Driving decarbonization and digitalization. Together.
数字低碳 共创未来

Adam White,
Division President of
Power and Sensor Systems
电源与传感系统事业部总裁

Dear customer,

Semiconductors are essential for enabling a climate-neutral and digitalized world. Infineon semiconductors are enablers to help avoid carbon emissions, use resources sustainably, manage power effectively and intelligently, give “things” smart senses, and process data quickly and reliably. This is our offering to you, our valued customers, to support you in making a difference with your products.

“Driving decarbonization and digitalization. Together.” is Infineon’s vision as a leader in power systems as well as the Internet of Things (IoT) and the purpose all Infineon employees are committed to. We are privileged to offer and promise you leading-edge technology with the highest quality and a stable delivery of reliability. Our portfolio includes power, connectivity, RF, and sensor system technologies to develop smaller, lighter, smarter, and more efficient solutions for consumer devices, smart home/building applications, robotics, computing and data centers, charging devices, power tools, and more. The next generation of silicon and wide-bandgap (SiC and GaN) solutions provides unparalleled performance and reliability to power AI, 5G, big data, and renewable energy applications.

What differentiates us as an industry leader?

- We can leverage the full potential of all three technologies, Si, SiC, and GaN, to provide the best possible solution to our customers’ needs.
- We significantly increased our GaN offering with the acquisition of GaN Systems, now offering the broadest product and IP portfolio in the market for MV and HV GaN products, including system-enabling components (e.g., drivers and controllers).
- We have a large portfolio of ambient sensors for consumers, smart homes, IoT, and automotive.
- We follow the “Product to System” approach and offer optimized system solutions comprising hardware, software, and algorithms.

To further expand our leadership in power systems, we are accelerating our wide-bandgap offering and, therefore, strengthening our market position by adding significant manufacturing capacities for SiC and GaN in Kulim, Malaysia. Such innovative technologies will further lead to solutions addressing decarbonization and digitalization. These semiconductors offer added value to our customers because of better system performance in terms of efficiency, size, and cost compared to silicon-based solutions.

To answer to the structurally growing demand for semiconductors and to support our customers’ business continuity, we are expanding manufacturing capacities worldwide. We broke ground in Dresden, Germany to manufacture analog/mixed-signal components used in power supply systems, for example, in energy-efficient charging systems, in data centers, industrial, renewables or applications for the IoT. The interaction of power semiconductors and analog/mixed-signal components makes creating energy-efficient and intelligent system solutions possible. Customer commitments to new design wins in automotive and industrial applications as well as pre-payments back this expansion.

The **Power and Sensing Selection Guide 2024-2025** is the most comprehensive overview of our products and the latest power and sensing technology advancements designed to cater your needs. We strongly believe that this digital catalog will support your roadmap planning to stay ahead of competition. Please get in touch with our talented teams for personal support on any product-related questions.

Let’s drive decarbonization and digitalization. Together.

尊敬的客户，

半导体是实现气候中和与数字化世界的关键。英飞凌半导体有助于避免碳排放、可持续地利用资源、有效而智能地管理电力、赋予“物”以智能感知，以及快速而可靠地处理数据。这也是我们为您--我们尊贵的客户提供的服务，以支持您用自己的产品改变世界。

“数字低碳 共创未来”这是英飞凌作为电力系统和物联网（IoT）领导者的愿景，也是英飞凌全体员工孜孜以求的目标。我们有幸为您提供并承诺交付具有最高质量和稳定可靠的领先技术。我们的产品组合包括电源、连接、射频和传感器系统技术，可为消费类设备、智能家居/智能楼宇、机器人、计算和数据中心、充电设备、电动工具等应用开发更小、更轻、更智能、更高效的解决方案。下一代硅和宽带隙（SiC 和 GaN）解决方案可为人工智能、5G、大数据和可再生能源应用提供无与伦比的性能和可靠性。

作为行业领导者，我们有何与众不同之处？

- 我们可以充分利用 Si、SiC 和 GaN 这三种技术的全部潜力，为客户的需求提供最佳解决方案。
- 通过收购 GaN Systems，我们大幅增加了氮化镓产品的供应量，目前可为中压和高压氮化镓产品提供市场上最广泛的产品和 IP 组合，包括系统使能元件（如驱动器和控制器）。
- 我们拥有面向消费类、智能家居、物联网和汽车应用的大量环境传感器产品组合。
- 我们遵循“从产品到系统”的方法，提供包括硬件、软件和算法在内的优化系统解决方案。

为了进一步扩大我们在电力系统领域的领先地位，我们正在加快宽带隙产品的开发，通过在马来西亚库林（Kulim）增加 SiC 和 GaN 的重要生产能力来加强我们的市场地位。这些创新技术将进一步引领实现低碳化和数字化的解决方案。与硅基解决方案相比，这些半导体在效率、尺寸和成本方面具有更好的系统性能，因此能为我们的客户带来更多价值。

为了满足对半导体结构性增长的需求，支持客户的业务连贯性，我们正在全球范围内扩大生产能力。我们在德国德累斯顿破土动工，生产模拟/混合信号元件，这些元件可用于电源供应系统，例如节能充电系统、数据中心、工业设备、可再生能源或物联网应用。

功率半导体与模拟/混合信号元件的相互作用，使创建高能效、智能化的系统解决方案成为可能。此次产能扩张得到了客户的支持，包括汽车和工业应用领域的新设计订单以及预付款项。

《电源与传感选型手册2024-2025》最全面地概述了我们的产品以及最新的电源和传感技术进展，旨在满足您的需求。我们坚信，这份电子手册将为您的策略规划提供支持，使您在竞争中保持领先地位。如有任何产品相关问题，请联系我们的专业团队，我们将为您提供个性化支持。

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Division President Power & Sensor Systems
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Solutions

SMPS, battery management systems, motor control, UPS, contactless power and sensing

- Industrial SMPS
- Desktop PC power supply
- Power over Ethernet (PoE)
- Fast/wireless EV-charging
- Wireless charging
- Battery chargers
- USB-C chargers and adapters
- Condition monitoring and predictive maintenance
- Battery protection
- Battery monitoring and control
- Class D audio
- Motor control for power tool and robotics
- Motor control for LEV and e-forklift
- Smart devices with NFC interface
- Solutions for high voltage solid-state relays
- Solutions for solid-state circuit breakers

Industrial SMPS

Industrial SMPS

Reliable and robust

The industrial SMPS category covers a wide range of applications, ranging from 15 W up to 1 kW and higher. They must be efficient, able to deliver maximum power, and function with many different input voltages while at the same time remaining highly reliable in rugged environments. Infineon's solutions for industrial SMPS deliver all of this and more. Our wide range of system solutions, enabled by Infineon's stringent quality standards and our cutting-edge silicon and wide-bandgap technology, for example, will allow you to reliably deliver efficient power to your industrial application.

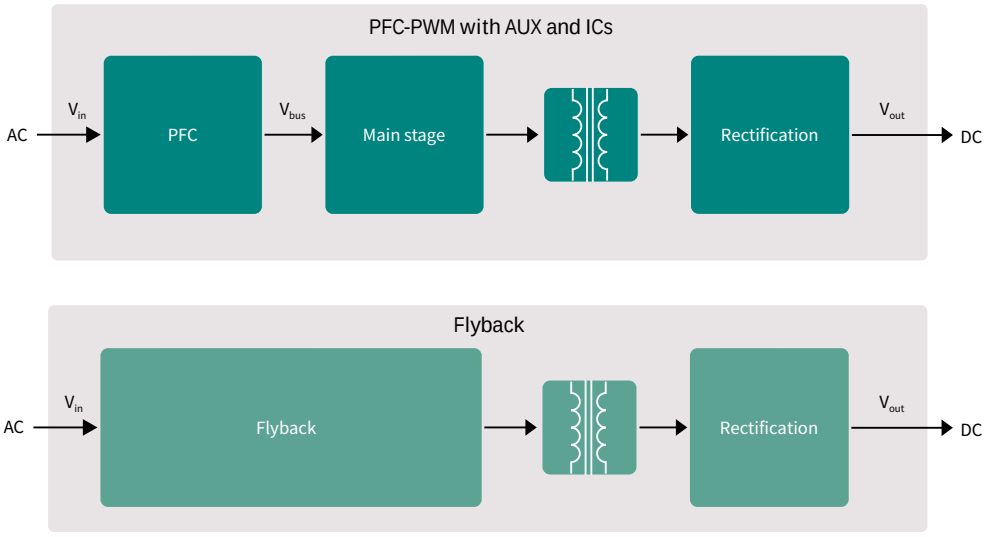
In addition to our expansive product portfolio, Infineon also offers several other tools to assist you in your design journey, including our library of simulation tools, reference designs, and evaluation boards, empowering you to get to market even faster.

Strike the perfect balance between decarbonization, power density, and saving operating costs with Infineon's solutions for industrial SMPS.

Features and benefits

Key features	Key benefits
– Wide universal input range	– Enables worldwide usage to conform to different grid AC categories
– Infineon's stringent quality standards	– Highest quality, robustness, and reliability in challenging environments
– High-density designs	– Save space while still delivering max power
– Cutting edge silicon (Si) and silicon carbide (SiC) MOSFETs	– High peak efficiency and lowest standy power
– Advanced wide-bandgap (WBG) technology	– Future-proofed systems for long lifecycles
– Digitally controlled stages (600 W up to >1 kW designs)	– Higher density, efficiency, and switching frequency plus enabling ZVS
– Online simulation tools, reference designs, and evaluation boards	– Easier design stages and get to market faster

Application diagrams



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www.infineon.com/smps

Product portfolio

Functional block	Product category	Topology	Technology	Benefits
PFC/Main stage	High-voltage MOSFETs	CrCM/DCM PFC	600 V/800 V/950 V CoolMOS™ P7 SJ MOSFET	– Best thermal performance – Rugged body diode – ESD enhancement for production line – Wide $R_{DS(on)}$ portfolio including both THD and SMD packages
			600 V CoolMOS™ P6 SJ MOSFET	– Fast-switching speed for improved efficiency and thermals – Low gate charge for enhanced light-load efficiency and low power consumption at no load condition – Optimized VGS threshold for low turn-off losses
			600 V CoolMOS™ S7 SJ MOSFET	– PFC efficiency boost ~1% – Lowest $R_{DS(on)}$ in SMD packages
			600 V CoolMOS™ 8 SJ MOSFET	– Best price/performance, integrating fast body diode – Simplified product portfolio – Highest quality and reliability – Better energy efficiency and cost targets with providing good enough power density – TSC package offerings and 7mohm available
	High voltage SiC MOS-FETs	Totem-pole PFC	650 V CoolSiC™ MOSFET	– Highest power handling – Best thermal capability
	Boost diodes	DCM PFC	650 V TRENCHSTOP™ IGBT7 with emitter controlled 7 (EC7) diode	– Improved diode softness and humidity rugged. – Allows a more reliable design with lower failure rates
		CCM PFC	650 V TRENCHSTOP™ IGBT7 with emitter controlled 7 (EC7) diode	
	Control ICs	CCM PFC ICs	ICE3PCS0xG	– High PFC and low THD
Main stage	Control ICs	HB LLC ICs	650 V ICE1HS01G-1/ICE2HS01G	– High efficiency and low EMI
Synchronous rectification	Medium-voltage dioges MOSFETs	HB LLC + center-tap	OptiMOS™ 30 V/40 V/60 V/80 V/150 V/250 V	– Optimized cost/performance and low thermals
PFC/Main stage/ Synchronous rectification	Gate driver ICs	Boost PFC	EiceDRIVER™ low side gate driver IC: 1ED44173N01B	– Single-channel with fast, accurate (± 5%), integrated overcurrent protection (OCP)
		Totem-pole PFC/HB LLC	EiceDRIVER™ Compact gate driver IC: 1EDI60N12AF, 1ED3124MU12F	– Isolated gate driver, up to 14 A, 100 ns propagation delay
			EiceDRIVER™ level-shift gate driver IC: 2ED2181S06F, 2ED21814S06J	– 650 V half-bridge SOI driver with integrated bootstrap diode – Superior –VS transient voltage immunity – High-frequency switching (500 kHz)
			EiceDRIVER™ level-shift gate driver IC: IRS2186S, IRS21864S	– 4 A/4 A high- and low-side gate driver
		Interleaved PFC/HB LLC	EiceDRIVER™ low side gate driver IC: 2ED24427N01F	– Dual-channel, 10 A low-side driver in DSO-8 with power-pad – Integrated UVLO protection and enable (EN) function – High frequency, high power operation with BOM savings
Flyback	Control ICs	QR flyback	ICE5QSBG	– High efficiency and low standby power
	High-voltage MOSFETs	Flyback	700 V/800 V CoolMOS™ P7 SJ MOSFET	– Best price-competitive CoolMOS™ family – Lower switching losses versus standard MOSFET – Controlled dV/dt and di/dt for better EMI
			600 V CoolMOS™ 8 SJ MOSFET	– Best price/performance, integrating fast body diode – Simplified product portfolio – Highest quality and reliability – Better energy efficiency and cost targets with providing good enough power density – TSC package offerings and 7mohm available
Auxiliary power supply	Control ICs	QR/FF flyback	700 V/800 V CoolSET™ integrated power stage ICE5QRxx70/80A(Z)(G)	– Low standby power, high efficiency, and robustness
Isolation	Digital isolator		ISOFACE™ digital isolator 2DIB0410F	– 2+0 digital isolator with TTL input threshold and fail-safe default low output state – 3 kVRMS isolation voltage (UL 1577) in DSO-8 package – High common mode transient immunity > 100 kV/µs

Click here to learn more:
www.infineon.com/smps

PC power

Desktop PC power supply

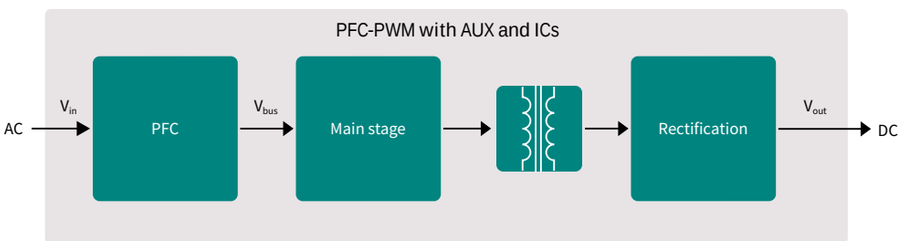
More efficient SMPS with higher output power

Switched-mode power supply for a desktop PC should deliver efficient power conversion, a compact design, stable power output, protective features, and effective cooling, contributing to the reliable and efficient operation of desktop PCs of any type. Infineon's wide portfolio of semiconductors does all of this and more. We offer a complete system solution to meet desktop power supply unit (PSU) requirements and trends such as higher power and efficiency. In addition to our impressive silicon products, we also offer wide-bandgap options that bring many additional benefits and options into the picture.

The desktop PC power market is divided into high-end gaming or mining PCs and enterprise systems. Both types of PCs use the x86 CPU, which requires a much higher peak current and higher power than previous solutions. Whether your design is meant for use in gaming/mining systems or less demanding enterprise workstations, Infineon has you covered with our solutions for a wide range of topologies.

Our wide semiconductor portfolio meets and, in some cases, exceeds needs and requirements. For example, our CoolMOS™ high-voltage MOSFETs, OptiMOS™ mid- and low-voltage MOSFETs, EiceDRIVER™ gate drivers, and CoolSET™ auxiliary SMPS controllers are all best-fit products for the current trends in desktop PC SMPS designs.

Application diagram



Product portfolio

Functional block	Product category	Topology	Technology	Benefits
PFC/main stage	High voltage MOSFETs	CrCM/DCM PFC	600 V CoolMOS™ P7	– Best thermal performance – Rugged body diode – ESD enhancement for production line – Wide $R_{DS(on)}$ portfolio including both THD and SMD packages
			600 V CoolMOS™ P6	– Fast switching speed for improved efficiency and thermals – Low gate charge for enhanced light-load efficiency and low power consumption at no load condition – Optimized VGS threshold for low turn-off losses
			500 V CoolMOS™ CE	– Optimized cost/performance – Lower transition losses versus standard MOSFET
			600 V CoolMOS™ 8	– Best price/performance, integrating fast body diode – Simplified product portfolio – Highest quality and reliability – Better energy efficiency and cost targets with providing good enough power density – TSC package offerings and 7mohm available“
	Boost diodes	DCM PFC	650 V EC7	– Improved diode softness and humidity rugged – Allows a more reliable design with lower failure rates
		CCM/interleaved PFC	CoolSiC™ Schottky diode 650 V G6	– Low FOM V_F*Q_G
	Control ICs	CCM PFC ICs	ICE3PCS0xG	– High PFC and low THD
Main stage	Control Ics	HB LLC ICs	650 V – ICE1HS01G-1/ICE2HS01G	– High efficiency and low EMI
Synchronous rectification	Medium voltage diodes	HB LLC + center-tap	OptiMOS™ 40 V	– Optimized cost/performance and low thermals
			OptiMOS™ 60 V	– Layout tolerance and low thermals

Click here to learn more:
www.infineon.com/smps

PoE

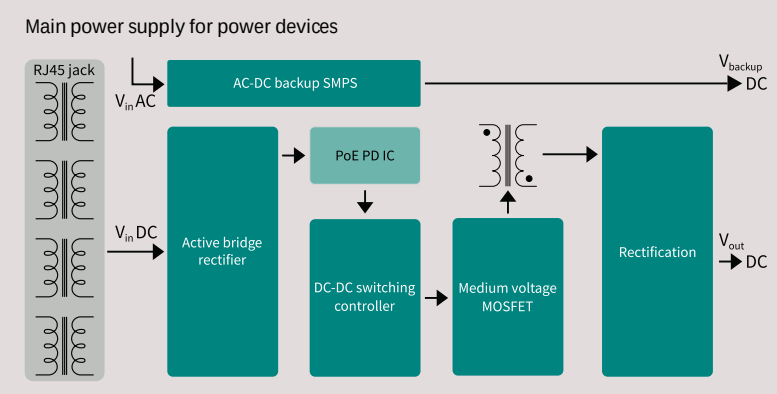
Power over Ethernet (PoE)

Designing reliable and power-efficient PoE power supplies

The latest IEEE 802.3bt standard for Power over Ethernet (PoE) not only increased the available power via PoE but also changed requirements for its power supply. Power sourcing equipment (PSE) now provides up to 100 W per port via a twisted pair of Ethernet cabling, whereas powered devices (PD) have up to 71 W available. Adopting this new PoE standard also largely depends on the capability to increase the power density on the PSE side while maintaining the same form factor as wide load conditions and higher power budgets change requirements. Infineon has long-standing expertise in switched-mode power supply (SMPS) designs and offers a highly reliable, rugged and efficient high-quality MOSFET portfolio for your PoE PSE and PD designs.

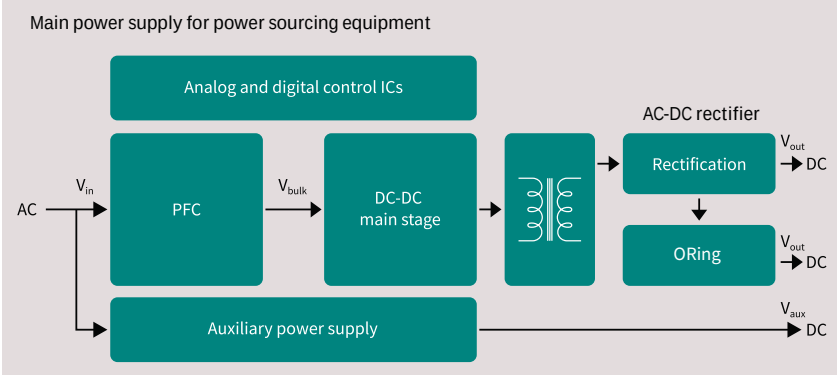
Powered devices

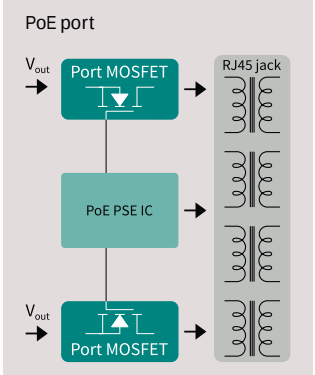
Powered devices (PD) include devices powered by PoE such as wireless access points, 5G small-cell radio units, IP cameras, conference systems, thin clients or public address systems. DC-DC SMPS designs need to be power efficient to maximize the available power for the PD itself with the simultaneous increase of power density. Moreover, PDs need to function reliably in the field, even under potentially rough conditions for a long time.



Power sourcing equipment

Power sourcing equipment (PSE) is any equipment that is able to provide and source power on the twisted pair Ethernet cable, such as PoE switches, PoE extenders and PoE injectors. PSE needs to be highly reliable to prevent device failure and ensure uninterruptible operations of connected power devices. With IEEE 802.3bt PoE, the power demand for PoE switches significantly increases with highest efficiency over wide load conditions. For example, to fully enable a switch with twenty-four 802.3bt compliant PoE ports, up to 2.4 kW of available PoE power budget is required. Fulfilling these requirements makes modifications in AC-DC SMPS designs necessary.





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Recommended product portfolio for power sourcing equipment

Functional block	Product category	Topology	Product family	Benefits
PFC	High-voltage MOSFETs	DCM, CrCM, CCM,	600 V/650 V CoolMOS™ C7 600 V CoolMOS™ P7	– Best FOM $R_{DS(on)}$ x Q_G and $R_{DS(on)}$ x E_{oss} – Lowest $R_{DS(on)}$ per package – Lowest dependency of switching losses from $R_{g,ext}$ – Low turn-off losses, low Q_{oss} and low Q_G
	Control ICs	DCM, CrCM, CCM	ICE3PCS0xG	– Simple external circuitry – High PFC and low THD
	High-voltage GaN	CCM totem-pole	CoolGaN™ GIT HEMT 600 V	– Highest efficiency and highest power density
	GaN driver ICs	CCM totem-pole	EiceDRIVER™ 1EDF5673Fx/1EDS5663H	– Low driving impedance (on-resistance 0.85 Ω source, 0.35 Ω sink) – Input-output propagation delay accuracy: ± 5 ns – Functional and reinforced isolation available
	SiC Schottky diode	DCM, CrCM, CCM	CoolSiC™ Schottky diode 650 V G5/G6	– Low FOM V_F x Q_C
	Silicon power diode	DCM, CrCM, CCM	650 V EC7	– Improved diode softness and humidity rugged. Allows a more reliable design with lower failure rates
DC-DC main stage	High-voltage MOSFETs	Flyback (ACF), HB LLC, FB LLC, ITTF, ZVS	600 V CoolMOS™ P7/C7/CFD7 650 V TRENCHSTOP™ F5	– Best FOM $R_{DS(on)}$ x Q_G and $R_{DS(on)}$ x E_{oss} – Lowest $R_{DS(on)}$ per package – Lowest dependency of switching losses from $R_{g,ext}$, – Low turn-off losses, low Q_{oss} and low Q_G
	Low- and medium-voltage MOSFETs	Isolated DC-DC primary-side PWM	OptiMOS™ 60 V-200 V StrongIRFET™ 60 V-200 V Small signal MOSFETs 60 V-200 V	– Industry's lowest $R_{DS(on)}$ and power density – Highest system efficiency – Outstanding quality and reliability – Reduces the need for a snubber circuit
	Gate driver ICs	-	EiceDRIVER™ 1EDNx/1EDi/2EDN7x/2EDLx/2EDFx/2EDSx	– Broadest portfolio in terms of isolation, channels, and protection
	Control ICs	HB LLC PWM-QF PWM-FF	ICE2HS01G ICE2QS03G/ICE5QSBG ICE5ASAG/ICE5GSAG	– High efficiency and low EMI
	High-voltage GaN	Flyback (ACF), HB LLC, FB LLC, ZVS	CoolGaN™ GIT HEMT 600 V	– Highest efficiency and highest power density
	GaN driver ICs	-	EiceDRIVER™ 1EDF5673Fx/1EDS5663H	– Low driving impedance (on-resistance 0.85 Ω source, 0.35 Ω sink) – Input-output propagation delay accuracy: ± 5 ns – Functional and reinforced isolation available
PFC-main stage combo	High-voltage MOSFETs	HB LLC	600 V CoolMOS™ P7	– Low turn-off losses, low Q_{oss}, and low Q_G and thermals – Fast-switching speed for improved efficiency
Synchronous rectification	Low- and medium-voltage MOSFETs	Synchronous rectification	OptiMOS™ 100 V-150 V OptiMOS™ 40 V-120 V StrongIRFET™ 40 V-100 V	– Industry's lowest $R_{DS(on)}$ and power density – Highest system efficiency – Outstanding quality and reliability – Reduces the need for a snubber circuit
	Gate driver ICs	-	EiceDRIVER™ 1EDNx/1EDi/2EDN7x/2EDLx/2EDFx/2EDSx	– Broadest portfolio in terms of isolation, channels, and protection
ORing	Low- and medium-voltage MOSFETs	ORing MOSFETs	OptiMOS™ 25 V-200 V	– Industry's lowest FOM ($R_{DS(on)}$ x Q_G) – Highest system efficiency and power density
Auxiliary power supply	AC-DC integrated power stage	Fixed-frequency (FF) Quasi-resonant (QR)	CoolSET™ ICE5xRxx80AG CoolSET™ ICE5QRxx80BG	– Quasi-resonant switching operation for high efficiency and low EMI signature – Fixed-frequency switching operation for ease of design
Analog and digital control IC	32-bit XMC™ industrial microcontroller based on Arm® Cortex®-M	-	32-bit XMC1000 32-bit XMC4000	– Flexibility, HR PWM, digital communication – Arm® based standard MCU family and wide family
Port MOSFET	Medium-voltage MOSFETs	-	OptiMOS™ 100 V OptiMOS™ Linear FET StrongIRFET™ 100 V	– Wide SOA and outstanding reliability for PoE ports – Low $R_{DS(on)}$ – Space-saving 3.3 x 3.3 S3O8/PQFN package

Functional block	Product category	Topology	Product family	Benefits
Active bridge rectifier	Medium-voltage MOSFETs	Active bridge rectifier	OptiMOS™ 100 V-150 V StrongIRFET™ 100 V	– Industry's lowest $R_{DS(on)}$ – Highest system efficiency and power density
Synchronous rectification	Low- and medium-voltage MOSFETs	Synchronous rectification	OptiMOS™ 25 V-100 V OptiMOS™ 40 V IR MOSFET™ 20 V-100 V	– Industry's lowest $R_{DS(on)}$ and power density – Highest system efficiency – Outstanding quality and reliability
DC-DC switching stage	Medium-voltage MOSFETs	Flyback (ACF)	OptiMOS™ 100 V-150 V	– Low conduction losses, reduced overshoot – Logic level switching
AC-DC backup SMPS	High-voltage MOSFETs	Flyback (ACF)	600 V to 950 V CoolMOS™ P7	– Fast-switching speed for improved efficiency and thermals – Reduced gate charge for enhanced light load efficiency – Optimized gate-to-source voltage (V_{GS}) threshold for lower turn-off losses
	AC-DC integrated power stage	Fixed-frequency (FF) Quasi-resonant (QR)	CoolSET™ 800 V ICE5GRxx80AG, 800 V ICE5ARxx80BZS, 700 V ICE5ARxx70AG, 700 V ICE5ARxx70BZS CoolSET™ 700 V ICE5QRxx70A(Z) (G), 800 V ICE5QRxx80A(Z)(G), 800 V ICE5QRxx80BG	– Quasi-resonant switching operation for high efficiency and low EMI signature operation for ease of design – Fixed-frequency switching

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www.infineon.com/poe

EV charger

Fast/wireless EV-charging

Advanced solutions for DC EV-charging

As e-mobility increasingly becomes part of daily life, there is a growing need for more efficient charging solutions. Fast electric vehicle (EV) charging stations equipped with powerful DC chargers are the answer. DC EV-chargers are an attractive choice because they allow much faster charging than the standard AC EV ones that many EV owners have at home. Today, a DC charger with 150 kW can put a 200 km charge on an EV in around 15 minutes. As fast charging and battery technologies continue to evolve and improve in the near future, experts anticipate the charging time to drop even further.

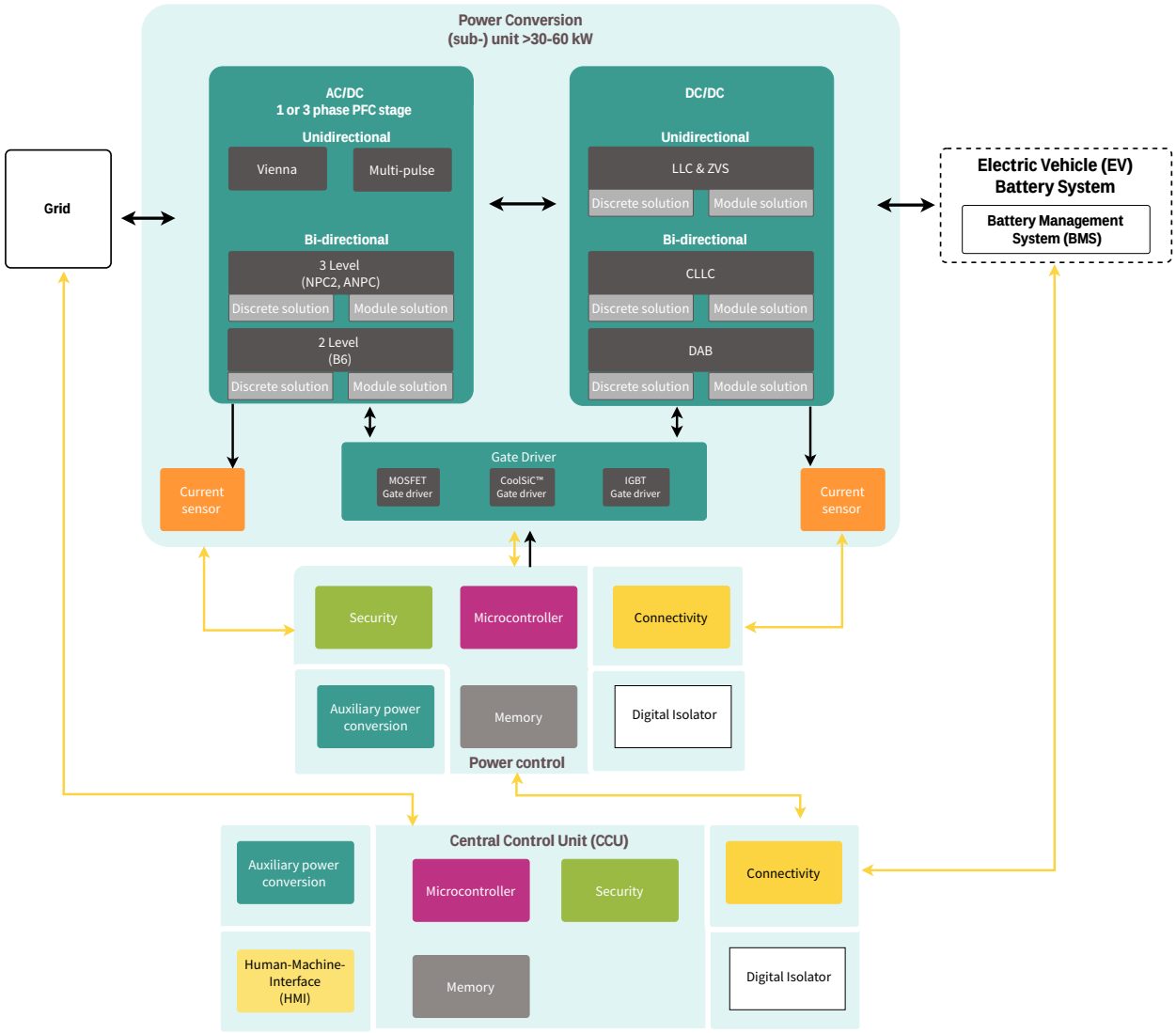
As a market leader and the global front-runner in power electronics, Infineon enables you to bring energy-efficient DC EV-charger designs to life, with our highly efficient components and in-depth technical support. We cover power ranges from kilowatts to megawatts in our broad portfolio of high-quality power semiconductors, microcontrollers, gate drivers, security, safety, and authentication solutions. Our CoolMOS™ and CoolSiC™ MOSFETs, together with EiceDRIVER™ gate drivers, for example, are ideal in a wide range of DC EV-charging designs. Their matchless advantages include high-frequency operation, high power density and reduced switching losses, allowing you to reach high efficiency levels in any battery charging system.

Infineon offering and customer benefits

Infineon offering	Customer benefits
– CoolMOS™ and CoolSiC™ discrete and power module semiconductor solutions	– Highly efficient power conversion for reducing system size by up to 50 percent and reduced cooling efforts – Scalability across various platforms for upgrading system power charger levels on demand
– EiceDRIVER™ gate driver and XMC™ microcontroller	– Safe drive, advanced protection and ease of control
– XENSIV™ magnetic current sensor	– Bidirectional high precision current sensing
– OPTIGA™	– Identity protection against fake devices and protection against the manipulation of the data
– Power supply ICs (LDO, DC-DC) – Connectivity (CAN transceiver, AIROC™ Wi-Fi + Bluetooth® Combos)	– Robust quality and easy to use implementation shorten time-to-market – and guarantee long operation

Click here to learn more:
www.infineon.com/ev-charging

Application diagram



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Power conversion

Product category	Product family	Product	Additional information
AC/DC (PFC)	600 V/650 V CoolMOS™ P7/C7/ CFD7	TO-247-3 TO-247-4	– Large portfolio with granular $R_{DS(on)}$ selection – Different space-saving and high-performance packages – Ease of use and fast design-in through low ringing tendency and usage across – PFC and PWM stages
	600 V CoolMOS™ 8	TO-247-3 TO-247-4	– Simplified portfolio compared to previous families with granular $R_{DS(on)}$ selection – TO-247-4 and Top-side cooled D-DPAK package options – Ease of use and fast design-in through low ringing tendency and usage across – PFC and PWM stages
	TRENCHSTOP™ IGBT7 650 V/1200 V HighSpeed 3 H3 IGBTs 1200 V	TO-247-3 TO-247-4	– High speed/high power IGBT – First tailless/low-loss IGBT on market – Market proven and recognized quality leader
	CoolSiC™ MOSFET 650 V/750 V/1200 V/2000 V	TO-247-3 TO-247-4 TO-263-7	– CoolSiC™ MOSFETs are built on a state-of-the-art trench semiconductor process – Optimized to allow for both the lowest losses in the application and the highest reliability in operation – TO-247-4pin package versions with additional connection to the source, resulting in even lower switching losses than for TO-247-3pin version, especially at higher currents and higher switching frequencies.
	CoolSiC™ Schottky diodes 650 V/1200 V	TO-220-2 TO-247-2 TO-247-3	– CoolSiC™ Schottky diodes convince with better efficiency compared to Silicon diode alternatives
	CoolSiC™ MOSFET modules - sixpack 1200 V CoolSiC™ MOSFET modules - halfbridge 1200 V	EasyPACK™ 1B EasyPACK™ 2B EasyPACK™ 3B	– CoolSiC™ MOSFET modules with PressFIT contact technology and optimal pinout – Integrated NTC temperature sensor – Versions with pre-applied thermal interface material (TIM) – Optional AlN substrate with low thermal resistance versions – Enlarged gate drive voltage window
	1200 V HighSpeed 3 H3 IGBTs modules- 3-level	EasyPACK™ 1B EasyPACK™ 2B	– IGBT HighSpeed 3 with active "Neutral Point Clamp 2" topology – PressFIT contact technology and optimal pinout – Integrated NTC temperature sensor
DC/DC	600 V/650 V CoolMOS™ P7/C7/CFD7	TO-247-3 TO-247-4 TO-263-7 (D2PAK) HSDSOP (D-DPAK)	– Large portfolio with granular $R_{DS(on)}$ selection – Different space-saving and high-performance packages – Ease of use and fast design-in through low ringing tendency and usage across PFC and PWM stages
	600 V CoolMOS™ 8	TO-247-3 TO-247-4	– Simplified portfolio compared to previous families with granular $R_{DS(on)}$ selection – TO-247-4 and Top-side cooled D-DPAK package options – Ease of use and fast design-in through low ringing tendency and usage across PFC and PWM stages
	CoolSiC™ MOSFET 650 V/750 V/1200 V/2000 V	TO-247-3 TO-247-4 TO-263-7	– CoolSiC™ MOSFETs are built on a state-of-the-art trench semiconductor process – Optimized to allow for both the lowest losses in the application and the highest reliability in operation – TO-247-4pin package versions with additional connection to the source, resulting in even lower switching losses than for TO-247-3pin version, especially at higher currents and higher switching frequencies.
	CoolSiC™ Schottky diodes 1200 V	TO-247-2 TO-247-3	– CoolSiC™ Schottky diodes convince with better efficiency compared to Silicon diode alternatives.
	1200 V CoolSiC™ MOSFET modules - fourpack 1200 V CoolSiC™ MOSFET modules - halfbridge	EasyPACK™ 1B EasyPACK™ 2B EasyPACK™ 3B	– CoolSiC™ MOSFET modules with PressFIT contact technology and optimal pinout – Integrated NTC temperature sensor – Versions with pre-applied thermal interface material (TIM) – Optional AlN substrate with low thermal resistance versions – Enlarged gate drive voltage window
	1200 V CoolSiC™ EasyBRIDGE diode module	EasyPACK™ 1B	– 1200 V diode bridge module with CoolSiC™ Schottky diode – PressFIT contact technology with optimal pinout – Integrated NTC temperature sensor
Gate driver	EiceDRIVER™ 2EDB gate driver EiceDRIVER™ 2EDR gate driver	DSO-14-WB	– Dual-channel basic and reinforced (safe) isolated versions – 650 V and 1200 V voltage class versions – For Si, SiC and GaN
	EiceDRIVER™ Compact gate driver EiceDRIVER™ Enhanced gate driver	DSO-8 DSO-16	– Single-channel isolated driver with versions comprising active Miller clamp or separate-output (Compact) and DESAT, soft-off and active Miller Clamp (Enhanced) – Variants with different isolation levels and optional two-level slew-rate control
Current sensors	XENSIV™ - high-precision coreless current sensors	VSON-6 TISON-8 TDSO-16	– High-precision coreless open-loop current sensors for current ranges up-to ±132 A – Less bulky, and cost less compared to core-based current sensors – Variants with integrated and for external current rail – UL variants

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