



Power ICs Article Archive (By Issue)

Power IC News Sponsored by Efficient Power Conversion (EPC)

This document is a list of the power IC articles published in the How2Power Today newsletter. Products listed here include

- Power supply controllers
- Gate drivers
- Linear regulators
- Switching regulators and
- Point-of-load dc-dc converters
- Battery charger and battery management ICs
- ORing controllers
- LED drivers
- Wireless charging ICs

While most are monolithic semiconductor devices, some may be multi-chip modules or modules that copackage chips and magnetics or passives—the commonality is that all these products are housed in IC style packages. Integrated circuits using hybrid construction or open-frame PCB construction are generally not included here. However, reference designs featuring ICs are listed here.

Products are listed here using the following format:

Issue date:

Article title, Part number/product name

[For more details...](#)(link to article)

January 2025:

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

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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

[For more details...](#)

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

[For more details...](#)

February 2025:

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

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

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March 2025:

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

[For more details...](#)

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

[For more details...](#)

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

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April 2025:

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

[For more details...](#)

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

[For more details...](#)

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

[For more details...](#)

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

[For more details...](#)

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

[For more details...](#)

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

[For more details...](#)

May 2025:

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



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February 2024:

Offline Switcher ICs Enable Design Of Highly Efficient, Compact USB PD Adapters, Power Integrations' InnoSwitch5-Pro switcher ICs

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ZVS Flyback Converter Chipset Offers Versatile, Efficient Design For USB-C PD Adapters And Chargers, Infineon Technologies' EZ-PD PAG2 ZVS flyback converter chipset

[For more details...](#)

Digital Totem Pole PFC Controller Adds 650-V Half-Bridge Gate Driver, Hynetek's HP1012 totem-pole PFC digital controller

[For more details...](#)

Digital Isolators Support Speeds To 150 Mbps And Protection To 8 kV, NOVOSENSE Microelectronics' NSI824xWx quad-channel digital isolators

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March 2024:

Solid-State Isolators Deliver Faster Switching With Lower Power Dissipation, Infineon Technologies' family of solid-state isolators (iSSIs)

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Switcher ICs Improve Efficiency For Multi-Output Power Supplies, Power Integrations' InnoMux-2 power-supply ICs

[For more details...](#)

April 2024:

ZVS Flyback Architecture Enables 70-W Output For AC-DC Converters Without PFC, Egghtronic's 70-W QuarEgg architecture

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May 2024:

Motor Gate-Driver IC Eases Migration From 12-V To 48-V Systems, Infineon Technologies' MOTIX TLE9140EQW gate-driver IC



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Embedded Motor Controllers Offer Increased Memory, Power And Reliability, TDK's HVC 5222D and 5422D controllers

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IC Drives Low-, Medium- And High-Voltage E-mode GaN HEMTs, Innoscience Technology's INS1001DE driver IC

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Rad-Hard ICs Deliver 300-krad TID For GEO Applications, Apogee Semiconductor's AF54RHC GEO family of ICs

[For more details...](#)

Automotive DC Motor Predriver Simplifies EMI Optimization And Saves Power, STMicroelectronics' L99H92 automotive gate driver

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June 2024:

Rad-Hard Arbiter IC Stops Propagation Of Power Supply Failures, Apogee Semiconductor's AP54RHC288 dual two-input arbiter

[For more details...](#)

LDOs Operate Up To 40-V Input, Offer Multiple Output Options And Low I_Q , STMicroelectronics' LDH40 and LDQ40 linear regulators

[For more details...](#)

July 2024:

Multiphase Vcore Solution For Computing Systems Delivers Low Quiescent Power, Alpha and Omega Semiconductor's AOZ71137QI three-rail, seven-phase controller

[For more details...](#)

BLDC Motor Hardware-Software Combo Slashes Inverter Sleep-Mode Consumption, Power Integrations' BridgeSwitch-2 integrated half-bridge motor-drivers

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August 2024:

GaN IPM Enables Smaller, More Efficient High-Voltage Motors, Texas Instruments' DRV7308 GaN IPM



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Field Programmable Controller Replaces Up To Six MCUs For EV Power Train Control And Energy Management, *Silicon Mobility's OLEA U310 Field Programmable Control Unit*

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MCU Family Targets Motor Control And Power Conversion Applications, *Infineon Technologies' PSOC Control microcontrollers*

[For more details...](#)

September 2024:

Digital Signal Controllers Enhance Precision And Execution Of Real-Time Control, *Microchip Technology's dsPIC33A core family of 32-bit DSCs*

[For more details...](#)

eFuses Enhance Efficiency In 12-V Hot-Swap Applications, *Nexperia's NPS3102A and NPS3102B electronic fuses*

[For more details...](#)

October 2024:

Transformer Drivers Deliver High Efficiency In Industrial And Automotive Applications, *Nexperia's NXF650x(A/B)-Q100 transformer drivers*

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Highly Integrated PMIC Powers MPU Power Rails And System Peripherals, *STMicroelectronics' STPMIC25 PMIC*

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November 2024:

GaN Power ICs Drive Ease-Of-Use, Lower System Cost And Energy Savings, *Navitas Semiconductor's GaNSlim ICs*

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IGBT And MOSFET Drivers In Stretched SO-6 Enable Compact Designs, *From Vishay Intertechnology, the Vishay Semiconductors VOFD341A and VOFD343A IGBT and MOSFET drivers*

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December 2024:

Multi-Output Switcher IC Pushes GaN To 1700 V, Power Integrations' IMX2353F InnoMux-2 power supply IC

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eFuses Deliver Precise I²t Wire Protection, Infineon Technologies' PROFET Wire Guard

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MCUs Enable More Accurate Fault Detection In Solar, Energy Storage And Motor Applications, Texas Instruments' TMS320F28P55x and F29H85x microcontrollers

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USB-C Adapter Design Demonstrates Feasibility Of 240 W From A Single 1C Port, Pulsiv's USB-C design

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AEC-Q100 Current Sensors Eliminate External Isolation Components, NOVOSENSE Microelectronics' NSM211x series of fully integrated high-bandwidth, high-isolation current sensors

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High-Side Gate Driver Protects Battery-Driven Applications, Infineon Technologies' EiceDRIVER 1EDL8011 gate driver

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January 2023:

900-V GaN Power ICs Feature Low On-Resistance And Low Leakage, GaNPower International's GPI4TIC15DFV and GPI6TIC15DFV GaN ICs

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ZVS Power-Supply ICs Combine Programmability, High Efficiency and Small Size, Power Integrations' InnoSwitch4-Pro family of flyback ICs

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February 2023:

Compact eFuses Offer 2.8-V to 23-V Operating Range, Vishay Intertechnology's SiP32433A/B and SiP32434A/B eFuses

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Wide-Voltage-Range Hot-Swap Controller Offers Programmable Digital SOA Control, Infineon Technologies' XDP710 digital controller

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IC Enables Safe And Flexible Power Distribution In Automotive E/E Architectures, Renesas Electronics' RAJ2810024H12HPD Intelligent Power Device

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Buck-Boost Reference Design Yields Small 140-W Fast Charger, From EPC and Richtek, a bidirectional buck-boost controller reference design board

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High-Voltage Driver Offers A Highly Integrated Solution For MEMS Switches, Menlo Micro's MM101 eight-channel driver with integrated charge pump

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Rad-Tolerant LDO Targets LEO Applications, Microchip Technology's MIC69303RT 3-A COTS low-dropout voltage regulator

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Laser Driver IC Enables Higher-Density Lidar Systems, EPC's EPC21701 laser driver IC with 80-V, 40-A FET for time-of-flight lidar systems

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A Highly Integrated Gate Driver IC For Battery-Powered BLDC Motor Drives, Infineon's 6ED2742S01Q MOTIX three-phase gate driver IC

[For more details...](#)

March 2023:

Designs Accelerate Development Of EV Charging, Vehicle Cluster Control And Other Applications, Renesas Electronics' 10 Winning Combinations engineering-vetted designs

[For more details...](#)

Cost-Optimized, Energy-Saving Designs For Power Supplies And Battery Chargers, Pulsiv's PSV-RDAD-75FB and PSV-RDAD-100FB reference designs

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Automotive High-Side Drivers Are Scalable And Feature Rich, STMicroelectronics' VIPower M0-9 series gate drivers

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April 2023:

Active EMI Filter ICs Enable Smaller Power Supply Designs, Texas Instruments' TPSF12Cx family of active EMI filter ICs

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900-V Switcher ICs Benefit EV And Industrial Applications, Power Integrations' 900-V InnoSwitch3 flyback switcher ICs

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BMS Controller Improves Li-Ion Battery Performance, STMicroelectronics' L9961 battery-management-system (BMS) device

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Single-Chip Intelligent Battery Management Solutions For 20-Cell Systems, Qorvo's PAC22140 and PAC25140 Power Application Controller (PAC) devices

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ASIL C Safety-Rated Field Current Sensor For EV Powertrain Systems, Allegro MicroSystems' ACS37601 high-precision, field current sensor

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Integrated 100-V GaN Half-Bridge With Driver Saves Board Space, Innoscience Technology's ISG3201 SolidGaN half-bridge

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May 2023:

GaN FETs Plus Controller Build High-Density Buck Converter Reference Design, EPC's EPC9158 synchronous buck reference design board

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Smart High-Side Switches Protect Sensitive ADAS Loads And The Power Distribution System, Infineon Technologies' PROFET Load Guard 12-V power switches

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Buck Converters Ease Tradeoffs In Size Versus Efficiency, Diodes' AP62500 and AP62800 synchronous buck converters

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June 2023:

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SiC Gate Driver Improves Efficiency, Simplifies Design For EV Traction Inverters, Texas Instruments' UCC5880-Q1 isolated gate driver

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A Highly Integrated Wireless Power Transmitter IC For Applications Up To 50 W, Infineon Technologies' WLC1150 wireless charging transmitter IC

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MCUs Offer An Array Of Features For Motor Control Applications, Renesas Electronics' RX and RA families of MCUs

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SiC E-Fuse Demonstrator Eases Design Of Solid-State Power Protection, Microchip Technology's SiC-based E-fuse demonstrator board

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Design Option For Buck Converter IC With Intelligent Power Sharing, Silanna Semiconductor's Power Density Hero online configuration tool can now be used with the SZPL3002A IC

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July 2023:

GaN Driver Integrates Galvanic Isolation For Power Rails Up To 1700 V, STMicroelectronics' STGAP2GS gate driver

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PMIC Integrates Essential Functions For Bluetooth Low Energy Designs, Nordic Semiconductor's nPM1300 power management IC

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August 2023:

MCU Embedded Power ICs With CAN FD Interface Provide Faster Communication, Infineon Technologies' TLE988x and TLE989x MOTIX MCU embedded power ICs

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High-Voltage Driver Shrinks Design For Ultrasound Scanners, STMicroelectronics' STHV200ultrasound IC

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September 2023:

Hall-Effect And Integrated-Shunt Current Sensors Offer High Accuracy,
Texas Instruments' TMCS1123 Hall-effect and EZShunt current sensors

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Power Op Am Delivers High Power With High Speed, *Apex Microtechnology's PA198 precision power amplifier*

[For more details...](#)

Automotive-Grade, Hall ICs Feature 42-V Withstand Voltage, *ROHM's BD5310xG-CZ/BD5410xG-CZ series Hall ICs*

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October 2023:

Robust Integrated GaN Platform Is Optimized For High-Power Applications,
Navitas Semiconductor's GaNSafe Power ICs

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EMCA Controller With EPR Protects Up To 54 V For Passive USB-C Cables,
Infineon Technologies' EZ-PD CMG2 USB-C electronically marked cable assembly (EMCA) controller

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Demo Boards For High Efficiency AC-DC Power Supply Technology, *From Saelig comes Pulsiv's PSV-AD-250-DS evaluation boards for the OSMIUM microcontroller family*

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November 2023:

Switcher ICs Feature 1250-V GaN Switch, *Power Integrations' InnoSwitch3-EP 1250-V ICs*

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GaN-Based Reference Design Shrinks Motor Drives For eBikes, Robots And Drones, *EPC's EPC9194 motor drive inverter reference design*

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16-bit MCU Delivers High Performance For Motor And Power Supply Control, Renesas Electronics' RL78/G24 MCU

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December 2023:

Flyback Architecture Delivers High Efficiency For Applications Below 120 W, Eggtronic's QuarEgg primary-side regulated flyback solution

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Full-Bridge Drivers For Brushed DC Motors Are Scalable And Flexible, STMicroelectronics' STSPIN948 and STSPIN958 are scaleable full-bridge drivers

[For more details...](#)

January 2022:

Boost Converter Demo Board Shows Off Benefits Of Controller & GaN FETs Combo, Efficient Power Conversion's EPC9166 demo board

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Automotive Boost Controller Shrinks Class-D Audio Amplifier, Analog Devices' MAX25203 boost controller

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Silicon-Based ACF Reference Design Challenges GaN-Based Chargers, Silanna Semiconductor's active clamp flyback-based reference design for 33-W 1C fast chargers

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February 2022:

A 2-kW Bidirectional Converter Reference Design Board With High Efficiency, Efficient Power Conversion's EPC9170 demo board

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Smart Gate Driver With SPI Protects 48-V Battery Systems In Mild Hybrids, Infineon Technologies' 2ED4820-EM EiceDRIVER gate driver

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Switcher ICs With 1700-V SiC MOSFET Simplify EV Power Supply Design, Power Integrations' INN3947CQ-TL and INN3949CQ-TL power supply ICs

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High PSRR LDO With Soft Start Powers Automotive Sensor Systems, Nisshinbo Micro Devices' NR1640 series LDO regulator

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Dual Gate Drivers For SiC And IGBT Switching, STMicroelectronics' STGAP2HD and STGAP2SICD galvanically-isolated gate drivers for IGBTs ('2HD) and SiC MOSFETs ('2SICD)

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Buck Converter Reduces Space In Multi-Cell Battery Applications, Analog Devices' MAX77540 buck converter

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100-V Gate Driver Raises Efficiency, Saves Space, Diodes' DGD0579U high-side and low-side gate driver with built-in bootstrap diode

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March 2022:

All-Silicon, 65-W ACF Reference Design Challenges GaN-Based Adapter Designs, Silanna Semiconductor's RD-31 active clamp flyback (ACF)-based reference design

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April 2022:

APEC 2022: GaN Power Devices And Advanced Topologies Are Put To Work In Latest Adapter Designs

- Eggtronic's SmartEgg ac-dc architecture for power applications in the 75- to 1-kW range, and the associated 230-W demo
- Silanna Semiconductor's AnyPort RD-5 multi-port fast charger reference design, RD-16 100-W 2C1A multi-port USB-PD reference design and RD-25 118-W 1C1A multi-port USB-PD reference design and Smarter Living's 3510PDFE 65-W charger
- Power Integrations' HiperPFS-5 family of quasi-resonant PFC ICs with a 750-V GaN switch, HiperLCS-2 chipset for LLC resonant converters, and DER-916 reference design for a Multi-Port USB-C Wall Outlet Without Buck Converters

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Charge-Pump Converter Expands Options For Distributing Board-Level Power, Murata's MYC0409 charge-pump capacitor-divider module



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Quasi-Resonant PFC Chips With GaN Switch Shrink PFC Stage For Adapters,
Power Integrations' HiperPFS-5 family of power-factor-correction ICs

[For more details...](#)

Chipset Boosts LLC Converter Efficiency, Slashes Component Count,
Power Integrations' HiperLCS-2 resonant switch and synchronous rectification chipset

[For more details...](#)

May 2022:

Tiny, Quad-Output Regulators Need No External Inductors Or Capacitors,
Empower Semiconductor's EP71xx integrated voltage regulators

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SSRs Shrink Design Size, Improve Reliability And Safety In 800-V EVs,
Texas Instruments' TPSI3050-Q1 isolated switch driver and TPSI2140-Q1 isolated switch

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GaN IC Enables Fast Switching, Narrow Pulses For Automotive Lidar,
Efficient Power Conversion's EPC2221 common-source dual GaN FET

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Amplifier Combines High-Definition Sound With Class-G Efficiency,
STMicroelectronics' TDA7901 automotive amplifier with buck controller for class-G power switching

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June 2022:

PMIC Complements Bluetooth Low Energy Chips,
Nordic Semiconductor's nPM1100 power management IC

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65-W ACF Reference Design Achieves 30-W/in³ Power Density,
Innoscence Technology and Silanna Semiconductor's 65-W active clamp flyback (ACF) reference design

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Switcher ICs Extend Adapter Designs To 220 W With Small Size,
Power Integrations' InnoSwitch4-CZ and the ClampZero ICs



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Architecture Simplifies Development Of Multi Port Chargers, *Silanna Semiconductor's AnyPort architecture*

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LDO Features Low Noise, Dropout And Quiescent Current, *STMicroelectronics' LD56020 200-mA low-dropout voltage regulator*

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July 2022:

Highly-Integrated Motor Controllers For Battery-Powered Products, *Infineon Technologies' MOTIX IMD700A and IMD701A motor controllers*

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Automotive LDO Regulators Are Stable With 100-nF Output Capacitance, *ROHM Semiconductor's BD9xxN1 series LDOs*

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August 2022:

Buck Regulators With Integrated Inductor Save Space, *Infineon Technologies' TDM3883 and TDM3885 synchronous buck regulators*

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September 2022:

NSREC Notes: Exhibitors Showcase Latest Reference Designs Along With Progress In Rad-Tolerant And Rad-Hard Power Components

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Powering Space-Grade FPGAs

- *Renesas' rad-hard power management reference designs for the Xilinx Kintex XQRKU060 FPGA and the Microsemi RTG4 FPGA*
- *IR HiRel's rad-hard RIC74424 gate-driver eval board*
- *Vicor's three-chip solution for stepping down a 100-V bus to 3 V at 50 A*
- *EPC Space's EPC7C006 reference design demo board for a rad-hard three-phase motor control plus driver with GaN FETs*
- *Texas Instruments showed Alpha Data's development board for the Versal space-grade (rad-tolerant) FPGA from Xilinx, which contains TI's power management solution for all the power rails; TI also showed the TPS7H5001-SP rad-hard PWM controller and TI's demo board for the TPS7H4010 SEP 6-A 30-V input POL*
- *Apogee Semiconductor's AFP1422 rad-hard PWM controller IC*

Other Updates

- *Analog Devices' RH3845MW dc-dc controller and the ADLT3045S and RH3080 linear regulators*
- *STMicroelectronics' eval board for the RHRPMICL1A integrated current limiter*

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25-A And 40-A Buck Regulators Feature SVID And I²C/PMBus Interfaces,
Infineon Technologies' TDA38640, TDA38740 and TDA38725 OptiMOS 5 IPOL devices

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October 2022:

Novel Approach To PFC Enables High Efficiency With Optimized System Cost,
Pulsiv's OSMIUM microcontrollers

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GaN Half-Bridge Power ICs Enable Megahertz Switching,
Navitas Semiconductor's NV6247 and NV6245C GaNSense half-bridge ICs

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Buck Regulators Provide Dynamic Voltage Scaling With Programmable Slew Rate, Halo Microelectronics' HL7593 and HL7594 synchronous buck converters

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November 2022:

1-kV Voltage Sensor Measures V_{DS} Of SiC And GaN Transistors, Tell-i Technologies' VON1k5Vm sensor

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Another Source For Automotive LDOs With Options For Higher Integration, Taiwan Semiconductor's TQL8xx low-dropout regulators

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Flyback PWM Controllers Enable Small Footprints For Fast Charging Solutions, Elevation Semiconductor's HL9510 and HL9512 controller ICs

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Chip Balances Supercapacitors Rated At 3.0 V And Higher, Advanced Linear Devices' ALD810030 precision MOSFET array

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Buck Converter IC For ADAS Achieves Highly Stable Operation, ROHM Semiconductor's BD9S402MUF-C buck converter IC with built-in MOSFET

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December 2022:

PFC And Hybrid-Flyback IC Drives Performance In GaN-Based USB-C Adapters, Infineon Technologies' XDPS2221 controller IC for USB-PD

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Highly Configurable, Compact PMIC For The IoT, Qorvo's ACT88420 power management IC

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January 2021:



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PMBus-Compliant Buck Regulators Deliver Up To 40 A In 5-mm x 7-mm Package, Vishay Siliconix SiC45x family of microBUCK regulators

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Automotive DC-DC Converters Offer Stable Output, Fast Response And High Efficiency, ROHM's BD9P series dc-dc converters

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February 2021:

Receiver IC Puts Wireless Charging Speeds On Par With 60-W Adapters, Renesas Electronics' P9418 60-W wireless power receiver IC

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24-V Dual-Channel Gate Driver For Large Power Switches, Infineon Technologies' 2ED24427N01F low-side gate driver with an integrated thermal pad

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March 2021:

Laser Driver IC Could Spur Burst Of Activity In Lidar Applications, Efficient Power Conversion's EPC21601 laser driver IC

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Smart Controller Combines Motion Control Engine With Three-Phase Gate Driver, Infineon Technologies' IMD110 iMOTION Smart Driver series

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Class-D Amp For High-Definition Audio Adds Safety-Related Diagnostics, STMicroelectronics' HFDA801A high-resolution audio amplifier

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NSREC Notes:

Space Power Components Answer Calls For Higher Performance, Lower Cost

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- **Bringing Higher Reliability To Plastic Parts,** *Renesas's Intersil space plastic products including the ISL73033SEH low-side driver and 100-V GaN FET, the ISL71001SLH/SEHM 6-A synchronous buck regulator, the ISL71610SLHM digital isolator with passive input, and the ISL71710SLHM digital isolator with active input*
- **A PWM Controller Fast Enough For GaN,** *Apogee Semiconductor's AFP1422 radiation-hardened PWM controller*
- **Smart Power Switch Controller Brings Greater Integration,** *CAES's UT36/UT05PFD103 smart power switch controller*
- **Higher Current And Wider Input Range For Point-Of-Load Converters,** *Texas Instruments' TPS7H4001-SP space-grade 18-A buck converter and TPS7H4010-SEP space-enhanced plastic 3.5-V to 32-V, 6-A buck converter*
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April 2021:

DC-DC Controllers Integrate Active EMI filter For Smaller Solution Size, *Texas Instruments' LM25149-Q1 and LM25149 dc-dc controllers*

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AC-DC Converter ICs Ease Design For Appliances, Sensors And Meters, *Power Integrations' LNK3207 ac-dc converter ICs*

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Half-Bridge And High-Side/Low-Side Gate Drivers Are Tailored For Fast Switching, *Infineon Technologies' 2ED2103S06F/2ED2104S06F half-bridge and 2ED2110S06M/2ED2101S06F high- and low-side gate drivers*

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Power ICs Extend Battery Life In Consumer, Industrial, Healthcare And IoT Designs, *Maxim Integrated Products' MAX17227A and MAX17291 boost converters and MAX38911 LDO*

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Tiny, Programmable Mixed-Signal ASIC Features I²C Interface, *Dialog Semiconductor's SLG46811 GreenPAK device*

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Highly Integrated Switching Regulator Delivers Fast Transient Response,
Empower Semiconductor's IVR EP7010 10-A Integrated Voltage Regulator

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May 2021:

Inverter Eval System Shows >99% Efficiency At 100 kHz Using SiC MOSFETs,
Pre-Switch's CleanWave200 inverter evaluation system, offers the option of a chip-level implementation of its controller

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PMICs Offer Customized And Compact Power Supply Solutions For FPGAs,
AnDAPT AmP PMICs

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Plug-And-Play Gate Drivers Target Railway Applications,
Power Integrations' SCALE-2 gate drivers

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Easy-To-Design-In Gate Drivers Offer Reinforced Isolation,
Infineon Technologies' EiceDRIVER X3 gate driver families

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Isolated Gate Driver Safely Controls SiC MOSFETs,
STMicroelectronics' STGAP2SiCS STGAP family of isolated gate drivers

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Reference Design Compact USB Type-C 27-W Power Adapters,
STMicroelectronics' STEVAL-USBPD27S USB Type-C Power Delivery 3.0 reference design, which includes the STM32G071 microcontroller, the STCH03 PWM controller and the TCPP01-M12 USB Type-C protection IC

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600-V IGBT IPMs Reduce Radiated Noise And Power Loss,
ROHM Semiconductor's four new members of the BM6437x series of 600-V IGBT intelligent power modules (IPMs)

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900-V Switcher ICs Benefit EV Designs With 400-V, 800-V And Even Higher Voltage Buses,
Power Integrations' INN3996CQ flyback switcher IC

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Programmable Three-Phase Driver IC Enables More-Integrated Designs For Power Tools, Infineon Technologies' 6EDL7141 three-phase gate driver IC

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Photocouplers Save Space In Industrial Drives And Solar Inverters, Renesas' RV1S9231A, RV1S9207A and RV1S9209A photocouplers

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Isolated Gate Drivers Are Optimized For EVs And Industrial Applications, Silicon Labs' Si828x version 2 isolated gate driver product family

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Totem-Pole PFC Controller Provides High Performance, Cost Effective Design, ON Semiconductor's NCP1680 CrM PFC controller IC

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Supply Supervisor Delivers Glitch-Free Power-Up Down To 0.6 V And Lower, Maxim Integrated Products' MAX16162 nanoPower supervisor

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700-V, 2-W To 8-W Buck Regulators Suit A Range Of Home And Industrial Uses, Renesas Electronics' RAA2230XX buck regulators

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Offline Switcher ICs Incorporate Lossless Zero-Cross Detection And X-Capacitor Discharge, Power Integrations' LinkSwitch-TNZ family of switching power supply ICs

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High Efficiency DC-DC Converter Family Extends Output Power To 100 W, Silanna Semiconductor's SZDL3105B fully-integrated dc-dc converter

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Flyback Switcher ICs Enable Compact Mobile Chargers, Power Integrations' InnoSwitch4-CZ high-frequency, zero voltage switching (ZVS) flyback switcher ICs

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650-V GaN FET Features Integrated Driver And Enhanced Protection, Tagore Technology's TP44200NM 180-m Ω 650-V GaN E-HEMT device

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Active Clamp Flyback Controller Extends Power Density, Lowers No-Load Power For Adapters, Silanna Semiconductor's SZ1131 ACF controller

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Single-Stage Flyback Controllers Enable Cost-Effective Smart LED Drivers, Infineon Technologies' ICL88xx flyback controllers

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PMIC Delivers Complete Power Solution For New MPUs, Renesas Electronics' RAA215300 PMIC

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ZVS Chipset Enables Smaller Adapters At 100-W+ Power Levels, Dialog Semiconductor's digital zero voltage switching chipset includes the iW9801 primary-side controller and the iW709 secondary-side USB PD protocol IC

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Smart Power Stages Provide Controller-Agnostic Solution For Multiphase VR Regulators, Alpha and Omega Semiconductor's AOZ527xQI series smart power stages

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Isolated Current Sensors Feature High Speed And High Accuracy, Crocus Technology's CT430 and CT431 XtremeSense TMR devices

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Three-Phase MOSFET Gate Driver Maximizes Battery Life And Cuts Component Count, TRINAMIC Motion Control's TMC6140-LA MOSFET gate driver

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PMICs Power Next-Gen Automotive AI SoCs, Dialog Semiconductor's DA914X-A automotive-grade, stepdown dc-dc converters

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Wireless Charger Reference Design For Automotive And Consumer Applications, Microchip Technology's Qi 1.3 wireless charging reference design

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NSREC Notes: Vendor Talks Highlight Advances In Power Devices, Packaging And Reference Designs For Space Applications

- **Superjunction Technology And System Solutions**, half-bridge eval boards, RIC7S113 rad-hard high- and low-side gate driver, and RIC74424 rad-hard dual noninverting low-side gate driver
- **Many Voltage Regulator Options**, Texas Instruments' TPS7H5001-SP rad-hard current-mode PWM controller; 3-A QMLV rad-hard TPS7H4002-SP, 18-A QMLV rad-hard TPS7H4001-SP and rad-tolerant TPS7H4010-SEP point-of-load converter ICs; TPS7H2201-SP smart load switch; TPS73801-SEP 1-A fast transient regulator; and TI's eval board with rad-hard power solution for Xilinx's Kintex UltraScale XQRKU060 FPGA
- **More Progress In Plastic**, ISL73033SEH low-side driver and 100-V GaN FET, ISL71001SLH/SEHM 6-A synchronous buck regulator and the ISL71610SLHM digital isolator with passive input, and Renesas' full QML-V qualified power solution for Microchip's RTG4 rad hard FPGA

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GaN Gate Driver Boosts Speed, Flexibility In Industrial And Home Automation, STMicroelectronics' STDRIVEG600 half-bridge gate driver

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Tiny PMIC Charges Wearables And Hearables Faster, Analog Devices' MAX77659 single-inductor multiple output (SIMO) power management IC

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November 2021:

Buck-Boost Converter Boasts Low I_Q And Supercapacitor Charging, Texas Instruments' TPS61094 buck-boost converter

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Flyback Switcher Chips With Built-In USB PD Controller Simplify Adapter Designs, Power Integrations' InnoSwitch3-PD offline switcher ICs

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GaN Power ICs Integrate Fast Overcurrent And Overtemperature Protection, Navitas Semiconductor's third-gen GaNFast power ICs

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USB-C Controller Eases Transition Away From Barrel Connectors, Infineon Technologies' EZ-PD BCR (Barrel Connector Replacement)

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Automotive LED Driver Provides 4.5-V to 75-V Input, Taiwan Semiconductor's TS19503 hysteretic-mode converter

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Multi-Cell Battery Front End ICs For High-Cell-Count, High-Voltage Systems, Renesas Electronics' RAA48920x battery front end ICs

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Photocouplers Shrink Designs For Industrial Automation And Solar Inverters, Renesas' RV1S92xxA and RV1S22xxA photocouplers

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PMIC Powers Application-Processor-Based Systems, STMicroelectronics' STPMIC1 power-management IC

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Highly Robust Gate Drivers Achieve AEC-Q100 Automotive Qualification, Power Integrations' SID1181KQ SCALE-iDriver gate driver

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PMIC For Automotive Surround View Camera Systems, Renesas Electronics' ISL78083 automotive camera PMIC

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Rad Hard Regulator Integrates Synchronous Buck And LDO For Satellites, Renesas Electronics' ISL70005SEH synchronous buck and low dropout regulator

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40-A Buck Converter IC Is Stackable Up to 160 A, Texas Instruments'
TPS546D24A 40-A buck converter

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April 2020:

What We Missed At APEC: Silicon Carbide Marches On And Other Power Product News, Power Integrations' PowiGaN, SiC SCALE iDriver gate driver, BRD 1167/1267 bridge switch motor driver ICs; Rohm Semiconductor's BM6112 isolated gate driver; Infineon Technologies' IR3887M, IR3888M and IR3889M OptiMOS iPOL regulators with Fast COT; the FOD8334, NCD57000 and NCP51530 gate drivers; Texas Instruments' TPS546D24A 40-A stackable buck converter, the TPSM53604 36-V input, 4-A output buck power module, the UCC12050/40 500-mW isolated dc-dc power supply; Efficient Power Conversion's EPC2152 80-V, 12.5-A power stage IC (driver plus eGaN FET half-bridge).

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Low-Cost ICs Provide Advanced Velocity Control Of Servo Motors,
Performance Motion Devices' Juno Velocity Control ICs

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Synchronous-Rectification Controller Cuts BOM Costs For Power Adapters,
STMicroelectronics' SRK1001 secondary-side synchronous-rectification controller

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May 2020:

GaN Power Switch Increases Output Of Display PSUs To 75 W, Power Integrations' InnoSwitch3-MX isolated switcher IC family

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PMIC Cuts Solution Size, Extends Battery Life For Wearables And Hearables, Maxim Integrated Products' MAX77654 power management IC

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ACF Controllers Push Power Adapters To Higher Efficiency Using Silicon Only, Silanna Semiconductor's SZ1110 and SZ1130 active-clamp flyback controllers

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Flexible And Rugged Controller Simplifies Power For Smart Devices,
STMicroelectronics' VIPer222 controller for high-voltage converters

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June 2020:

Automotive LED Driver Ensures Stable Lighting During Battery Voltage Drops,
ROHM Semiconductor's BD18336NUF-M LED driver IC

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Thermally Efficient PFC Controller IC Enables 100-W Adapters With No Heatsinks,
Power Integrations' HiperPFS-4 ICs

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Outer Loop Control ICs For Brushless DC And DC Brush Motors,
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July 2020:

Voltage Regulator ICs Take Monolithic Integration to Another Level,
Empower Semiconductor's EP70xx Integrated Voltage Regulators

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Configurable Mixed-Signal IC Adds High-Voltage Capability For Driving Motors,
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100-V Half-Bridge MOSFET Drivers Offer Ruggedness And High Performance,
Renesas Electronics' HIP2211 and HIP2210 half-bridge MOSFET drivers

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Switcher IC Powers EV Subsystems Directly From 400-Vdc Bus,
Power Integrations' AEC-Q100-qualified version of its LinkSwitch-TN2 switcher IC

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SiC-Based Three-Phase Driver Module Delivers 80 A Peak, Is Fully Integrated,
Apex Microtechnology's SA310 three-phase driver

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Dual-Channel Buck Converters Feature Low EMI And Stackable Outputs, Analog Devices' LT8650S, LT8652S and LT8653S Silent Switcher converter ICs
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Switcher IC Eases Operation From High-Voltage EV Batteries, Power Integrations' InnoSwitch3-AQ flyback switcher IC
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Versatile LED Driver Powers A Host of Automotive Applications, Taiwan Semiconductor's TS19501 dimmable LED driver
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High-Speed Current Sensor With High Accuracy Supports Faster Switching Frequencies, Allegro MicroSystems' ACS37002 Hall-effect current sensor
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Buck-Boost Chargers Deliver Greater Power Density For USB And Wireless Dual-Input Charging, Texas Instruments' BQ25790 and BQ25792 buck-boost battery charger ICs
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Interleaved PFC Digital Power Controller Features Mechanical Inrush Control, STMicroelectronics' STNRGPF02 two-channel interleaved PFC controller
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Kit Speeds Design Of Rad Hard Power ICs And Other Mixed-Signal Chips, Apogee Semiconductor's TalRad Process Design Kit
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Highly Integrated Automotive-Grade Buck Converters Power In-Cabin Electronics, Dialog Semiconductor's DA913X-A dc-dc converters
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CMOS LED ICs Replace Legacy Bipolar Drivers, Taiwan Semiconductor's TSCR4 linear CMOS LED driver ICs
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Efficient GaN-Powered LED Drivers Target Smart-Lighting Designs, Power Integrations' LYT6078C LED driver IC

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Buck-Boost Converter With Ultra-Low Quiescent Current Powers Sensors And Other Devices, Renesas Electronics' ISL9122A buck-boost regulator

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Devices Copackage Silicon Half-Bridge Driver And 650-V GaN Transistors, STMicroelectronics' MasterGaN1 GaN half bridge with integrated drivers

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Power IC Shrinks Input Bulk Capacitor, Reduces Inrush Current, Power Integrations' MinE-CAP power IC

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Isolated IGBT/SiC MOSFET Gate Driver Benefits HEV/EV Applications, Texas Instruments' UCC5870-Q1 IGBT/SiC MOSFET gate driver

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80-V DC-DC Controllers Provide Extra Voltage Margin For Data Center, Telecom Applications, Renesas Electronics' ISL81801 and ISL81802 dc-dc controllers

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Automotive GaN FET Includes Driver, Protection And Active Power Management, Texas Instruments' LMG3522R030-Q1, LMG3525R030-Q1, LMG3422R050, LMG3425R050, LMG3422R030 and LMG3425R030 600-V and 650-V GaN FETs with integrated driver, protection and temperature reporting

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Modules Protect 5-V And Lower Designs From Overvoltage, Advanced Linear Devices' SABMBOVP family of overvoltage protection PCBs

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Automotive Gate Drivers Target 48-V Battery Systems, Allegro
MicroSystems' AMT49100, AMT49101, AMT49502, A89503 and the A89500 three-phase and half-bridge gate drivers

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Automotive-Qualified High-Side Switch ICs With User-Definable Protection, ROHM's V2HD045EFU-C, BV2HC045EFU-C and BV2HD070EFU-C two-channel high-side switch ICs

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Buck Regulators Deliver High Efficiency, Small Size For USB-PD Applications, Silanna Semiconductor's SZPL3102A/3103A dc-dc converters

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Low-Noise Buck Converters With Ferrite-Bead Compensation Eliminate LDOs, Texas Instruments' TPS62912 and TPS62913 switching regulators

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LED Drivers Come In DFN With Side-Wettable Flanks, Nexperia's NCR32xPAS/NCR42xPAS LED driver ICs

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January 2019:

Receiver Chip Enables Wireless Charging In Smaller Devices, Energous' DA2223 four-port RF-to-dc wireless power chip

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Energy-Harvesting Embedded Controller May Eliminate Batteries In IoT Devices, Renesas' R7F0E embedded controller

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February 2019:

Buck Regulators Deliver Compact Solutions For Powering Next-Gen Chipsets, Alpha and Omega Semiconductor's AOZ2367QI and AOZ2368QI EZBuck regulators

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SiC-MOSFET Gate Driver Improves Efficiency And Safety, Power Integrations' SIC1182K SCALE-iDriver SiC-MOSFET gate driver

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PMIC Supports Thermal Energy Harvesting With Low-Voltage Startup, e-peas' AEM20940 power management IC

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6-A Buck Converter Achieves Tiny Size, High Efficiency Using Novel Architecture, Murata Manufacturing's MYMGA1R86RELC2RA dc-dc converter

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Gate Driver Uses AI To Bring Soft Switching Benefits To Inverters, Pre-Switch's 3-phase gate-drive solution

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Chipset Makes Flybacks More Efficient In Powering Displays, Power Integrations' InnoMux chipset

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Regulator Uses Less Power, Fewer Parts Than Conventional Cap-Drop Designs, Texas Instruments' TPS7A78 ac-dc linear regulator

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PMBus Power Modules Deliver High Power Density For FPGAs, DSPs, ASICs And Memory, Renesas Electronics' ISL8280M and ISL8282M hybrid digital dc-dc PMBus power modules

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1000-A Voltage Regulator Solution For Next-Gen AI And 5G Networking, Infineon Technologies' XDPE132G5C digital PWM multiphase controller and TDA21475 70-A power stage

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Regulated LED Driver For Automotive Applications, Taiwan Semiconductor's TSCR421 low-side constant-current regulator

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Isolated ICs Ensure Precise Current And Voltage Measurements, Silicon

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Labs' Si89xx family of isolated analog amplifiers, voltage sensors and delta-sigma modulator devices

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AC-DC Converter ICs Add Built-In 1700-V SiC MOSFET For More Compact Designs, ROHM Semiconductor's BM2SCQ12xT-LBZ series ac-dc converter ICs

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Rad-Tolerant PWM Controller And GaN FET Driver Come In Plastic Packages For SmallSats, Renesas Electronics' ISL71043M PWM controller and ISL71040M GaN FET driver

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Fully Integrated Active Clamp Flyback Controller Extends Benefits To 60-W AC Adapters, Silanna Semiconductor's SZ1105 active-clamp flyback controller

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Isolated Gate Drivers Integrate Sensing For IGBTs And SiC MOSFETs, Texas Instruments' UCC21710-Q1, UCC21732-Q1 and UCC21750 isolated gate drivers

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Programmable Multi-Channel LDO Packs High PSRR And Low Noise For Powering Smart Phone Cameras, Dialog Semiconductor's SLG51000 configurable mixed-signal integrated circuit

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Smart Class D Amplifier Delivers Louder, Richer Sound From Micro Speakers, Maxim Integrated Products' MAX98390 smart amplifier

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Six-Channel Controller Improves Precision And Performance For Stepper Motors, TRINAMIC Motion Control's TMCM-6214 motor controller and driver module

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80-V Buck LED Drivers Perform Highly Accurate Dimming, Infineon Technologies' ILD8150/E LED driver ICs



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Switching Regulator Operates With Input Up To 61 V,
STMicroelectronics' A7987 automotive switching regulator

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August 2019:

Offline Switcher ICs Adopt GaN For Higher Power Output And Efficiency,
Power Integrations' INN3X79C and INN3X70C offline switcher ICs

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15-Mbps Photocouplers Withstand Harsh Industrial Applications, Renesas'
RV1S9x60A photocouplers

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Regulator's Low Quiescent Current Extends Battery Life For IoT Devices,
Texas Instruments' TPS62840 synchronous stepdown converter

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Configurable Mixed-Signal ICs Are Now Available For Automotive Applications, Dialog Semiconductor's SLG46620-A Configurable Mixed-Signal IC

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Battery Management IC Maximizes Cell Life And Driving Range For Hybrids And EVs, Renesas Electronics' ISL78714 Li-ion battery management IC

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Buck-Boost Converter Extends Battery Life For IoT, Wearable, And Portable Devices, ROHM's BD83070GWL synchronous buck-boost converter IC

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X-Capacitor Discharge ICs Enable Faster Discharge, Power Integrations'
CAPZero-3 X-capacitor discharge ICs

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Charger's Low Termination Current Increases Battery Capacity, Texas Instruments' BQ25619 switching battery charger IC

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ICs Simplify USB Type-C Power Delivery, Enable HostFlexing And PDBalancing, Microchip Technology's USB705x SmartHub devices with support for power delivery and UPD301A USB type-C PD controller

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Power Amplifier IC Delivers High Voltage And High Current, Apex Microtechnology's PA164 high-voltage operational amplifier

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Backlight LED Driver Is Compatible With 3- To 12-in. Vehicle LCD Panels, ROHM Semiconductor's BD81A76EFV-M LED driver IC

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Silent Motor Controller Enables Battery-Powered Stepper Motors To Run in Stealth Mode, TRINAMIC's TMC2300 motor driver IC

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POLs Increase Efficiency For Server, Networking And Telecom Applications, Infineon Technologies' OptiMOS IR3826(A)M integrated point-of-load regulators

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Tiny LDO Cuts Quiescent Current To <25 nA, Texas Instruments' TPS7A02 low-power low-dropout regulator

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PoE Products Ease Powering Of Pre-standard And 802.3bt-2018-Compliant PDs, Microchip Technology's IEEE 802.3bt-2018-compliant PoE injectors and midspans and power sourcing equipment (PSE) chipsets including the PD69208M, PD69204T4 and PD69208T4 PSE managers and PD69210 PoE controller

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LED Drivers Support Dynamic Automotive Lighting From Front To Rear, Texas Instruments' TPS92520-Q1, TPS92682-Q1 and TPS929120-Q1 LED drivers

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Dual-Mode Battery Charge ICs Enable Simultaneous USB PD And Wireless Charging, ROHM's BD99954GW/MWV dual-input boost-buck charging ICs

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Rad-Hard GaN Devices Propel Space Power Supplies To Higher Performance, Renesas Electronics' ISL7002xSEH GaN FETs and ISL70040SEH GaN FET driver

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Fully Integrated Regulators Have PMBUS, SVID And PVID Functionality, Infineon Technologies' IR38x63/5 integrated point-of-load regulators

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Buck Regulator Delivers High Current With High Power Density For 24-V Inputs, Vicor's PI3325-00-LGIZ Cool-Power ZVS buck regulator

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March 2018:

Dynamically Configurable Offline Switcher IC Supports USB PD 3.0 + PPS, Power Integrations' InnoSwitch3-Pro configurable flyback switcher ICs

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DC-DC Converter Runs Up To 10 Years On Coin-Cell Battery, ROHM Semiconductor's BD70522GUL dc-dc converter IC

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GaN Power ICs Make Adapters Smaller, Support Fast Charging, Navitas Semiconductor's 27-W and 65-W USB-PD reference designs

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Feature Rich PoE Chips Power IP Cameras And Other IoT Applications, Silicon Labs' Si3406x and Si3404 PoE powered device ICs

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4-V to 42-V Input Buck Regulators Occupy 2.6-mm x 3.0-mm Footprint,
Maxim Integrated Products' MAXM17532 and MAXM15462 dc-dc power modules
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PWM Controller-MOSFETs Combo Enables Robust SMPS Designs Up To 43 W,
Infineon Technologies' CoolSET
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Stepup Power Module Supports 48-V GPUs In Legacy 12-V Data Centers,
Vicor's 2317 NBM power module
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LDO Packs High Performance In Tiny Footprint,
STMicroelectronics' STLQ020 low-dropout voltage regulator
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Power Supply ICs Are Honed For High-Fidelity Audio, ROHM Semiconductor's
BD372xx series linear regulators
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PMICs Boast Better Efficiency And Solution Size For Powering Processors,
Renesas Electronics' ISL91302B, ISL91301A and ISL91301B power management ICs
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USB Type-C Data Line Protection IC Responds To Overvoltages In 15 ns,
Kinetic Technologies' KTU1101 USB type-C port protector
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400-V Linear Regulators Deliver Constant LED Current In Compact Packages, Diodes' AL5890 linear constant-current regulator
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"Deep Sleep" Load Switch Prevents Battery Discharge During Product Shipment, GLF Integrated Power's GLF76321 IQSmart load switch IC
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LDOs Boast 98-dB PSRR, Benefitting Imaging And Wireless Applications, ON Semiconductor's NCP16x and NCV816x series LDOs

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Bidirectional Bus Converters Deliver 750 W For Data Center, Automotive Apps, Vicor's 2317 NBM, a bidirectional nonisolated fixed-ratio converter

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Dual-Core Digital Signal Controller Eases Code Development By Separate Design Teams, Microchip Technology's dsPIC33CH digital signal controller

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Gate Driver Core Is Optimized For SiC MOSFET Modules, AgileSwitch's ASC1 SiC MOSFET gate driver core

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EMI-Compliant Buck Converters Speed Time To Market, Maxim Integrated Products' CISPR 22- and EN 55022-compliant Himalaya stepdown converters and power modules

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Resonant Controller With PFC Targets Power Supplies And LED Drivers, Infineon Technologies' ICL5102 resonant controller IC

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Half-Bridge Gate Driver IC Enhances Reliable Start-Up Operation, Infineon Technologies' IRS2007S 200-V half-bridge gate-driver IC

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PMICs Power Next-Generation Mobile Consumer Applications, Maxim Integrated Products' MAX77714 and MAX77752 power-management ICs

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Power Monitoring IC Measures AC And DC Power With High Accuracy, Microchip Technology's MCP39F511A dual-mode power monitoring IC



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

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- *Automotive-Grade Boost Controller Boasts Wide Input Range, ON Semiconductor's NCV8871 nonsynchronous boost controller*
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