



## Power Products Article Archive

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**Digital LED Drivers Deliver Flicker-Free Dimming And Hot-Plug Support**, iWatt's iW3612/iW3602 digitally controlled, offline power supply controllers for dimmable LED luminaires

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**4-A Regulator Shrinks To 2-mm x 2-mm Footprint**, Maxim Integrated Products' MAX15040 4-A, synchronous switching regulator

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**Kit Eases Development of Qi-Certified Wireless Power Solutions**, Texas Instruments' bqTESLA100LP low power wireless power evaluation kit

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**New Package Shrinks MOSFETs for Hi-Rel Space Applications**, International Rectifier's family of hermetic rad-hard 100-V MOSFETs in the new SMD0.2 package

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**SiC Schottkys Support Power Supply Designs for More-Efficient Data Centers**, Cree's Z-Rec 650-V SiC Schottky diodes

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**Digital POL Expands Control and Energy-Saving Features**, Ericsson Power Modules' BMR463 digital point-of-load regulator

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**MOSFET Boasts Micro-ohm On-resistance, Picor's PI5101 MOSFET**

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**Surface-Mount SiC Schottky Targets Solar Micro-inverters, Cree's C2D05120 1200-V SiC Schottky diode**

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**SiC JFETs Are Now Shipping in Commercial Quantities, SemiSouth Laboratories' SJEP120R100, SJEP120R063 and SJEP170R550 normally-off trench SiC power JFETs**

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### March 2011:

**GaN Semiconductor Startup Demos 99% Efficient DC-DC Boost Converter, Transphorm's EZ-GaN technology**

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**Second-Gen GaN Transistors Feature Enhanced Performance, Lead-Free Packaging, Efficient Power Conversion's EPC2001 and EPC2015 enhancement-mode GaN-on-silicon FETs**

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**DSCs Expand Feature Set To Support More Complex Digital Power Apps, Microchip Technology's 16-bit dsPIC GS series of digital signal controllers**

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**60-A Module Boasts Better Performance Than DrMOS and Other Power Devices, International Rectifier's IR3550 PowIRstage**

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**High-Voltage Superjunction MOSFET Enables High-Efficiency AC-DC Conversion, Alpha and Omega Semiconductor's AOTF27S60 600-V superjunction MOSFET**

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**CanPAK Family Adds Medium-Voltage MOSFETs, Infineon Technologies' 60-V to 150-V OptiMOS power MOSFETs**

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**Driver IC Simplifies Design, Increases Efficiency For High-Power LED lighting**, International Rectifier's IRS2548D switched-mode power supply control IC with integrated PFC control

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**Receiver Chip Shrinks Qi-Compliant Wireless Power Designs**, Texas Instruments' bq51013 wireless power receiver IC

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**PFC Inductors Use Metglas Or Nanocrystalline Cores for High Performance**, Payton Planar Magnetics' PFC boost inductors using Metglas or nanocrystalline cores

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**High-Voltage Power Switch Features 225°C Operation, Logic-level Gate Control**, Cissoid's CHT-Jupiter 600-V SiC power switch with logic-level gate drive

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**Highly Integrated Controller Works With BJTs To Cut Cost of Lamp Ballasts**, STMicroelectronics L6520 lamp ballast controller IC

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**Shielded Gate Lowers Losses For 60-V Trench FET**, Fairchild Semiconductor's FDMS86500L N-channel, PowerTrench MOSFET

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**Chip Integrates PFC And Lamp Ballast Control In SO-8 Package**, International Rectifier's Combo8 IRS2580DS PFC + Half-Bridge Ballast IC

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**Lower Current Rating And Price Extends SiC MOSFET Benefits To More Apps**, Cree's CMF10120 24-A 1200-V SiC MOSFET

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**600-V Fast IGBTs Reduce Inverter Size And Cost**, Infineon Technologies IKD03N60RF and IKD04N60RF reverse-conducting IGBTs

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#### **How2Power Today's Spotlight on Industrial Power Supplies**

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- TDK-Lambda's CPF500F series of 500-W baseplate-cooled power supplies
- Absopulse Electronics' HBC500 series 500-W ac-dc power supply series
- XP Power's SHP1000 and MHP1000 650-W to 1200-W fan-cooled ac-dc power supplies
- Absopulse Electronics' PFC 619F-EH 1500-W ac-dc plug-in power supply
- TDK-Lambda LZSA1500-4 1500-W 48-V power supply
- Power One i-PWER low-profile modular (LMP) 1500-W ac-dc power supply family

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**Solar Microinverter Increases Performance, Adds 25-Year Warranty, Enphase Energy's 215-series microinverter**

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**Energy Harvesting Reference Design Enables Power-Efficient Wireless Sensor Nodes, Silicon Laboratory's wireless sensor node solution powered by a solar energy harvesting source**

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**Power Supplies Feature Wide Adjustment Capability And Many Options, Acopian's Infinity line of power supplies**

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**Power Module Targets Hybrid And Electric Vehicles, Mitsubishi Electric's CT300DJH060 J-Series transfer molded power module**

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- *AC Programmable Power Sources Add Transient Generator, QuadTech's 31000A and 33000 series ac programmable power sources*
- *Programmable DC Loads Boast Excellent Dynamic Performance, QuadTech's 44000 series programmable dc electronic loads*
- *Soft Panel Software Provides Point-And-Click Control Of DC Loads, QuadTech's Soft Panel software for the 44000 series dc programmable electronic loads*
- *Modules Support Battery Test And Mobile Device Manufacturing, Agilent Technologies's N6783A-MFG mobile communications dc power module and N6783A-BAT battery charge/discharge module*
- *Signal Injectors Improve Accuracy Of Regulator And Power Supply Testing, Picotest's family of signal injectors including the J2111A current injector, J2120A line injector, J2100A and J2101A injection transformers, J2110A solid state voltage injector, and J2130A dc bias injector*
- *Power Supplies Deliver High Power, High Current At Low Cost, B&K Precision's 1693, 1694, 1900, 1901, and 1902dc power supplies*
- *Pulse Generators Fill Void Between AWGs And More-Expensive Instruments, B&K Precision's 4033 and 4034 programmable pulse generators*
- *Adapters Ease Measurement Of Complex Component Impedances, OMICRON Lab's B-WIC and B-SMC impedance measurement adapters*
- *Instrument Is Optimized For High-Power Semiconductor Test, Keithley Instruments' 2651A high power system SourceMeter*
- *DC Power Supplies Ease Solar Panel Simulation And Other Tests, Chroma Systems Solutions' 62000H series of programmable dc power supplies*

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### August 2011:

#### **High-Temperature Components For Power Design**

- *Flat-Wire Inductors Excel At High Temperatures, Datatronic Distribution's DR79892 and DR79893 flat-wire inductors*
- *Surface-Mount Flat Coil Inductors Target High-Current Applications, Murata Power Solutions' 3700, 3800 and 3900 series flat-coil inductors*
- *40-V GaN Transistor Is Fully Enhanced at Lower Gate Voltage, Efficient Power Conversion's EPC2014 eGaN FET*
- *Automotive-Grade Boost Controller Boasts Wide Input Range, ON Semiconductor's NCV8871 nonsynchronous boost controller*

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  - *Automotive-qualified MOSFETs Deliver Low  $R_{DS(ON)}$  For Heavy Loads, International Rectifier's AUIRF1404 and other 40-V to 75-V MOSFETs*
  - *Vertical-Mount Wirewounds Add 7-W And 10-W Sizes, Stackpole Electronics' VM series of wirewound resistors*
  - *Power Metal Strip Resistors Feature High Power, Low Resistance, Vishay Intertechnology WSLP2726 and WSLP4026 power metal strip resistors*
  - *1200-V SiC Schottkys Offer Higher Performance At Lower Cost, Cree's C4D02120x, C4D05120x, C4D10120x, C4D20120x and C4D40120x 1200-V Z-Rec SiC Schottky diodes*
  - *Small-Signal Diode Operates To 225°C, CISSOID's CHT-GANYMEDE dual small-signal diode*
  - *Forward Converter Chipset Is Specified Over -55°C to 125°C Range, Linear Technology's LT1952/-1 single-switch forward controller, LTC3900 synchronous rectifier driver, and LT4430 secondary-side optodriver*
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- *Ultra-fast 1200-V IGBTs Target Induction Heating, International Rectifier's IRG7PH35UD1 and IRG7PH42UD1 trench IGBTs*
- *Ultra-fast 1200-V IGBTs Reduce Switching And Conduction Losses, International Rectifier's IRG7PH35xx, IRG7PH42xx, IRG7PH46xx, IRG7PH50x field-stop trench IGBTs*
- *1200-V IGBTs Feature High Gain, High Speed, IXYS's IXYH50N120C3, IXYH82N120C3, IXYN82N120C3H1, and IXYB82N120C3H1 IGBTs*
- *1200-V SiC JFET Power Module Is Offered As Standard Product, Microsemi's APTJC120AM13VCT1AG phase-leg SiC power module*
- *1200-V SiC JFET Delivers Low On-Resistance, SemiSouth Laboratories' SJDP120R045 and SJDC120R045 normally on trench SiC power JFETs*
- *Power Modules Strengthen Safety, Increase Functionality For Electric Vehicles, Mitsubishi Electric's J-series new intelligent power modules (IPMs) and J-series transfer-molded power modules (T-PMs), models PM150CJG120G, PM300CJG060G, PM300CJG120G, PM600CJG060G, CT300DJH120, and CT600DJH060*

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- *650-V MOSFETs Integrate Fast Body Diode For Higher Efficiency, Infineon Technologies' CFD2 650-V CoolMOS MOSFETs, model IPW65R080CFD*
- *Power Modules Are Tailored To All Major Solar Converter Topologies, Microsemi's power modules, models APTC60AM45BC1G, APTC60AM45B1G, APTC60AM83BC1G, APTC60AM83B1G, APTCV60HM45RCT3G, APTCV60HM45RT3G, APTCV60HM70RT3G, APTC60HM70RT3G, APTGT50H60RT3G, APTCV60HM45BC20T3G, APTCV60HM45BT3G, APTCV60HM70BT3G, APTGV50H60BT3G, APT5M65BBM19T3G, APTC60BBM24T3G, and APTGT100BB60T3G*
- *40-V To 600-V MOSFETs Are Optimized For Solar Microinverters, Alpha and Omega Semiconductor's AlphaMOS MOSFETs, models AOT240L, AOT260L, AOT290L, AOTF42S60, AOD11S60, and AOTF12N60FD*
- *Second-Gen 200-V GaN Transistor Delivers Enhanced Performance, Efficient Power Conversion's EPC2010 eGaN FET*
- *Trench MOSFETs Boost Efficiency In Synchronous Rectification Applications, Fairchild Semiconductor's FDP083N15A\_F102, FDB082N15A and FDP036N10A 100-V and 150-V PowerTrench MOSFETs*
- *Development Board Eases Designs Based On 100-V GaN FETs, Efficient Power Conversion's EPC9006 development board for EPC2007 100-V eGaN FET*
- *Increased Voltage Ratings Extend MOSFET Benefits To More DC-DC Applications, STMicroelectronics' 60-V, 75-V, and 80-V STripFET VI DeepGATE power MOSFETs, models STP260N6F6, STH260N6F6-2, STP210N75F6, STH210N75F6-2, and STL75N8LF6*
- *P-Channel MOSFETs Improve Efficiency And Cut Costs In Automotive Designs, Infineon Technologies' OptiMOS P2 40-V family of trench power MOSFETs, 30 models including the IPD90P04P4-05*
- *Power MOSFETs For Automotive Reduce On-Resistance, STMicroelectronics' 30-V and 40-V STripFET VI DeepGATE power MOSFETs, 9 models*
- *Dual Asymmetric MOSFET Modules Push Power Density Higher, Fairchild Semiconductor's FDMS36xxS power-stage MOSFET modules*

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#### **Digital Power Products**

- *Digital Controller Provides Real-Time Adaptive Loop Compensation, Powervation's PV3012 dual-phase digital dc-dc controller*
- *Analog Buck Controllers Feature PMBus Interface, Texas Instruments' TPS40400 2-MHz single-channel controller and TPS40422 dual-channel controller*

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- *Warranty On 300-W/400-W Power Supplies Is Extended To Five Years, TDK-Lambda Americas' 300-W to 400-W EFE series power supplies*
- *POL Regulators Offer Vertical Mount For Space-Critical Applications, Ericsson's BMR4622002 and BMR4632002 3E digital point-of-load voltage regulators*
- *Buck Regulators Deliver Highly Integrated Designs, Summit Microelectronics' SMB220 and SMB221 10-A and 20-A digitally programmable buck regulators*
- *Multi-Rail Digital PMUs Pack Numerous Features, Akros Silicon's EnergySense family of multi-output, digital dc-dc power management unit ICs*

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### **Diodes And Rectifiers**

- *SiC Schottkys In DPAKs Offer 2-A To 10-A Ratings, Cree's C4D02120E, C4D05120E, C4D08120E, and C4D10120E 1200-V SiC Schottky diodes*
- *1200-V/5-A SiC Diodes Come In DPAK Packaging, SemiSouth Laboratories' SDB05S120 SiC diodes*
- *200-V Schottky Achieves Over 2-kV ESD Protection, STMicroelectronics STPS60SM200C 200-V Schottky diode*
- *Low-VF Schottkys Come In Space-Saving Package, Central Semiconductor's CTLSH01-30 and CTLSH01-30L low-V<sub>F</sub> Schottky diodes*
- *600-V Rectifiers Deliver Over 10 A In DPAK Package, Vishay Intertechnology's 200-V and 600-V FRED Pt Hyperfast and Ultrafast rectifiers, 18 models including models VS-12EWH06FNx-M3, VS-15AWL06FNx-M3, VS-15EWL06FNx-M3, VS-15EWH06FNx-M3, and VS-15EWX06FNx-M3*

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**IGBTs Deliver Power Savings, Higher-Temperature Operation, Powerex's S-series 300-A to 800-A, 1200-V IGBTs, models CM300DY-24S, CM450DY-24S, CM600DY-24S, and CM800DY-24S**

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**Gate-Driver Evaluation Board For SiC Power Modules, SemiSouth Laboratories' SGDR2500P2 optoisolated gate-driver board**

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**DC Power System Brings Higher Efficiency, Lighter Weight, and Greater Reliability To Industrial Applications,** Eltek Valere's Industrial Building Block (IBB) high-efficiency (HE) dc power systems

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**Half-Bridge Power Modules Feature Small Footprint,** Vincotech's flowPHASE 0 2nd Generation family of half-bridge power modules

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