIDA-010272 rack monitor unit, and the TIDA-010253 battery control unit), pSemi's PE24111 two-stage buck regulator and PE25213 ultra-high efficiency charge pump (see below), and Danisense's Transducer Electronic Datasheet (TEDS)

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48-V to 12-V Surface-Mount Power Modules Pack 5 kW/in.³, Vicor's DCM3717 and DCM3735 dc-dc converter modules

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48-V Digital Hot-Swap Controller Supports High Power For AI Servers, Infineon Technologies' XDP711-001 hot-swap controller IC

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Functionally Isolated Modulators Enable Precise Motor Control In Robots, Texas Instruments' AMC0106M05, AMC0136 and AMC0106M25 modulators

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Fifth-Generation Switcher Family Delivers 175 W And 92% Efficiency In Flybacks, Power Integrations' TinySwitch-5 offline switcher ICs

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20-A Buck Regulator And 10-A Charge Pump Offer High Efficiency And Low Profile, pSemi's PE24111 3.3-V input, two-stage buck regulator and PE25213 charge pump with divide by 2 and 3

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Three-Phase BLDC Motor Driver Reduces Solution Size, Qorvo's ACT72350 160-V gate driver

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SiC MOSFETs Increase Short-Circuit Robustness, NoMIS Power has extended the short circuit withstand time of its next-gen SiC MOSFETs to a minimum of 5 μ s.

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Simulation Software Eases Evaluation Of Supercapacitors, KYOCERA AVX's new version of its SpiCAT online simulation software

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100-V GaN FET Features 1.2-m Ω In 3.3-mm \times 3.3-mm QFN, EPC's EPC2367 GaN FET

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Hot-Swap eFuse And GaN Power Stages Support Data Center Applications, Texas Instruments' TPS1685 eFuse and a family of 650-V GaN power stages consisting of the LMG3650R035, LMG3650R025 and LMG3650R070

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Third-Generation 1200-V SiC MOSFETs Cut Size While Improving Performance, SemiQ's QSiC MOSFETs including the 16-m Ω GP3T016A120X and GP3T016A120H; 20-m Ω GP3T020A120X and GP3T020A120H, 40-m Ω GP3T040A120X and GP3T040A120H; and 80-m Ω GP3T080A120X and GP3T040A120H

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GaN Reliability Report Advances Device Reliability And Lifetime Projections, EPC's Phase 17 Reliability Report

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SiC-Based IPMs Enable High Efficiency, Small Size For Motor Drives, onsemi's EliteSiC SPM 31 IPMs

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Li-Ion Battery Management Platform Include Pre-Validated Firmware, Renesas Electronics' R-BMS F all-in-one solutions for managing Li-ion battery packs in consumer products

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May 2025:

40-V GaN Power Transistor And Lower Voltage Parts Target Silicon Strongholds, EPC's EPC2366 GaN FET

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Company Adds SiC JFETs For Solid-State Power Distribution, Infineon Technologies' 750-V and 1200-V CoolSiC JFETs

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PMIC Powers High-Performance MPUs And FPGAs, Microchip Technology's MCP16701 power management IC

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Current Sensors And Fan Driver For E-Mobility And Industrial Automation, Allegro MicroSystems' ACS37035 and ACS37630 current sensors and A89347 fan driver IC

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SiC Schottky Diodes Deliver Low FOM, Diodes' 4-A DSC04A065LP, 6-A DSC06A065LP, 8-A DSC08A065LP, 10-A DSC10A065LP, and 12-A DSC12A065LP 650-V Schottkys

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IGBT And RC-IGBTs Enhance Performance Of 400-V And 800-V EVs, Infineon Technologies' EDT3 IGBT and RC-IGBT bare die

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IToF Laser Driving Demo Board Uses Automotive-Qualified GaN FETs, Efficient Power Conversion's EPC91116 high-speed laser driver evaluation board

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1200-V SiC MOSFET Six-Pack Modules Enable Compact Systems, SemiQ's GCMX020A120B2T1P, GCMX040A120B2T1P and GCMX080A120B2T1P SiC MOSFET modules

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Rad-Hard Power MOSFET Family Achieves JANSF 300-krad Capability, Microchip Technology's JANSF2N7587U3 100-V n-channel MOSFET

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600-V Standard And 60-V to 200-V Schottky Rectifiers In The DFN33A, Vishay Intertechnology's 27 standard and Trench MOS Barrier Schottky rectifiers

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1200-V And 1600-V Rectifiers Meet Automotive And Industrial Requirements, Taiwan Semiconductor's fast-recovery HS1Q and standard-recovery SxY series of high-voltage rectifiers

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Gate Driver Enables Scalable EV-Powertrain Designs, STMicroelectronics' STGAP4S galvanically isolated automotive gate driver for SiC MOSFETs and IGBTs

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GaN Power Modules Ease Development Of High-Power Applications, Infineon Technologies' EasyPACK CoolGaN transistor 650-V module

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Dual MOSFET Provides Precise Balancing Of 3-V+ Supercapacitors, Advanced Linear Devices' ALD910030 Supercapacitor Auto-Balancing (SAB) MOSFET

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Power Magnetics Component Roundup

Power Inductors

- *Metal Compound Molding Enables Good Electrical Performance And Shielding, Sumida's 0615CDMCC/DS inductor*
- *Dual-Winding Shielded Inductors Are Versatile, Bourns' Model SRF0703HA series AEC-Q200-compliant inductors*
- *In-Vehicle PoC Inductors In 0603 Cases Save Size And Weight, Murata Manufacturing's LQW18FT_0H series power-over-coax inductors*
- *Ferrite Core And Shield Limit Magnetic Field Radiation For Inductors, Bourns' Model SRR6838A series AEC-Q200-compliant inductors*
- *Resin-Shielded Inductors Offer Better Magnetic Shielding, Reduced Size, Sumida America's family of resin-shielded surface-mount inductors—the 105°C CDxxxxMB/DS and 125°C CDxxxxMB/DS ferrite core series, and the CdxxxxME/DS 125°C metal-composite series*
- *Wire-Wound Inductors For High-Current PoC Applications, TDK has expanded the ADL4532VK series of inductors for automotive power-over-coax*
- *PoC Inductor In 1210 Case Delivers 22 μ H, Murata Manufacturing's LQW32FT_2H series power-over-coax inductor*
- *PoC Inductors Handle Up To 1600 mA In Smaller Size, TDK's ADL3225VF series wire-wound inductors for automotive power-over-coax*
- *Shielded Inductors Feature I_{SAT} Ratings Up To 420 A, Bourns' HRP3822X and HRP5022X series inductors*
- *Automotive-Grade Chip Inductors Pack High Current And High Inductance, Bourns' CWF1610A, CWF1612A and CWF2012A series inductors*
- *Composite Core Delivers High Energy Density For Inductors, Sumida's WCDMT series metal-compound-molding-type inductors*
- *Shielded Power Inductors Feature High Heating And Saturation Current, Bourns' SRP4021HMCT, SRP4021HMT, SRP5030HMCT, and SRP5030HMT*

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- *Coupled Inductor For TLVR Topology Exhibits Stability At High Temperatures, Würth Elektronik's WE-HCMD high-current multiphase dual inductor*
- *Shielded Power Inductors For DDR5 PMICs, Bourns' SRP2512CL and SRP3212CL series inductors*

Transformers

- *More-Compact Gate-Drive Transformers For 500-V Systems, TDK's EPCOS EP9 series surface-mount transformers*
- *10-kW Planar Transformer And Inductor Module For Dual Active Bridge, Payton Planar's 10-kW module with transformer and resonant inductor*
- *High-Performance Flyback Transformers For LT8304-1 Applications, Sumida's CEP1311F transformers for use with "no-opto" isolated flyback circuits*
- *Current Transformer Provides High Permeability And Low Losses, Bourns' Model PCP300-T414250S current transformer*
- *Flyback Transformer Achieves Exceptional Isolation In Small Footprint, Bourns' model HVMA03F40C-ST10S flyback transformer*
- *LLC Transformer Extends Voltage Rating To 1250 Vpk, YAGEO Group's PHT7249NL is an addition to the company's SiC and GaN drive LLC transformers*

Chokes And Filters

- *Common-Mode Chokes Are Rated To 36 A At High Temperatures, TDK's EPCOS SurfIND series current-compensated ring core double chokes*
- *Chokes Provide Both CM And DM Attenuation, Simplify Assembly, Premier Magnetics' PM-CMCX5 series chokes with integrated magnetics*
- *Wire-Wound Ferrite Inductors Serve As Chokes And Noise Filters, Taiyo Yuden's LCQPB series of ferrite inductors*
- *8-A Multilayer Chip Beads Reduce Footprint For Noise Suppression, TDK has expanded its MPZ1608-PH series of large-current beads for automotive and*

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- *Common-Mode Choke Coils For Vehicles Support Environments Of 150°C, Murata Manufacturing's PLT10HH series chokes, suitable for reducing noise on power supply lines*
- *CM Chokes Feature Low-Profile Planar Construction, YAGEO Group's automotive-grade PM9408 series common-mode chokes*

Current Sensors

- *Rogowski Coils And Current Transformers Are Highly Customizable, Sumida can realize Rogowski coils with high linearity over a wide temperature range, and current transformers using cores made of ferrite, nanocrystalline, NiFe and SiFe materials*

Cores

- *Bulletin Offers Guidance On Core Selection For Automotive Applications, Magnetics' bulletin, "Cores for Automotive and E-Mobility," a review of the best magnetic cores for different applications in these two areas*
- *Toroidal Suppression Cores For CM Chokes Come In Multiple Sizes, Fair-Rite's Attenuation Station with toroidal suppression cores in different sizes*

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AI Design Assistant Takes Power Converter Designs From Specs To Simulation In Minutes, Frenetic Electronics' Frenetic AI design assistant

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Chipmaker Adds Rad-Hard GaN Transistors Including JANS-Certified Device, Infineon Technologies' IG1NT052N10R, IG1NT052N10G and JANS G2N7697UFHC rad-hard GaN transistors

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Paper Describes High Efficiency Linear Regulators With Buck And Boost Capability, Polaris Semiconductor's white paper on its voltage regulator technology

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Reference Designs Demonstrate Benefits Of 1700-V Switcher ICs In 800-V BEVs, Power Integrations' RDK-994Q and other reference designs and design example reports

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Laser Driver ICs Combine Power And Firing Functions For LiDAR Systems,
Silanna Semiconductor's FirePower series laser driver ICs

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Battery Impedance Meter Delivers High Accuracy And Throughput,
Tektronix's EA-BIM 20005 battery impedance meter

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2000-V Rectifiers Improve Efficiency And Thermal Performance, *WeEn Semiconductors' 2000-V high-voltage (HV) series standard rectifiers*

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80-V MOSFET Offers Low On-Resistance In 8-mm x 8-mm Footprint, *From Vishay Intertechnology, the Vishay Siliconix SiEH4800EW 80-V TrenchFET Gen IV n-channel power MOSFET*

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Bidirectional 650-V GaN Switch Enables More Efficient Power Conversion Across Multiple Applications, *Infineon Technologies' CoolGaN bidirectional switch G5*

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GaN-Based Inverter Reference Design For Medium-Voltage Motor Drives, *EPC's EPC9196 BLDC motor drive inverter reference design*

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Power Controller Increases Stability Of Semiconductor And Industrial Processes, *Advanced Energy Industries' Thyro-XD SCR power controller*

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Digital Signal Controllers Offer Improved PWM Resolution And ADC Speed, *Microchip Technology's dsPIC33AK512MPS512 and dsPIC33AK512MC510 DSCs*

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650-V GaN FETs Enable High-Density Power Conversion In Multi-Kilowatt Applications, *Renesas Electronics' TP65H030G4PRS, TP65H030G4PWS and TP65H030G4PQS 30-mΩ GaN FETs*

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1600-V IGBT Thrives In Soft-Switching Appliance Applications, *STMicroelectronics' STGWA30IH160DF2 IGBT*

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Digital Controller For GaN Totem-Pole PFC Enables 2-MHz Switching, Wise Integration's WiseWare 1.1 (WIW1101) fully digital controller

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Current Sensing Resistor Handles 5 W In 2512 Chip Size, Stackpole's CSSU2512 metal alloy current sensing resistor

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300-V Rad-Hard GaN FET Supports Higher-Voltage Satellite Power Buses, EPC Space's EPC7030MSH GaN FET

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Integrated Gate Drivers Simplify Control Of Brushless Motors, STMicroelectronics' STDRIVE102H and STDRIVE102BH gate drivers for three-phase motors

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August 2025:

RESURF Technology Reimagined Enters Marketplace In 150-V Silicon MOSFETs, iDEAL Semiconductor's iS15M7R1S1C 150-V MOSFET series

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GaN-Based Reference Design Shrinks Motor Drives For Humanoid Robots, EPC's EPC91118 motor drive reference design

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Ideal Diode Controllers Protect Against Reverse Battery Polarity In Cars, Diodes' AP74502Q and AP74502HQ 80-V ideal diode controllers

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1200-SiC MOSFETs In Top-Side-Cooled Package Enable High Power Density, Infineon Technologies' CoolSiC 1200-V G2 MOSFETs

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Offline Converters Save Space In Consumer And Lighting Applications, STMicroelectronics' VIPer11B offline high-voltage converters

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Medical-Grade Power Supply Delivers 1200 W In 1U Profile, Astrodyne TDI's ASM1200 high-density power supply

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30-V MOSFET Offers 2.0 mΩ In Small Package For Fast Charging, ROHM Semiconductor's AW2K21 n-channel MOSFET in a common-source configuration
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Eval Board Demonstrates Compact 180-W Buck Converter For USB PD, Efficient Power Conversion's EPC91109 GaN-based two-phase synchronous buck
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Low-Profile Power Supplies With Wide Adjustment Ranges Deliver Up To 900 W, Acopian Power Supplies' LP2 switching power supplies
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75-mΩ 650-V SiC MOSFETs Target Medium-Power Applications, Infineon Technologies' CoolSiC G2 MOSFETs
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Buck Controllers Implement Three-Level Topology For Efficient USB-C Power Solutions, Renesas Electronics' RAA489300 and RAA489301 controllers
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Fuel Gauge ICs Enable More-Precise Battery Monitoring In Laptops And E-bikes, Texas Instruments' BQ41Z90 and BQ41Z50 fuel gauges
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BME Stacked Capacitors Deliver High Reliability And High CV Performance, KYOCERA AVX's DSCC 25007 Mini base metal electrode stacks of X7R capacitors
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Double-Sided Metallized Polypropylene Film Capacitors For Resonant Topologies, TDK's EPCOS B3264xH series capacitors
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eFuse Meets High-Reliability Server Requirements, Alpha and Omega Semiconductor's AOZ17517QI series 60-A eFuse in a 5-mm x 5-mm QFN
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200-mA LDO Features Up To 90-dB PSRR, Diodes' AP7372 low-noise low-dropout regulator
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3-kW Programmable Power Supplies Offer Dual-Sided Board Coating, TDK's TDK-Lambda brand HWS3000G ac-dc power supplies

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1500-W TVSs With Small Footprint Operate To +185°C, Vishay Intertechnology's T15BxxA and T15BxxCA series of uni/bidirectional PAR transient voltage suppressors

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MOSFETs Are Optimized For Industrial And Consumer Applications, Infineon Technologies' OptiMOS 7 power MOSFETs

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IGBT Modules Offer Higher Power Density And 1200-V To 1700-V Ratings, Microchip Technology's DualPack 3 power modules

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100-V Automotive-Qualified MOSFETs Deliver Low Conduction Losses, Nexperia's MOSFETs in CCPAK1212 packaging

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1300-W And 1600-W Quarter-Brick Bus Converters Are Highly Efficient, Advanced Energy Industries' Artesyn NDQ1300 and NDQ1600 bus converters

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CRPS Power Supplies Output 2.7 And 3.2 kW With Titanium-Level Efficiency, Bel Fuse's TEC2700 and TEC3200 front-end ac-dc power supplies

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TLVR Power Modules Are Optimized For AI Data Centers, Infineon Technologies' OptiMOS TDM22545T dual-phase power module

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Reference Design Enables Efficient Power Supply For Solar Race Cars, Power Integrations' RDK-85SLR reference design kit

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Automotive LDOs With Low Operating Current Support 48-V Auxiliary Batteries, ABLIC's S-19230/1 series high-withstand voltage regulator ICs

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Advanced 200-V MOSFETs Are In Production, iDEAL Semiconductor's iS20M028S1P 25-mΩ SuperQ-based MOSFET plus four additional devices now sampling

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DC Link Capacitors Exceed Standards For Temperature-Humidity Bias Testing, Knowles' Cornell Dubilier's Type BLS 125°C dc-link capacitors

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500-W Power Supplies Address A Range Of Military And Aerospace Applications, GAIA Converter's GRD-50A-M series scalable integrated power supplies

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10-W And 15-W AC-DC Modules Deliver High Performance And Reliability, Aimtec's AMEL10S-277HAVZ and AMEL15S-277HAVZ series wide-input ac-dc power supplies

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NSREC Notes: Advanced PWM Controllers, Power MOSFETs, Buck Converters And QML Parts Are Among The Latest Power Products For Space, Report on NSREC 2025 mentions Renesas' ISLRTPFDEMO1Z power management reference design for Microchip's RT PolarFire FPGA, ISL75055 DDR terminator and general-purpose LDO, ISL73846 double-ended PWM controller, ISL73846MEV1Z 28-V to 12-V, 144-W push-pull converter reference design, ISL73846MEV2Z 28-V to 5-V, 50-W forward converter reference design, and ISL73846MEV3Z 12-V to 28-V, 112-W two-phase boost converter reference design, ISL74420 rad-tolerant quad adjustable clock fanout for power management ICs, ISL73849 rad-hard single-/dual-phase current-mode PWM controller, ISL75054 1-A ultralow noise LDO, Texas Instruments' 3-A TPS7H4013-SEP, 6-A TPS7H4012-SEP and 12-A TPS7H4011 14-V input rad-hard buck converters, TPS7H4104 space-grade quad-channel buck converter, TPS7H3024-SP power supply supervisor, TPS7H6101-SEP 200-V rad-tolerant power stage, Alpha Data's overall reference design for AMD's Versal Core FPGA, Alpha Data's reference design for Versal Edge FPGA, TPS7H6005-SP/SEP, TPS7H6015-SP/SEP, and TPS7H6025-SP/SEP plastic rad-tolerant and rad-hard gate drivers, PMP23391 300-W ZVS full-bridge reference design for space, PMP23546 12-V bias supplies reference design, EPC Space's EPC7C021 three-phase motor drive reference design, EPC7030MSH rad-hard 300-V GaN FET, EPCS4001 rad-hard PWM controller, EPC7011 GaN power stage, EPC7C023 and the EPC7C024 linear regulator demo boards, Microchip Technology's rad-hard MOSFETs (JANSR2N7593U3, JANSR2N7591U3, JANSR2N7589U3 and JANSR2N7587U3), STMicroelectronics' LEOPOL1 rad-hard 5-A nom. buck regulator, 1N5822, 1N5819, and 1N5811 diodes in plastic packages, VPT's 6-, 15-, 30- and

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100-W versions of its VSC series rad-tolerant converters, VXR series quarter and half-brick style dc-dc converters with 270-V input, a 100-W family of GaN-based hybrid dc-dc converters, TTM Technologies' MSK5065RH 3-A rad hard switching regulator module, MSK5066RH 3-A buck regulator module, and TTM4306RH GaN half bridge with integrated drivers.

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November 2025:

Vendors Line Up To Support NVIDIA's 800-V Power Architecture For AI Data Centers, Report on OCP Global Summit-related news mentions Texas Instruments' PMP23630 30-kW power supply reference design, TI's CSD965203B dual-phase smart power stage, TI's CSDM65295 dual-phase smart power module for lateral power delivery, STMicroelectronics' 12-kW GaN-based LLC converter, Power Integrations' 1250-V and 1700-V PowiGaN technology, Power Integrations' InnoMux2-EP ICs, Alpha and Omega Semiconductor's AOM020V120X3 or topside cooled AOGT020V120X2Q SiC devices, AOS' 650-V GaN FETs (the upcoming AOGT035V65GA1), and 100-V GaN FETs (such as the AOFG018V10GA1), AOS' 80-V and 100-V stacked-die MOSFETs (such as the AOPL68801, and 100-V GaN FETs), Efficient Power Conversion's GaN-based, 6-kW 800 V-to-12.5 V converter based on an Input Series Output Parallel (ISOP) topology, EPC's 5-kW GaN-Based ac-dc reference design comprising the EPC91107KIT four-level Totem-Pole PFC and the EPC91110KIT Input-Series Output-Parallel (ISOP) LLC converter, Navitas' new 100-V GaN FET portfolio, Navitas' new line of 650-V GaN FETs, Innoscience's third-generation GaN components, Delta Electronics' s new solid-state transformer (SST), Delta's 1-MW-scale In-Row Power hyperscale-ready power system, Delta's Energy Variance Appliance (EVA) Rack, Advanced Energy Industries' 100-kW 48-V ORv3 HPR-compliant power shelf, Advanced Energy's M-CRPS compliant Titanium-efficiency power supplies (including a 3.6-kW CSU3600AT and 1.8-kW CST1800AT), and Advanced Energy's NDQ1600 and NDQ1300 dc-dc converters.

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Chipmaker Samples 700-V And 1,200-V Vertical GaN Power Devices, Onsemi's vertical GaN devices

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IGBT And SiC Power Module Families Offer Performance And Flexibility, CISSOID's CXT-PLA3BG07820RA IGBT power module

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Stacked Capacitors Benefit Power Supply And Down-Hole Applications,
KYOCERA AVX's KGP series stacked capacitors

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Application-Specific MOSFETs Provide Enhanced Dynamic Current Sharing,
Nexperia's 80-V PSMN1R9-80SSJ and 100-V PSMN2R3-100SSJ n-channel MOSFETs

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Motor Control MCUs Deliver High Performance For Factory Automation And Robotics,
Renesas Electronics' RA8T2 microcontroller group

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19.2-kW Liquid-Cooled On-Board Charger For Electric And Hybrid Vehicles,
Bel Fuse's BCF19-700-8 battery charger

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December 2025:

Power Magnetics Component Roundup

Power Inductors

- *Automotive Thin-Film Inductors Are Extended To Higher Currents, TDK's TFM201612BLEA series inductors for currents up to 5.6 A*
- *Semi-Shielded Inductors Offer Higher Max Inductance Values, Bourns' SRN2010/2510/3010/3015/4018BTA additions the SRN-BTA family*
- *Shielded Inductors With Carbonyl Powder Core Deliver High Saturation Current Capability, Bourns' SRP4020T series inductors*
- *Shielded Inductor Features Benefit POL Converters And Data Centers, Bourns' SRP1024HMCT inductor with carbonyl powder and high heating current*
- *Automotive-Grade Inductors Offer Stable Inductance And Saturation To +180°C, Vishay Intertechnology's IHDM-1107BBEV-2A and IHDM-1107BBEV-3A edge-wound, through-hole inductors*
- *Semi-Shielded Inductors With Polarity Control For Optimized EMI Suppression, Bourns' SRN5040TA-P series inductors for automotive systems*

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- *Metal Alloy-Based, Multilayer Inductors Offer High-Current Capability, Bourns' CVH160808H series low-profile power chip inductors*
- *Unshielded PIN Inductor With Ferrite Drum Core, Sumida's YRCH114/DS inductor*
- *Low-Profile Inductors Are Shielded And Rugged, Sumida's YCD322517MB/DS and YCD453229MB/DS surface-mount inductors with resin-filled coils*
- *Low-Profile Coupled Inductors Are Optimized For VR Designs, YAGEO Group's PGL727XHLT inductors for powering processors, memory, FPGAs, and ASICs*
- *Ferrite Core Inductors Are Expanded To Power AI, Servers, and High-Efficiency Applications, YAGEO Group's TPI series of SMD ferrite core inductors*
- *Inductor Portfolio Expansion Yields More Than 2000 SKUs, Vishay Intertechnology has delivered on the expansion of its inductor and frequency control device (FCD) product lines*

Transformers

- *SMT Gate-Drive Transformers Extend DC Working Voltage To 1000 V, TDK's EPCOS InsuGate series of gate-drive transformers*
- *Pulse Transformers for Advanced BMSs In EVs, Industrial And Portable Applications, Sumida's CIUH10D46 and CIUH10D47 transformers*
- *Space-Grade 150-W Planar Transformers For 28-V Input Forward Converters, Vishay Intertechnology's Vishay Custom Magnetics SGTPL-28 series low-profile transformers with multiple output secondaries*
- *BMS Isolation Transformers Meet IEC61558 And IEC62368, YAGEO Group's HM216xNL series high-isolation transformers*
- *High-Isolation Transformer For 1500-Vdc BESSs And Other Applications, YAGEO Group's PGT6541NLT SMT push-pull transformer*
- *Control Transformers For High-Reliability Industrial Applications, Signal Transformer's BH series industrial control transformers*

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Chokes And Filters

- *Automotive Power-Over-Coax Inductor For Filters Offers Simplicity And Efficiency, TDK's ADL8030VA is a high-performance inductor*
- *Wide-Frequency-Range Wire-Wound Inductors For Automotive Power-Over-Coax, TDK's ADL4524VL series inductors*
- *Common-Mode Data Lines Chokes Are Rated To 10 A, Würth Elektronik's WE-CMDC series chokes in 7060, 9070, 1513, and 1211 packages*
- *Common-Mode Chokes Have Current Capability, Enhanced Dielectric Strength, Bourns' SRF7038A series AEC-Q200 compliant chokes*
- *SMD Inductors Feature High Operating Temperature And Saturation Current, Bourns' SDE0403AT series inductors*
- *Common-Mode Choke Employs Ferrite Toroid Core For Low Radiation, Bourns' SRF1709 choke*

Literature

- *Article Explores Benefits Of Planar Magnetics in AI Data Centers And Cloud Computing, Payton Planar's blog post, "High-Density Power for AI & Cloud: Planar Magnetics in Data Centers"*

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10-MHz TMR Current Sensor Enhances Control Of WBG Power Electronics, Allegro MicroSystems' ACS37100 current sensor

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5-A Battery Simulator Module Eases Testing Of 800-V BMSs, Pickering Interfaces' 41-754 and 43-754 battery simulators

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System-On-Chip Family For Motor Control Enables Compact And Cost-Efficient Designs, Infineon Technologies' TLE994x and TLE995x motor control SoCs

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High-Precision Current-Sense Amplifier Operates Over Wide CM Voltage Range, STMicroelectronics' TSC240 current-sense amplifier

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3U Digital 10-kW Power Supply Delivers Voltages Up To 100 kV, XP Power's WBQ series digitally controlled, high-voltage power supplies

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Power IC Vendor's Web Tools Streamline Power System Design, Analog Devices' ADI Power Studio including ADI Power Studio Planner and ADI Power Studio Designer

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1200-V SiC MOSFETs With Schottkys Come In SOT-227 Modules, SemiQ's GCMX007C120S1-E1, GCMS007C120S1-E1, GCMX014C120S1-E1, GCMS014C120S1-E1, GCMX034C120S1-E1 and GCMS034C120S1-E1 modules

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Four- And Eight-Channel Oscilloscopes Offer Compact Size, Affordability, Rohde & Schwarz four- and eight-channel MXO 3 series oscilloscopes

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650-V SJ MOSFETs Come In TOLL Package With Kelvin Source, Magnachip Semiconductor's 99-m Ω MMTB65R099RFRH and 130-m Ω MMTB65R130RFRH 650-V superjunction MOSFETs

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Flyback Converter ICs With GaN Power Switch Simplify Adapter Designs, STMicroelectronics' flyback converter ICs beginning with the VIPerGaN50W

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