Power ICs Article Archive (By Issue)

Power IC News Sponsored by Renesas

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.

Products are listed here using the following format:

**Issue date:**

Article title, Part number/product name

*For more details...*(link to article)

For articles on discrete power semiconductors and modules, see the Discrete Power Semis and Modules Archive. For more on point of-load regulators and dc-dc converters, including hybrid and pc-board-based devices, see the Board-Mounted Power Converter Article Archive.

**January 2021:**

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

*For more details...*
Automotive DC-DC Converters Offer Stable Output, Fast Response And High Efficiency, ROHM’s BD9P series dc-dc converters

February 2021:

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

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

March 2021:

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

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

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

NSREC Notes:
Space Power Components Answer Calls For Higher Performance, Lower Cost

- 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
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- **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

**April 2021:**

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

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

**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

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

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

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

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

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

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

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

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

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)

June 2021:

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

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

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

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

**July 2021:**

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

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

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

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

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

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

**August 2021:**

**650-V GaN FET Features Integrated Driver And Enhanced Protection,** Tagore Technology’s TP44200NM 180-mΩ 650-V GaN E-HEMT device

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

**Single-Stage Flyback Controllers Enable Cost-Effective Smart LED Drivers,** Infineon Technologies’ ICL88xx flyback controllers
PMIC Delivers Complete Power Solution For New MPUs, Renesas Electronics’ RAA215300 PMIC

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

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

September 2021:

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

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

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

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

October 2021:

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-
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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

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

For more details...

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

For more details...

January 2020:

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

For more details...

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

For more details...

February 2020:

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

For more details...

**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

For more details...
March 2020:

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

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).

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

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

May 2020:

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

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

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

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

June 2020:

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

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

Outer Loop Control ICs For Brushless DC And DC Brush Motors, Performance Motion Devices’ Juno Outer Loop Control ICs

July 2020:

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

Configurable Mixed-Signal IC Adds High-Voltage Capability For Driving Motors, Dialog Semiconductor’s SLG47105 HV PAK IC

100-V Half-Bridge MOSFET Drivers Offer Ruggedness And High Performance, Renesas Electronics’ HIP2211 and HIP2210 half-bridge MOSFET drivers

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

SiC-Based Three-Phase Driver Module Delivers 80 A Peak, Is Fully Integrated, Apex Microtechnology’s SA310 three-phase driver
Dual-Channel Buck Converters Feature Low EMI And Stackable Outputs, Analog Devices’ LT8650S, LT8652S and LT8653S Silent Switcher converter ICs

August 2020:

Switcher IC Eases Operation From High-Voltage EV Batteries, Power Integrations’ InnoSwitch3-AQ flyback switcher IC

Versatile LED Driver Powers A Host of Automotive Applications, Taiwan Semiconductor’s TS19501 dimmable LED driver

High-Speed Current Sensor With High Accuracy Supports Faster Switching Frequencies, Allegro MicroSystems’ ACS37002 Hall-effect current sensor

Buck-Boost Chargers Deliver Greater Power Density For USB And Wireless Dual-Input Charging, Texas Instruments’ BQ25790 and BQ25792 buck-boost battery charger ICs

September 2020:

Kit Speeds Design Of Rad Hard Power ICs And Other Mixed-Signal Chips, Apogee Semiconductor’s TalRad Process Design Kit

Highly Integrated Automotive-Grade Buck Converters Power In-Cabin Electronics, Dialog Semiconductor’s DA913X-A dc-dc converters

CMOS LED ICs Replace Legacy Bipolar Drivers, Taiwan Semiconductor’s TSCR4 linear CMOS LED driver ICs
October 2020:

**Efficient GaN-Powered LED Drivers Target Smart-Lighting Designs**, Power Integrations’ LYT6078C LED driver IC

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

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

November 2020:

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

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

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

**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

**Modules Protect 5-V And Lower Designs From Overvoltage**, Advanced Linear Devices’ SABMBOVP family of overvoltage protection PCBs
Automotive Gate Drivers Target 48-V Battery Systems, Allegro MicroSystems’AMT49100, AMT49101, AMT49502, A89503 and the A89500 three-phase and half-bridge gate drivers

For more details...

December 2020:

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

For more details...

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

For more details...

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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March 2019:
SiC-MOSFET Gate Driver Improves Efficiency And Safety, Power Integrations’ SIC1182K SCALE-iDriver SiC-MOSFET gate driver

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

April 2019:

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

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

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

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

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

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

Regulated LED Driver For Automotive Applications, Taiwan Semiconductor’s TSCR4241 low-side constant-current regulator

Isolated ICs Ensure Precise Current And Voltage Measurements, Silicon
Labs’ Si89xx family of isolated analog amplifiers, voltage sensors and delta-sigma modulator devices

May 2019:

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

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

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

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

June 2019:

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

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

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

July 2019:

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

For more details...

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

For more details...

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

For more details...

September 2019:

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

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

October 2019:

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

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

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

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

November 2019:

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

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

January 2018:
Dual-Mode Battery Charge ICs Enable Simultaneous USB PD And Wireless Charging, ROHM’s BD99954GW/MWV dual-input boost-buck charging ICs

February 2018:

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

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

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

March 2018:

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

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

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

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

PWM Controller-MOSFETs Combo Enables Robust SMPS Designs Up To 43 W, Infineon Technologies’ CoolSET

Stepup Power Module Supports 48-V GPUs In Legacy 12-V Data Centers, Vicor’s 2317 NBM power module

LDO Packs High Performance In Tiny Footprint, STMicroelectronics’ STLQ020 low-dropout voltage regulator

May 2018:

Power Supply ICs Are Honed For High-Fidelity Audio, ROHM Semiconductor’s BD372xx series linear regulators

PMICs Boast Better Efficiency And Solution Size For Powering Processors, Renesas Electronics’ ISL91302B, ISL91301A and ISL91301B power management ICs

USB Type-C Data Line Protection IC Responds To Overvoltages In 15 ns, Kinetic Technologies’ KTU1101 USB type-C port protector

400-V Linear Regulators Deliver Constant LED Current In Compact Packages, Diodes’ AL5890 linear constant-current regulator

“Deep Sleep” Load Switch Prevents Battery Discharge During Product Shipment, GLF Integrated Power’s GLF76321 IQSmart load switch IC

June 2018:
LDOs Boast 98-dB PSRR, Benefitting Imaging And Wireless Applications, ON Semiconductor’s NCP16x and NCV816x series LDOs

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

July 2018:

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

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

August 2018:

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

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

September 2018:

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

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

Power Monitoring IC Measures AC And DC Power With High Accuracy, Microchip Technology’s MCP39F511A dual-mode power monitoring IC
**48-V Input Buck Regulators Offer BGA Option**, Vicor’s PI354x-00-BGIZ Cool-Power ZVS buck regulator

**October 2018:**

**Half H-Bridge Module Combines SiC MOSFETs with Integrated Gate Drive**, Apex Microtechnology’s SA110 SiC half H-bridge module

**Buck Converters Support Sensors And Cameras For Assisted Driving**, ROHM Semiconductor’s BD9S series automotive synchronous buck converters

**Buck-Boost Controllers Deliver True Bidirectional Power Conversion For Industrial Battery-Powered Applications**, Renesas Electronics’ ISL81601 and ISL81401 bidirectional four-switch synchronous buck-boost controllers

**Smart Switch Supports Fuel Savings In Automotive Power Trains**, Infineon Technology’s TLE9104SH smart quad-channel powertrain switch

**USB Type-C And USB Power Delivery Controllers Have Fully Integrated Power Paths**, Texas Instruments’ TPS65987D and TPS65988 USB Type-C and USB PD controllers

**Digital Signal Controller Accelerates DSP Performance for Time-Critical Control Applications**, Microchip Technology’s dsPIC33CK digital signal controllers

**November 2018:**

**600-V GaN FET Power Stages Boost Performance For Applications Up To 10 kW**, Texas Instruments’ LMG34x family of 600-V GaN power stages

**Automotive Buck-Boost Chipset Meets Demands Of Start-Stop Vehicle Systems**, Rohm’s BD8P250MUF-C + BD90302NUF-C buck-boost chipset
Rad Hard Current Sources For Sensing Subsystems In Satellites, Renesas Electronics’ ISL70591SEH and ISL70592SEH rad hard current sources

Flyback Switcher ICs Bring High Efficiency To Three-Phase 480-V Industrial Applications, Power Integrations’ LinkSwitch-XT2 offline switcher ICs

LDO’s Miserly Iq Prolongs Battery Life While 1-mm$^2$ Footprint Saves Space, Microchip Technology’s MCP1811 linear low dropout regulator (LDO)

December 2018:

BLDC Motor Driver Eliminates Heatsinks, Slashes Certification Time For Appliance Designs, Power Integrations’ BridgeSwitch half-bridge motor driver IC family

Buck/Boost Regulator Simplifies Power Backup Using Supercaps, Maxim Integrated’s MAX38888 reversible buck/boost regulator

Half-Bridge Drivers Enhance Design Of 12-V to 48-V Automotive Hybrid Powertrains, Renesas Electronics’ ISL784x4 100-V half-bridge drivers

Isolated High-Side Power Switch Offers SPI And Many Other Features, STMicroelectronics’ ISO8200AQ isolated octal high-side smart power switch

ORing FET Controller Protects Automotive Electrical Systems, Maxim Integrated’s MAX16141 36-V ORing FET controller

January 2017:

Power IC Model Library For PSpice Adds Automotive Test, From EMA Design Automation, ver.4.2 of AEi Systems’ Power IC Model Library
February 2017:

**GaN Power ICs Enter The Market**, Navitas Semiconductor’s NV6131, NV6105 and NV6115 iDrive Gallium Nitride power ICs

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**Battery Charger Extends Backup Battery Life In Automotive eCall Systems**, Intersil’s ISL78693 3.6-V battery charger IC

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**Motor Driver IC Requires Only Four External Components**, Allegro MicroSystems Europe’s A3916 motor driver IC

For more details...

**Intelligent Power Modules Offer More Packages, More Features For Appliances**, STMicroelectronics’ SLLIMM nano series of Intelligent Power Modules for motor drives

For more details...

March 2017:

**Inductorless Converter Delivers 10 A With Over 98% Efficiency**, Dialog Semiconductor’s DA9313 switched-capacitor dc-dc converter

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**48-V Buck Regulator Delivers 20 A In Less Than 740-mm² Footprint**, Vicor’s PI3525-00-LGIZ 48-V Cool-Power ZVS buck regulator

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April 2017:

**Buck-Boost Controller Is Tailored To Dual Automotive Battery Systems**, Texas Instruments’ LM5170-Q1 multiphase bidirectional dc-dc current controller.

For more details...

**Power IC Combines Fifth-Gen Flyback Controller With Latest MOSFETs**, Infineon Technologies’s Gen5 CoolSET power ICs

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May 2017:
Buck Converter Optimizes DC Fan Motor Control For Refrigerators, Rohm’s BD9227F buck converter for dc fan motors

100-V Power Stage Module Satisfies Cloud Infrastructure Requirements, ON Semiconductor’s FDMF8811 100-V bridge power stage module

10-A Power Modules Provide Complete Stepdown Solutions In Tiny Footprints, Texas Instruments’ TPSM84A21 and TPSM84A22 stepdown power modules

PMIC Increases Power Efficiency For Digital SLR Cameras, Dialog Semiconductor’s DA6102 integrated power management IC

LED Driver ICs Combine High Efficiency, Small Size, Peregrine Semiconductor’s ARC3C family of LED driver ICs

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A New Power Management Tool For Portable Product Designers, Silego Technology’s SLG46580 GreenPAK programmable mixed-signal IC

Power Management IC Is 91% Efficient, Reduces Space Needs 40%, Intersil’s ISL91211 PMIC

Stepdown Converters Cut Power Dissipation And Size For Industrial Applications, Maxim Integrated’s MAX17572 and MAX17574 Himalaya synchronous stepdown dc-dc converters

Synchronous Rectifier Controller Eases Power System Design, ON Semiconductor’s FAN6248 synchronous rectifier controller for LLC resonant converters

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**August 2017:**

**PMICs Increase Battery Life In “Hearables”, Maxim**
Integrated’s MAX77650/MAX77651 power management ICs (PMICs)

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**Smart Gate Driver Photocoupler Features Improved Desaturation Sensing**, Toshiba America Electronic Components’ TLP5214A smart gate driver photocoupler

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**Offline Flyback Switcher ICs Deliver 94% Efficiency Over Line And Load**, Power Integrations’ InnoSwitch3 family of offline flyback switcher ICs

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**Power Amplifier ICs Deliver High Voltage, High Output Current In Compact Package**, Apex Microtechnology’s PA164 and PA165 power amplifiers

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**Buck Converter IC Delivers Extreme Voltage Stepdown For Mild Hybrid Vehicles**, ROHM Semiconductor’s BD9V100MUF-C dc-dc converter IC

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**IC Boosts Power Measurement Accuracy In Windows 10 Devices**, Microchip Technology’s PAC1934 power and energy monitoring chip

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**40-A Buck Converter Chip Features Novel Control Topology**, Texas Instruments’ TPS543C20 synchronous buck converter IC

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Power ICs Offer Many Options For Expanded Power Delivery Via USB Type C

- **USB-C Buck-Boost Regulator Enables Bidirectional Voltage Regulation For Tablets, Ultrabooks And Power Banks**, Intersil’s ISL95338 USB-C buck-boost regulator
- **Reference Design Simplifies Development Of USB Type-C Rechargeable Battery Packs**, Silicon Labs’ USB type-C rechargeable battery pack reference design
- **Buck-Boost Battery Charge Controllers Maximize Input Power For 1S To 4S Applications**, Texas Instruments’ bq25703A and bq25700A synchronous charge controllers
- **Eval Boards Ease Development Of USB PD Applications From Mobile To 100 W**, Rohm’s USB power delivery (USBPD) compatible transmitter/receiver evaluation boards
- **Robust USB Type-C Controllers With Internal Protection Save Space And Enhance Safety**, STMicroelectronics’ STUSB4710 and STUSB1602 USB Type-C-certified port-controller ICs
- **USB-PD Interface IC Is Optimized For Power Supplies**, Dialog Semiconductor’s iW656 state-machine-based USB Power Delivery interface IC
- **Power Converter ICs Complete Smartphone Direct Charging Solution**, Dialog Semiconductor’s DA9318 series of power converter ICs (can be combined with the iW656 listed above)
- **18-W USB PD Reference Design Delivers High Efficiency And Compact Footprint**, Power Integrations’ DER-567 USB PD compliant, ac-dc power converter reference design
- **Complete USB Type-C Solutions For Rapid Charging And High-Speed Data Transfer**, ON Semiconductor’s portfolio of solutions for the implementation of USB type-C applications includes intelligent charge controllers, port control ICs, data multiplexers, integrated re-drivers, high voltage protection switches, and ESD protection components
- **USB-C Buck-Boost Battery Chargers Add 5-V To 20-V Reverse Boost For USB On-The-Go Charging**, Intersil’s ISL9238 and ISL9238A single-chip battery chargers
- **USB-C Buck-Boost Battery Charger Reduces BOM Costs**, Intersil’s single-chip ISL9237 Narrow VDC battery charger
Power Supply Sequencers Are Rad Hard, Intersil’s ISL70321SEH and ISL73321SEH quad power supply sequencers

Digital POL Generates Five Outputs In Compact, Infineon Technologies’ IRPS5401 digital point-of-load regulator

Chip Enables Faster Wireless Charging Of Smartphones And Tablets, STMicroelectronics’ STWBC-EP wireless-charging controllers

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

Monolithic Sync Buck Regulator Operates Efficiently Up to 18 V, Alpha and Omega Semiconductor’s AOZ3101synchronous buck regulator.

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

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

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

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**GaN FETs + Driver Module Lowers Barriers To GaN-Based Power Design,** Texas Instruments’ LMG5200 integrated half-bridge GaN FET power-stage

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**200-mA Linear Regulator Pushes Operating Temperature To 175°C,** CISSOID’s CMT-ANTARES 5-V linear regulator

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**April 2015:**

**Top Five Products And Demos Seen at APEC 2015**

- Altera’s Enpirion EM1130A 30-A Point-Of-Load Converter
- Intersil’s ISL8272M 50-A Point-Of-Load Converter

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**Power Op Amp Improves Circuit Protection, Lowers Quiescent Current For Piezo Transducers,** Apex Microtechnology’s MP118FD power operational amplifier

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**Controllers Simplify Digital Power Conversion And Enhance Performance,** STMicroelectronics’ STNRG digital-controller family

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**New Type Of Power Module Offers Greater Integration, Path To Cost Reduction,** Maxim Integrated’s Himalaya power modules

**Hermetically Sealed Linear Regulators Offer Dramatically Lower Cost And A Range Of Grades,** Datel’s LVR-7815 linear voltage regulators

**700-V Gate Driver ICs Increase System Reliability And Shrink Board Space,** Infineon Technologies’ IR7xxxS series of 700-V HVICs

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**Integrated Power Switch Features Reverse-Current Blocking,** Silego Technology’s SLG59M1603V integrated power switch

**Controller IC Eases Application Of SiC MOSFETs In AC-DC Power Supplies,** Rohm’s BD7682FJ-LB ac-dc converter control IC

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**Charger Interface IC Eases Implementation Of Quick Charge 3.0 Protocol,** Power Integrations’ CHY103D charger-interface IC
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**Bus Converter Modules Are Non-Isolated And Bidirectional**, Vicor’s non-isolated, bidirectional bus converter modules (NBMs)

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**Wireless Charging Solution Is Adopted By Tier I Computer Makers**, Semtech’s TS80K wireless charging platform

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**15-W Wireless Power Receiver IC Complies With Qi V1.2**, Toshiba America Electronic Components’ TC7766WBG wireless power receiver

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750-mA POL Requires Just 30-mm² Of Board Space, Texas Instruments’ LMR22007 750-mA switching regulator

High-Temperature, High-Voltage DC-DC Converters Reduce Design Time For Down-Hole Applications, International Rectifier’s HTH27022S and HTM27092S dc-dc converters

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Tiny Stepdown Regulators Deliver Extended Voltage And Temp Ranges, ROHM Semiconductor’s BD9G101G dc-dc converter IC and BU90002GWZ 6-MHz synchronous stepdown regulator IC

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Hybrid Power Controller Chip Delivers Benefits of Analog + Digital Control, Microchip Technology’s MCP19111 digitally enhanced power analog controller with integrated synchronous driver
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**Gate Drivers Are Optimized For IGBTs And SiC FETs,** Texas Instruments’ UCC27531 and UCC27532 single-channel output stage gate drivers

**Universal Lighting Controller Promises To Enhance Many Applications,** STMicroelectronics’ STLUX385 digital controller for lighting and power supply applications

**Upgraded Design Tool, New Firmware Enhance Capabilities Of Digital Controller,** Powervation’s PowerSMART design tool and firmware for the PV3012

**Synchronous Rectifier Controller With Sync Function Simplifies SMPS Designs,** International Rectifier’s IR1169 high-speed synchronous rectifier controller

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**User-Defined Power Modules Take Configurability To A New Level,** Vicor’s User-Defined, VI Chip PRM Modules

**Smart Bypass Diode Lowers Power Dissipation,** Texas Instruments’ SM74611 smart bypass diode

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**Single-Stage LED Drivers Deliver High Dimmer Compatibility At Competitive BOM Cost,** Cirrus Logic’s CS1615/16 single-stage LED driver ICs

**Fast-Switching Solid-State Relays Consume Ultra-Low Power,** Electronic
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**Low-Cost Gate Drivers Handle Wide Operating Voltage Range**, IXYS Integrated Circuits Division’s IX4426, IX4427, and IX4428 dual low-side gate driver ICs

**Wide-Input Linear Regulator Works At Very High Temperatures**, CISSOID’s CHT-RIGEL adjustable linear regulator

**Class D Amplifier Improves Efficiency For Driving Brush-Type Motors**, Apex Microtechnology’s SA160DP H-Bridge motor driver/amplifier

**DC-DC Converters Meet MIL-HDBK-1547 And Aerospace TOR Requirements**, VPT’s SVR series rad-hard dc-dc converters and EMI filters for space

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**Controller In SOT-23 Shrinks Boost PFC Circuits**, International Rectifier’s IRS2505L PFC boost IC

**Versatile LED Driver Features Adjustable Frequency And Low-Side Current Sense**, Texas Instruments’ TPS92690 n-channel controller for dimmable LED drives
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**Current-Sharing LDOs Double Current Capability For Harsh Environments,** Texas Instruments’ TPS7H1101-SP and the TPS7H1201-HT LDOs

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**Buck Controller Features Inductor DCR-Based Overcurrent Protection,** Texas Instruments’ LM27403 synchronous buck controller

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**HV Amplifier IC Slashes Noise For Improved Accuracy In Positioning Systems,** Apex Microtechnology’s PA44X 350-V amplifier ICs

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**Energy Measurement ICs Optimize Cost And Performance For Smart Meters,** Cirrus Logics’ CS5484/80/90 analog front end ICs for energy measurement

**Gate-Driven IC Simplifies Power Train Design In Hybrid And Electric Vehicles,** International Rectifier’s AUIR0815S automotive-qualified gate-driver IC
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Hot Swap Controller Emulates MOSFET Thermal Performance, The Picor Cool-Swap PI2211 hot swap controller and circuit breaker from Vicor

DC-DC Converters Deliver 334 W/in³ For Industrial And Military Applications, The Picor Cool-Power PI3106 isolated dc-dc converter from Vicor

Full-Bridge Drivers Feature Braking Control And Extreme Speed, Electronic Design & Research’s high-speed full-bridge isolated (HS-FBI) H7GvvDaa/e drivers

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Digital LED Controller Is Compatible With Nearly All TRIAC Dimmers, Cirrus Logics’ CS161X digital LED controller

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**Power Booster Increases Slew Rate And Bandwidth, Adds Second Channel,**
Cirrus Logics’ PB63 dual power booster amplifier  
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**Rad-Hard Power Converters Ride Intermediate Bus Into Space**

*Monolithic Point-of-Load Regulators (POLs)*
- Texas Instruments’ TPS50601-SP 6-A POL for harsh environments
- Intersil’s ISL70001 and ISL70002 6-A and 12-A SEE immune synchronous buck regulators
- Intersil’s ISL75051SRH radiation-tolerant ultra-low dropout regulator
Peregrine Semiconductor’s PE9915x family of rad-hard buck regulators with integrated switches

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CMOS-Based Isolators Are Pin, Footprint Compatible With Standard Optocouplers, Silicon Laboratories’ Si87xx CMOS-based digital isolators

SSL LED Drivers Feature Flickerless Performance And Digital Dimming Control, iWatt’s iW3616 and iW3617 digital LED drivers

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PFC Controller Integrates Numerous Protection Features, MagnaChip Semiconductor’s MAP8800 PFC controller

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Module Is Fully Encapsulated 30-A POL Converter, Intersil’s ISL8225M 30-A fully-encapsulated POL power module

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

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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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**High-Temperature Components For Power Design**

- **Automotive-Grade Boost Controller Boasts Wide Input Range,** ON Semiconductor’s NCV8871 nonsynchronous boost controller
- **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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- 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
- Digital Power Controllers Deliver High Efficiency, International Rectifier’s IR3541, IR3536, and IR3538 multiphase digital PWM controllers
- 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 Energy$ense family of multi-output, digital dc-dc power management unit ICs

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LDOs Deliver CMOS Advantages and Robustness, ON Semiconductor’s NCP69x families of 1-A CMOS LDOs

ICs Control Discharge Of X Capacitors, Reduce Losses in EMI Filters, Power Integrations’ CAPZero family of zero-loss automatic X-capacitor discharge ICs
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**Buck-Boost Converter Slashes Board Space Requirements**, TPS63020 buck-boost converter IC

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**DC-DC Converters Deliver Fast Response and High Efficiency**, Semtech’s SC173, SC174, and SC493 EcoSpeed dc-dc converter ICs

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High-Side Active ORing Devices Deliver Fast Response for Intermediate Bus Applications, A subsidiary of Vicor, Picor’s PI2007 and PI2127 high-side active ORing devices

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A Slew of Improved Specs for Piezoelectric Drivers, Cirrus Logic’s PA107DP and MP103FCFC hybrid power amps

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Higher Isolation Extends Use of AC Current Sensors, Silicon Laboratories’ Si85xx family of ac current sensors