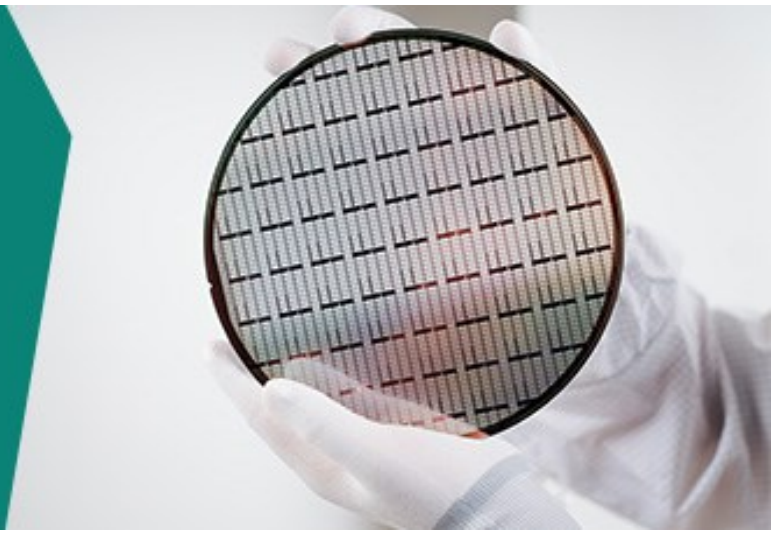
New Product Introduction



New Product Introduction

July 2025

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[Reference board REF_45W1_ZVS_184EM]

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[Evaluation board EVAL-PS-DP-MAIN-M5]

[OPTIGA™ TPM SLB 9672 RPI evaluation board]

[OPTIGA™ TPM SLB 9673 RPI evaluation board]

[EVAL_10KW_B6_SIC400V - Virtual design for a 3-phase B6 inverter up to 10 kW]

[REF_6KWHERIC - 6 kW inverter reference design for single phase solar energy system solutions]

[AURIX™ TC4x MC ISAR Autosar MCAL, SafeTlib and CDSP_Filter Chain Library]

32-bit TriCore™ AURIX™ TC4x

Infineon's AURIX™ TC4x family pushes the boundaries in automotive MCU usage for safe and secure processing. These microcontrollers are designed for next generation eMobility, ADAS, automotive E/E architectures and affordable artificial intelligence (AI) applications.

The new scalable microcontroller TC4x family provides an upward migration path from Infineon's leading AURIX™ TC3x family of ASIL-compliant automotive MCUs. Performance is boosted by the next-generation TriCore™ 1.8 and the scalable AURIX™ accelerator suite, including the new PPU (Parallel Processing Unit) and multiple smart accelerators. Support for high-speed communication interfaces like 5G-bit Ethernet and PCIe along with new interfaces such as CAN-XL and 10BASE T1S Ethernet gives customers the performance, throughput and flexibility needed to implement new automotive-specific microcontrollers with E/E architectures. The scalable family concept enables a common software architecture supporting significant platform software savings and the feature-rich concept gives plenty of headroom to grow for both Tier 1's and OEMs.

Features

- TriCore™ and AURIX™ Accelerator Suite:
  - Up to 6 TriCore™ v1.8 in lockstep running up to 500 MHz
  - AURIX™ Accelerator Suite: Parallel Processing Unit (PPU) – enabling AI up to ASIL D, Data Routing Engine (DRE) – for efficient communication and data handling, cDSP - programmable digital signal processing for the ADC signals, Signal Processing Unit (SPU) - radar accelerator, Security Accelerators (CSRM/CSS) - Hardware Crypto Acceleration
- Memory Upgrade:
  - Up to 25 MB on-chip Flash
  - Zero downtime SOTA support with optimized A/B swap partitioning and external memory interfaces
- Advanced timers and ADCs for real-time control:
  - New eGTM timers and high-resolution PWM with low latency interconnect (LLI): faster control loops for e-motors and power conversion
  - GTM for compatibility with AURIX™ TC3xx
  - ADC Converters TM / FC / DS
  - CDSP / DSEX accelerator
- Broad Connectivity:
- Scalable high-speed communication interfaces:
  - 5 Gbps Ethernet, PCIe, 10BASE T1S Ethernet, CAN-XL
  - Data Routing Engine (DRE) - communication accelerator

Benefits

- Safety and Security Performance Boost
  - Security cluster including CSRM and CSS offers enhanced security performance
  - ISO 21434 compliant
  - Safe DMA
  - Support ISO 26262 ASIL D and IEC 61508 SIL-3
- Extensive Ecosystem
  - Infineon MCAL drivers
  - Re-use of existing AURIX™ TC3xx algorithms and ecosystem possible
  - Rapid prototyping support from Virtual Prototyping using Synopsys - Virtualizer Development Kit for AURIX™ TC4x
  - Software Development Kit (SDK)
  - Simplify PPU software development using the Synopsys - MetaWare Toolkit for AURIX™ which includes MATLAB and Simulink, DSP and math libraries, neural network software development kit, and AUTOSAR complex device driver

Target applications

- ADAS and autonomous driving
- Automotive gateway
- Domain controller for ADAS and autonomous driving
- Zone control unit

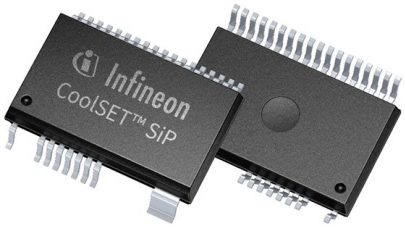
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
TC4D7XP20MF500MCABKXUMA1	SP006011939	PG-F2BGA-292
TC4D9XP20MF500CCABKXUMA1	SP005967320	PG-F2HBGA-436

CoolSET™ system in package (SiP)



CoolSET™ system in package (SiP) integrates an 800 V P7 CoolMOS™, ZVS primary controller, and secondary SR controller with CT link technology for isolated communication, in a small SMD footprint for up to 60 W power delivery. The ZVS flyback solution reduces BOM, switching losses, and improves EMI performance while achieving higher than 94% efficiency. With industrial-grade qualification (JEDEC47/20/22), the CoolSET™ SiP family is ideal as an auxiliary power supply for major home appliances and AI server applications.

Features

- Integrated 800 V avalanche rugged CoolMOS™ P7 and 950 V high voltage startup-cell
- Novel ZVS quasi-resonant flyback operation
- Built-in primary side power switch control and secondary side feedback control
- Integrate primary and secondary functionality with robust coreless transformer technology for primary isolation
- Integrated SR and 15 V LDO enable pin
- Meet the stringiest energy standards with > 92% efficiency and < 30 mW stand-by
- Enable output power up to 60W in small DSO package

Benefits

- Reduction of component count, system complexity, space and cost
- Fast and robust start-up
- Low switching losses and low EMI signature
- High reliability, robust operation and high performance
- Extended design-in flexibility
- Safe isolated communication between primary and secondary side
- Limited audible noise during startup and power down

Competitive advantage

- High level of integration with 950 V startup-cell, 800 V avalanche rugged CoolMOS P7 SJ MOSFET, and ZVS primary flyback controller in a single package
- Support for zero-voltage switching (ZVS) flyback operation for high efficiency and low EMI
- Proprietary CT Link technology for reinforced isolated communication
- Compact design with no external heat sink required, reducing system size and complexity
- High power density of up to 60 W in a small SMD package

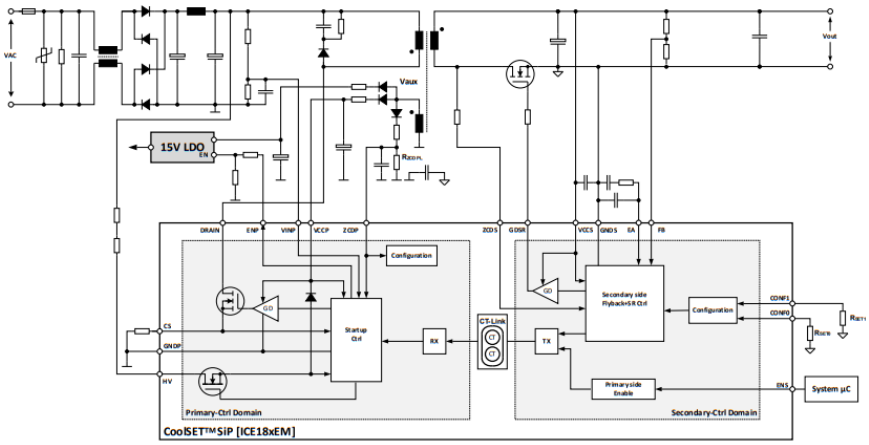
Target applications

- Major home appliances (e.g., washing machines, refrigerators, air conditioners, and heating)
- Telecom PSU and AI/data center servers
- Industrial SMPS

Product collaterals / Online support

Product family page

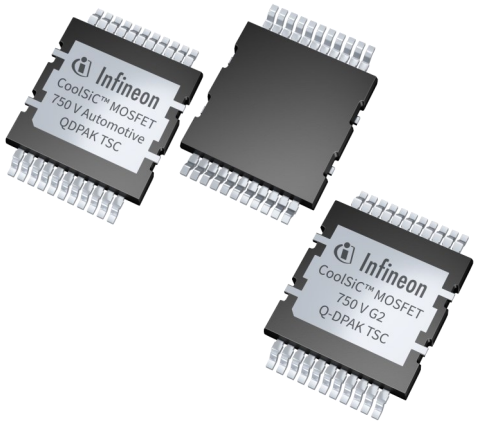
Block diagram



Product overview incl. datasheet link

OPN	SP Number	Package
ICE184EMXUMA1	SP005920351	PG-DSO-27
ICE184LMXUMA1	SP005920356	PG-DSO-27
ICE186EMXUMA1	SP005920340	PG-DSO-27

CoolSiC™ MOSFET 750 V G2 - Industrial and Automotive SiC MOSFETs



The CoolSiC™ MOSFET 750 V Generation 2 offers best-in-class robustness to parasitic turn-on and mature gate oxide technology. The 750 V G2 enables exceptional performance in hard-switching topologies like Totem Pole, ANPC, Vienna Rectifier and FCC.

Moreover, the substantial reduction in Output Capacitance (C_{oss}) in the Generation 2 enables to operate at a higher switching frequency in soft switching topologies, such as Cycloconverter, CLLC, DAB and LLC.

The CoolSiC™ 750 V G2 is perfectly tailored for applications with stringent requirements in terms of reliability, power density and efficiency such as On-board charger, DC-DC converter, DC-AC converter, as well as AI Servers, Solar inverter and EV charging, where the Q-DPAK package enables to leverage the intrinsic fast switching speed of SiC, while guarantees power dissipation capability of approximately 20 W.

Features

- 100% avalanche tested
- Best-in-class $R_{DS(on)}$ x Q_{fr}
- Excellent $R_{DS(on)}$ x Q_{oss} & $R_{DS(on)}$ x Q_G
- Unique low $C_{rss/Ciss}$ & high $V_{GS(th)}$
- Improved package interconnect with .XT
- Driver source pin available

Competitive advantage

- 100% avalanche tested switches for automotive and industrial applications
- Extended negative gate driving voltage (-7 V to -11 V)
- Enhanced thermal performance (up to 200°C)
- Figure-of-Merits improved by 20-35% over the previous generation
- High $V_{GS(th)}$ + low C_{rss}/C_{iss} = 0 V switch off
- JEDEC-qualified top-side cooled package for higher power density

Benefits

- Enhanced robustness and reliability
- Superior efficiency in hard switching
- Higher switching frequency
- Robustness against parasitic turn on
- Best-in-class thermal dissipation
- Reduced switching losses

Target applications

- Industrial applications: Solid State Relays and Isolators, Solid-State Circuit Breaker, EV charging, Photovoltaic, Uninterruptible power supplies (UPS), Energy Storage Systems, Battery formation, AC-DC power conversion for Telecom infrastructure, Server power supply units (PSU)
- Automotive applications: HV-LV DC-DC converters, on-board chargers, circuit breakers (HV battery disconnect switch, DC and AC low frequency switch, HV E-fuse)

Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
AIMDQ75R016M2HXTMA1	SP005982733	PG-HDSOP-22
AIMDQ75R025M2HXTMA1	SP005982730	PG-HDSOP-22
AIMDQ75R060M2HXTMA1	SP005982723	PG-HDSOP-22
IMDQ75R004M2HXTMA1	SP006065921	PG-HDSOP-22
IMDQ75R007M2HXTMA1	SP006065956	PG-HDSOP-22
IMDQ75R016M2HXTMA1	SP006065962	PG-HDSOP-22
IMDQ75R025M2HXTMA1	SP006065966	PG-HDSOP-22
IMDQ75R060M2HXTMA1	SP006065972	PG-HDSOP-22

EasyPACK™ CoolSiC™ 1200 V & Si Modules for OBC and xEV applications

AQG324 qualified EasyPACK™ 2B modules in sixpack configuration. One module comes with CoolSiC™ MOSFET technology, offering 1200 V and 17 mΩ is equipped with NTC and press-fit technology.

The other module based on TRENCHSTOP™ IGBT7 offering 1200 V, 100 A with Emitter Controlled 7 diode, NTC and PressFIT Contact Technology.

Typical appearance

Features

- High reliable press-fit pins
- Pre applied thermal interface material
- Enables compact design
- Integration of SMD possible

Benefits

- Very good pin-PCB connection
- Better thermal performance
- Reduced assembly efforts
- Enables higher degree of freedom in design

Competitive advantage

- Reduced system costs
- High production capability
- Easy to design products
- High system reliability

Target applications

- Wind
- On.board charger
- DC-DC power converters
- E-Torque vectoring and auxiliaries

Product collaterals / Online support

Product page FS17MR12W2M1H_B11_A

Product page FS100R12W2T7_B11_A

Product overview incl. datasheet link

OPN	SP Number	Package
FS17MR12W2M1HB11ABPSA2	SP005958141	AG-EASY2B-3121
FS100R12W2T7B11ABPSA2	SP005959781	AG-EASY2B-721

EconoDUAL™ 3 TRENCHSTOP™ IGBT7 half-bridge module 1700 V 900 A with emitter controlled 8

Driving decarbonization with renewable energy conversion maximization thanks to EconoDUAL™ 3 TRENCHSTOP™ IGBT7 half-bridge module 1700 V.

Features

- > $T_{vj(op)max}$ at 175°C in continuous operation
- > I_{out} of 900 A with increased current carrying capability of the power terminals
- > EmCon 8 1700 V MePo diode
- > 3.4 kV isolation capability

Benefits

- > Highest inverter output current for the same frame size
- > Avoidance of paralleling of IGBT modules
- > Reduced system cost by simplification of the inverter system
- > Assembly made easy with highest reliability

Competitive advantage

- > Unique combination of highest power density rugged design

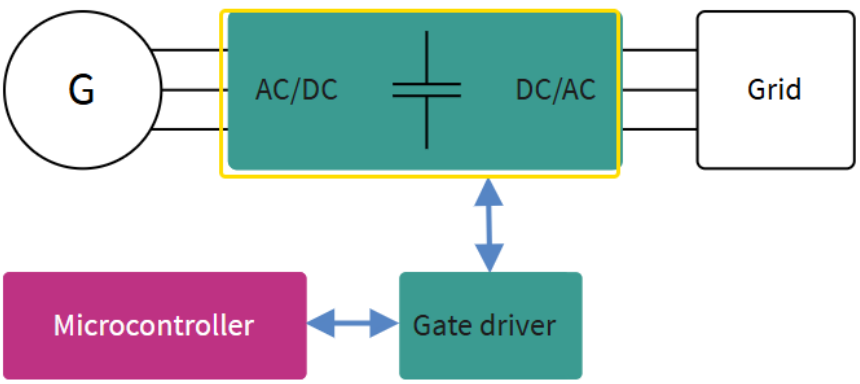
Target applications

- > Wind

Product collaterals / Online support

Product page

Block diagram



Product overview incl. datasheet link

OPN	SP Number	Package
FF900R17ME7CBPSA1	SP006078976	AG-ECONOD-711

High frequency, single-stage PFC flyback controller for constant voltage output ICL8830

The ICL8830 controller is tailored for high-frequency switching operation and capable to drive GaN and Si MOSFET switching devices. It detects flyback switch drain voltage high frequency oscillation and provides thegate signal with small delay for accurate and reliable quasi-resonant mode (QRM) operation.

Features

- SSR-CV output flyback topology
- Supports high-frequency operation with GaN
- Burst mode operation on very light load
- Adjustable on-time mapping for high-frequency
- Comprehensive set of protections

Benefits

- High power factor and low THD
- Wide AC input and output load range
- Universal input voltage operation
- Low system standby power consumption
- Safe operation under low line
- Reduced component stress with soft-start

Competitive advantage

- High switching frequency
- Optimized for GIT GaN
- Comprehensive set of protections
- Low standby power consumption

Target applications

- Lighting
- Battery charger

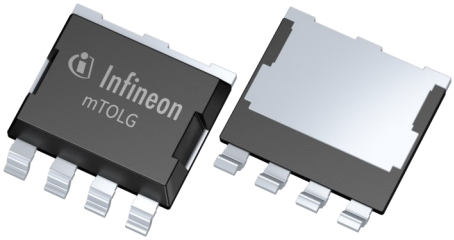
Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
ICL8830XUMA1	SP006071841	PG-DSO-8

OptiMOS™ 5 single N-channel Linear FET 2 100 V, 1.8 mΩ, 176 A in 8 mm x 8 mm footprint IPM018N10NM5LF2



IPM018N10NM5LF2 is Infineon's best-in-class OptiMOS™ 5 Linear FET 2 100 V in the new 8x8 mTOLG, offering the industry's lowest $R_{DS(on)}$ and wide SOA at 25˚C. This is a JEDEC listed package, compatible with other 8x8 mm^2 gullwing package MOSFETs, i.e. LFPAK88 type.

The combination of the OptiMOS™ 5 Linear FET 2 technology and the mTOLG package, is designed to provide highest power density for inrush current protection applications such as hot-swap, e-fuse, and battery protection in battery management systems (BMS).

Features

- 8 mm x 8 mm footprint
- Wide safe operating area (SOA)
- Ultra low on-resistance
- Lower leakage current
- Optimized transfer characteristic

Benefits

- Highest power density in 8x8 mm^2
- Low conduction losses
- Rugged linear mode operation
- Better current sharing
- Improved gate driver compatibility

Competitive advantage

- Best-in-class combination of wide SOA and leading edge $R_{DS(on)}$ performance
- Improved current sharing (super low $V_{gs(th)}$ spread)
- Better price/performance ratio

Target applications

- Battery Management Systems (BMS)
- Server Power supply Units (PSU)
- Telecommunication infrastructure

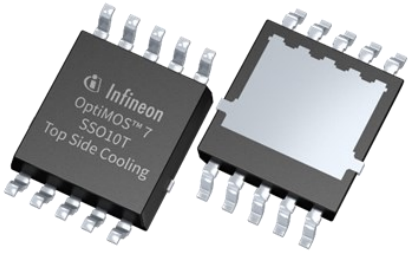
Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
IPM018N10NM5LF2AUMA1	SP006114237	PG-HSOG-4

OptiMOS™ 7 80 V top side cooled SSO10T Automotive MOSFETs



Infineon expands its portfolio of Automotive MOSFETs featuring our innovative, top-side cooled SSO10T 5 x 7 mm^2 SMD package. These MOSFETs are built with our leading edge, power semiconductor technology; OptiMOS™ 7 80 V. These products help customers achieve big advancements in cooling and power density in demanding automotive applications.

Features

- Direct cooling path to ECU housing
- Virtually no heat flows into PCB
- Industry's largest exposed pad area
- Can mount parts on opposite side of PCB
- Industry's best on-resistance, $R_{DS(on)}$
- Optimized charge and capacitance values
- Extended qualification beyond AEC-Q101

Benefits

- Enables excellent thermal management
- Thermal impedance & resistance improved 20% to 50%
- Helps reduce ECU volume
- Helps reduce PCB cost
- Helps achieve highest power density
- Minimized conduction losses
- Superior switching performance

Competitive advantage

- Industry's largest exposed pad area offers better cooling
- Highest efficiency achieved by leading-edge FOM ($R_{DS\ (on)}$ x Q_g)
- A narrow $V_{GS(th)}$ range simplifies the challenge of placing MOSFETs in parallel

Target applications

- 48 V motor control (steering, pumps, fans, etc.)
- DC-DC converters
- 48 V power distribution
- LED exterior lighting

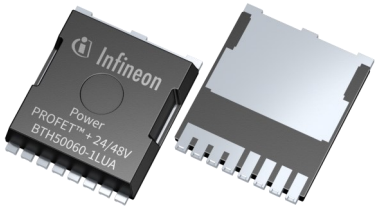
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IAUCN08S7N016TATMA1	SP005981920	PG-LHDSO-10
IAUCN08S7N019TATMA1	SP005981924	PG-LHDSO-10
IAUCN08S7N024TATMA1	SP005981928	PG-LHDSO-10
IAUCN08S7N045TATMA1	SP005911511	PG-LHDSO-10

Power PROFET™ + 24/48V – BTH50060-1LUA



Introducing the latest addition to the Power PROFET™ + 24/48V family, the BTH50060-1LUA, a single channel smart high-side power switch, embedded in a 8 pin TO-leadless package, providing protective functions and diagnosis. Especially designed to drive high current loads up to 17.7 A in a 24 V or 48 V power net in automotive or industrial applications.

Features

- Low ohmic switch for 24 V and 48 V automotive power distribution and industrial applications
- Integrated protection functions (over-current, over-load, over-temperature, over-power)
- Integrated diagnostic functions
- Low stand-by current
- Compatible to cranking pulses and load dump robustness up to 70 V
- AEC-Q100 qualification

Benefits

- PRO-SIL™ ISO 26262-ready for supporting the integrator in evaluation of hardware element acc. to ISO 26262
- Accurate current sensing
- Developed to support dependable power supply and distribution
- Supports long wires
- Ideal for limited board space
- Leadless power package

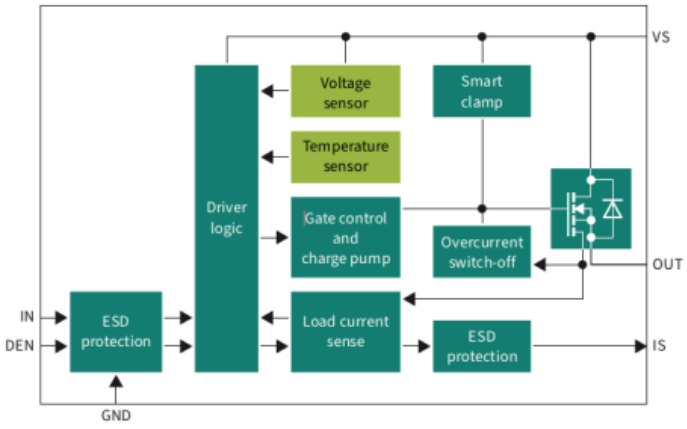
Competitive advantage

- Low ohmic switch available on the market able to drive high current loads up to ~ 17.7 A
- Integrated solution for driving high current loads for easy design in
- ISO 26262-ready providing safety application note

Target applications

- Addressing commercial, construction and agriculture vehicles fulfilling all requirements
- Suitable for resistive, inductive and capacitive loads
- Replaces electromechanical relays, fuses and discrete circuits in power distribution and other applications in a 24 or 48 V board net
- Most suitable for application with high current loads, such as heating system
- BCM for 24 V commercial vehicles
- Industrial applications 24 V and 48 V
- PWM applications with low frequency

Block diagram



Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
BTH500601LUAAUMA1	SP005578499	PG-HSOF-8

CoolSiC™ Schottky Diode 1200 V G5

CoolSiC™ Schottky diode 1200 V in a TO-247-2 pin package enables efficient and compact designs with enhanced robustness and reliability. This device family includes avalanche robustness guaranteed in datasheet, a broadening portfolio with the highest current class of up to 150 A, and a .XT interconnection technology.

Features

- Avalanche rated
- .XT interconnection technology
- No reverse recovery current
- No forward recovery voltage
- Temp. independent switching behavior
- Low V_F at high operating temperature
- Tight forward voltage distribution
- High surge current capability

Benefits

- Easy plug and play with silicon diodes
- System efficiency boost vs. Si diodes
- Enabling higher frequency solutions
- Increased power density solutions
- System reliability improvement

Competitive advantage

- Avalanche robustness
- .XT interconnection technology
- Up to 150 A

Target applications

- Solar
- EV charging
- UPS
- Welding

Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IDWD50G120C5XKSA1	SP005746630	PG-TO247-2
IDWD60G120C5XKSA1	SP005746632	PG-TO247-2
IDWD75G120C5XKSA1	SP005746634	PG-TO247-2
IDWD150G120C5XKSA1	SP005746636	PG-TO247-2

Portfolio extension: CoolSiC™ MOSFET discrete 1200 V G2 in top-side cooled Q-DPAK package - IMCQ120R0xxM2H

The CoolSiC™ MOSFET discrete 1200 V in a top-side cooled Q-DPAK single switch package has been specifically designed for a wide use in industrial application, including EV charging, solar, UPS, SSCB, industrial drives, AI and CAV.
The Q-DPAK provides customers with a reduced system cost by enabling easier assembly with outstanding thermal performance. Compared to bottom-side cooled solutions, top-side cooled devices enable a more optimized PCB layout, which in turn reduces the effects of parasitic components and stray inductances, while also providing enhanced thermal management capabilities.

Features

- SMD top-side-cooled package
- Low stray inductance
- CoolSiC™ MOSFET 1200 V G2 technology with enhanced switching performance and FOM factor
- .XT interconnection technology
- Mold compound (CTI > 600) and Mold groove (CD > 4.8 mm)
- Humidity robustness
- Avalanche robust, short-circuit and PTO

Benefits

- Higher power density
- Enabling automated assembly
- Less complex designs needed
- Outstanding thermal performance compared to BSC packages
- Improve system power losses
- Enable a VRMS of 950 V with pollution degree 2
- High reliability
- Lower TCO cost or BOM cost

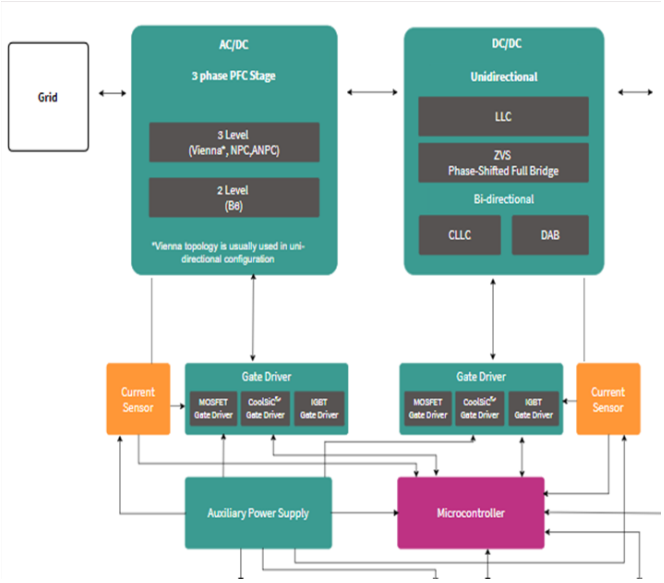
Competitive advantage

- Increased power density
- Improved the thermal performance compared to BSC devices
- Enables easier electrical design

Target applications

- EV charging
- Solar
- UPS
- SSCB
- Industrial drives
- AI
- CAV

Block diagram



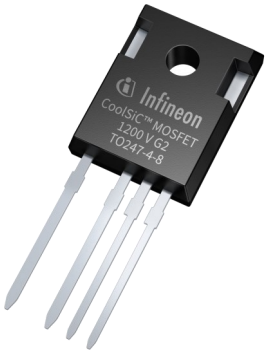
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IMCQ120R007M2HXTMA1	SP005913061	PG-HDSOP-22
IMCQ120R010M2HXTMA1	SP005927112	PG-HDSOP-22
IMCQ120R017M2HXTMA1	SP005927114	PG-HDSOP-22

CoolSiC™ MOSFET discrete 1200 V in TO247 4-pin IMZA package



CoolSiC™ MOSFET discrete 1200 V, 53 mΩ G2 on a TO247 4-pin IMZA package which ensures mounting assembly compatibility and easy replacement for existing system designs providing an advanced solution for more cost-optimized, efficient, compact, easy-to-design and reliable system. It enhanced better performance in both hard-switching operation and soft-switching topologies for all common combinations of AC-DC, DC-DC, and DC-AC stages.

Features

- Enhanced switching performance and FOM
- Broad portfolio
- Improved .XT interconnection technology
- Parasitic turn-on robustness
- Short-circuit rating of 2µs guaranteed
- Tight $V_{GS(th)}$ distribution

Benefits

- Better energy efficiency
- Cooling optimization
- Higher power density
- New robustness features
- Highly reliable
- Easy paralleling

Competitive advantage

- 25% lower switching losses
- 10% total power loss reduction
- 11% lower MOSFET temperature
- Reliability against Miller effect
- Best in paralleling operation

Target applications

- Solar
- ESS
- EV charging
- UPS
- Drives

Block diagram

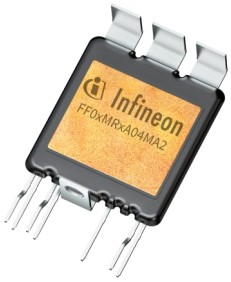
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IMZA120R012M2HXKSA1	SP006133730	PG-TO247-4
IMZA120R017M2HXKSA1	SP006133734	PG-TO247-4
IMZA120R022M2HXKSA1	SP006133738	PG-TO247-4
IMZA120R026M2HXKSA1	SP006133742	PG-TO247-4
IMZA120R034M2HXKSA1	SP006133746	PG-TO247-4
IMZA120R040M2HXKSA1	SP006133750	PG-TO247-4
IMZA120R053M2HXKSA1	SP006133752	PG-TO247-4
IMZA120R078M2HXKSA1	SP006133754	PG-TO247-4

HybridPACK™ DSC CoolSiC™ FF06MR12A04MA2



The HybridPACK™ DSC CoolSiC™ G2 module is a compact B2-bridge power module (1200 V / 190 A). The power module implements the second generation CoolSiC™ automotive MOSFET 1200 V, optimized for electric drive train applications, from mid- to high-range automotive power classes to high-range commercial, construction, and agricultural vehicles.

Features

- V_{DSS} = 1200 V
- I_{DN} = 190 A / I_{DRM} = 380 A
- Low inductive design ≤ 8 nH
- Low $R_{DS(on)}$
- Low switching losses
- Low Q_g and C_{rss}
- New semiconductor material - silicon carbide
- $T_{vj(op)}$ = 175°C

Benefits

- 4.25 kV DC 1 second insulation
- Compact design
- High power density
- AlN Substrate with low thermal resistance
- Integrated NTC temperature sensor
- RoHS compliant
- UL 94 V0 module frame

Competitive advantage

- Infineon has a long track record in the production of HybridPACK™ DSC modules with over 10 million sold units. The product family is successfully being used in major running OEM platforms. Infineon's HybridPACK™ DSC family is the most scalable and proven DSC portfolio in the market

Target applications

- Traction inverter
- Automotive applications
- Hybrid Electrical Vehicles ((H)EV)
- Motor drives
- Commercial agriculture vehicles

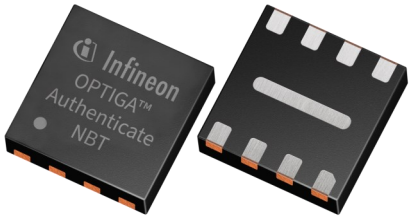
Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
FF06MR12A04MA2AKSA1	SP005558866	PG-MDIP-11

OPTIGA™ Authenticate NBT



OPTIGA™ Authenticate NBT is a high-performance NFC I2C bridge tag, Type 4 Tag certified by the NFC Forum, for single-tap IoT device authentication and secured configuration. It enables ultra-fast, contactless NFC communication between IoT devices and contactless readers such as smartphones. It is based on CC EAL 6+ (high) certified hardware and provides high security thanks to our acclaimed Integrity Guard 32 security architecture.

Features

- NFC forum type 4 Tag certified
- 106 up to 848 Kbit/s contactless
- I2C standard mode / fast mode (plus)
- AES-128-based symmetric cryptography
- Storage capacity of 8 KB user NVM
- ISO/IEC 14443 Type A interface

Benefits

- Based on CC EAL 6+ (high) certified HW
- Integrity Guard 32 security
- Ultra-fast data transfer
- Minimized antenna footprint
- Chip-individual pre-provisioning of key pair and certificate

Competitive advantage

- Better hardware security
- Powerful combination of NFC contactless speed and I2C interface with 3 different speed modes
- Symmetric and asymmetric cryptographic operations
- Bridge tags come in a tiny package, saving space and offers BoM optimization
- Suitable for supporting keyless access and activation, access restriction, device configuration, and legitimate activation of electronic goods

Target applications

- Activating and using shared e-bikes with NFC-enabled smart phones
- Locking/unlocking personal portable HDD drives with NFC-enabled smart phones
- Healthcare applications involving data logging and secured data monitoring
- Industrial applications involving configuration and parametrization of electric relay switches, circuit breakers, etc.

Product collaterals / Online support

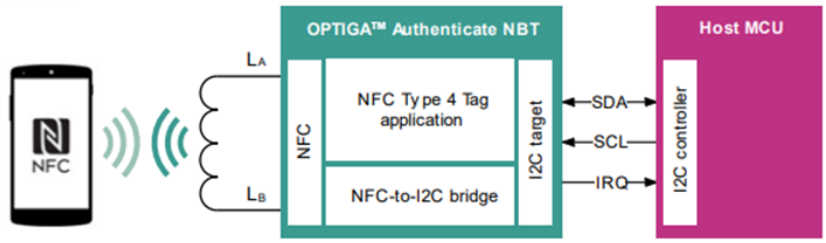
Product page

Board page OPTIGA™ AUTH NBT KIT

Board page OPTIGA™ AUTH NBT SHIELD

Block diagram

Scheme



Product overview incl. datasheet and user manual link

OPN	SP Number	Package
NBT2000A8K0T4USON8XTMA5	SP006124752	PG-USON-8
NBT2000A8K0T4KITV1TOBO1	SP006048607	Kit
NBT2000A8K0T4SHLDV1TOBO1	SP006048609	Kit

Reference board REF_40VDC_1.5KW_SAW

Three-phase brushless DC motor drive powered designed for a 36 V to 40 V battery pack capable of driving loads up to 1.5 kW and 25 Arms phase current. The control firmware uses advanced floating point sensorless field-oriented control operating on Infineon's PSOC™ C3, optimized for motor control applications. The board is optimized for thermal management and power density using OptiMOS™ 5 power MOSFETs.

Features

- Superior thermal resistance
- Floating point sensorless FOC control
- Supports alternative control schemes
- On board speed and direction controls
- On board braking control
- Supports motor control workbench tool

Benefits

- High efficiency (98% at full load)
- Optimized thermal management
- Full range of system protection

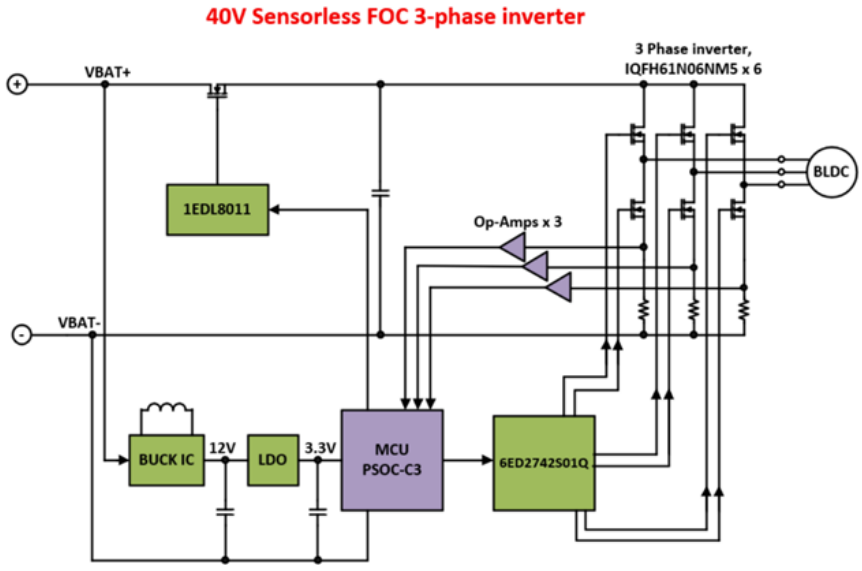
Target applications

- Gardening tools
- Outdoor power equipment
- Cordless saw
- Cordless power tools and outdoor power equipment

Product collaterals / Online support

Board page

Block diagram



Product overview incl. application notes link

OPN	SP Number
REF40VDC15KWSAWTOBO1	SP006096461

Reference board REF_45W1_ZVS_184EM

45 W and 60 W auxiliary power supply reference design boards based on Infineon's latest CoolSET™ system in package (SiP) ICE184EM, ICE184LM, and ICE186EM configured in a flyback topology.

Features

- Universal input 90~264 V_{AC}
- Output 1: 12 V / 3.75 A
- Output 2: 15 V / 0.15 A
- < 20 mW standby power at 230 V_{AC}
- Secondary ENS control LDO at primary side

Benefits

- Multi-output support for IPM gate driver
- Multi-output support for relay and MCU
- Multi-output support for biasing needs
- High efficiency design with SR
- Low standby power consumption
- Ability to turn off LDO at primary side
- High reliability and robust operation
- Low standby loss
- Fully integrated flyback solution

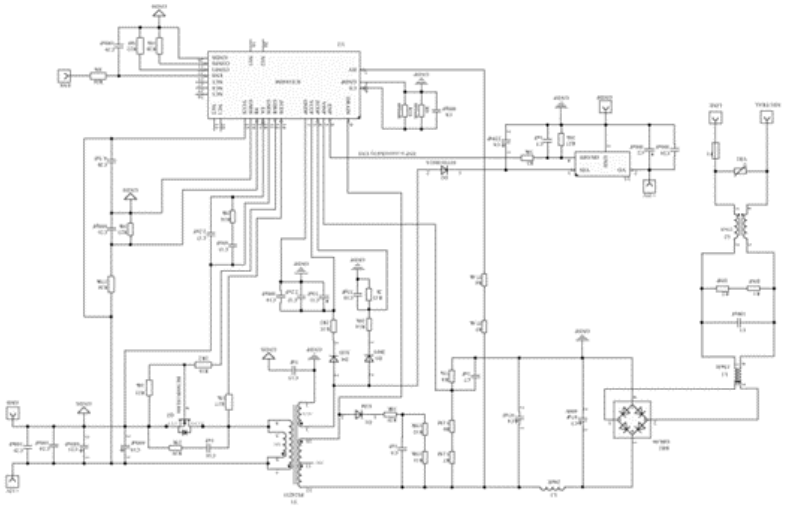
Target applications

- Home appliances
- Power conversion
- Motor control
- Sensor solutions

Product collaterals / Online support

Board page

Block diagram



Product overview incl. application notes link

OPN	SP Number
REF45W1ZVS184EMTOBO2	SP006156912

Reference board REF_45W1_ZVS_184LM

45 W and 60 W auxiliary power supply reference design boards based on Infineon's latest CoolSET™ system in package (SiP) ICE184EM, ICE184LM, and ICE186EM configured in a flyback topology.

Features

- Universal input 90~264 V_{AC}
- Output: 12 V / 3.75 A
- > 92% full-load efficiency at 230 V_{AC}
- < 20 mW standby power at 230 V_{AC}

Benefits

- Multi-output support for IPM gate driver
- Multi-output support for relay and MCU
- Multi-output support for biasing needs
- High efficiency design with SR
- Low standby power consumption
- Ability to turn off LDO at primary side
- High reliability and robust operation
- Low standby loss
- Fully integrated flyback solution

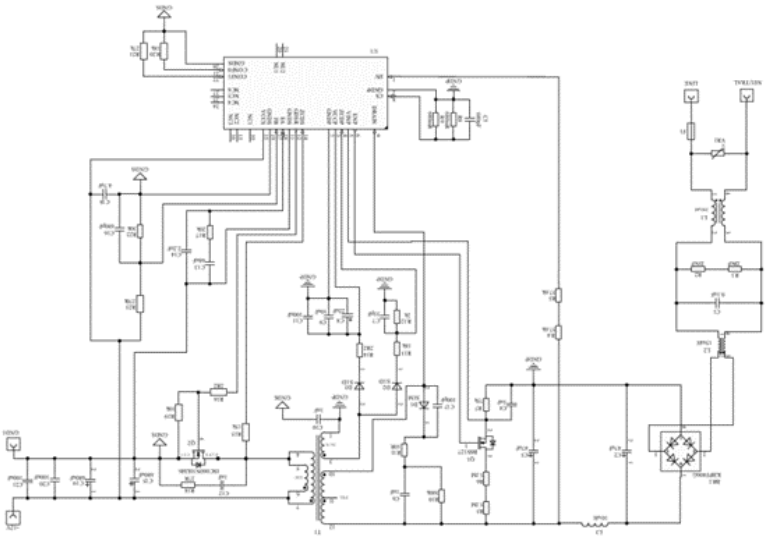
Product collaterals / Online support

Board page

Target applications

- Home appliances
- Power conversion
- Motor control
- Sensor solutions

Block diagram



Product overview incl. application notes link

OPN	SP Number
REF45W1ZVS184LMTOBO2	SP006156921

Reference board REF_60W1_ZVS_186EM

45 W and 60 W auxiliary power supply reference design boards based on Infineon's latest CoolSET™ system in package (SiP) ICE184EM, ICE184LM, and ICE186EM configured in a flyback topology.

Features

- Universal input 90~264 V_{AC}
- Output 1: 12 V / 5 A
- Output 2: 15 V / 0.15 A
- > 93% full-load efficiency at 230 V_{AC}
- Secondary ENS control LDO at primary side

Benefits

- Multi-output support for IPM gate driver
- Multi-output support for relay and MCU
- Multi-output support for biasing needs
- High efficiency design with SR
- Low standby power consumption
- Ability to turn off LDO at primary side
- High reliability and robust operation
- Low standby loss
- Fully integrated flyback solution

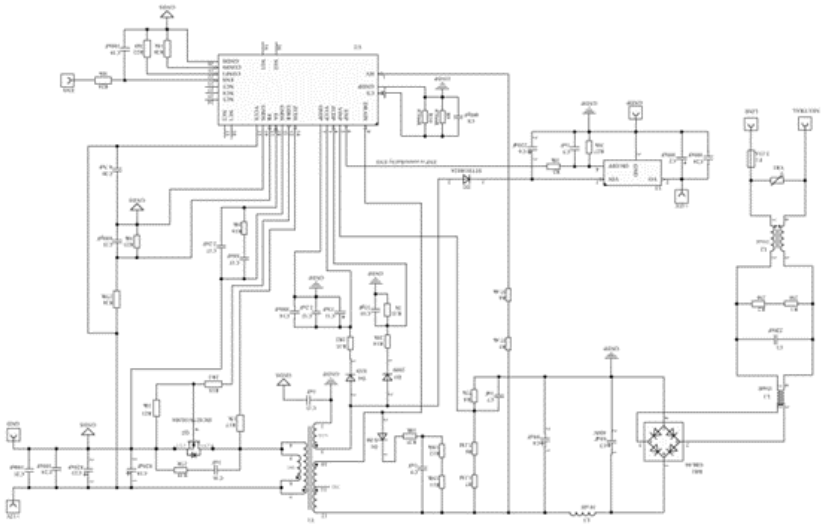
Product collaterals / Online support

Board page

Target applications

- Home appliances
- Power conversion
- Motor control
- Sensor solutions

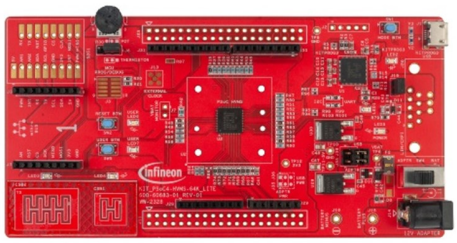
Block diagram



Product overview incl. application notes link

OPN	SP Number
REF60W1ZVS186EMTOBO2	SP006156924

PSOC™ HVMS 128k Lite kit



The PSOC™ 4 HVMS lite kit is designed to accelerate development with the PSOC™ 4 HVMS series, offering a single-chip solution for advanced automotive smart edge-sensing applications. This powerful kit integrates a multi-sense converter, programmable analog blocks, a high-voltage (12 V) LDO, LIN PHY, and an ARM™ Cortex CPU, making it ideal for human-machine interface (HMI) and sensing applications.

Features

- High-voltage subsystem: Integrates a 42 V-tolerant high-voltage LDO and LIN/CXPI PHY for robust performance
- Functional safety compliance: Developed in accordance with ISO26262 for ASIL-B as a safety element out of context (SEooC)
- Advanced sensing: Features a multi-sense converter with 5th generation CAPSENSE™ technology for superior capacitive sensing
- Comprehensive software support: Includes free software tools via ModusToolbox™ such as a peripheral driver library, CAPSENSE™ middleware library, and ready-to-use code examples for rapid prototyping
- Automotive-grade software: ASPICE-qualified and ISO 26262-compliant software (AutoPDL, SafeTlib, and CAPSENSE™ MW) ensures faster time-to-market

Benefits

- Simplified design: directly connects to a 12 V battery supply and LIN/CXPI network, enabling compact and footprint-optimized designs
- Enhanced safety: Integrated functional safety features (up to ASIL-B) support the development of safe automotive sensors
- Superior performance: Delivers robust capacitive sensing with best-in-class signal-to-noise ratio (SNR), enabling sophisticated automotive HMI designs

Competitive advantage

- ASPICE-qualified and ISO 26262-compliant software
- Integrated functional safety features (up to ASIL B)

Target applications

- Steering wheel switches
- Hands-on detection systems
- Door handle sensors
- General-purpose automotive applications (e.g., PTC heaters, LED lighting)

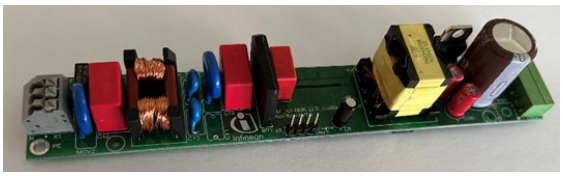
Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
KITPSOC4-HVMS-128KLITE	SP005972421

Evaluation board EVAL_ICL8830_GAN



Evaluation board with the new ICL8830 PFC flyback controller and CoolGaN transistor, optimized for high-frequency LED drivers and battery chargers.

Features

- Featuring ICL8830 flyback controller
- Optimized with GaN transistors in DPAK
- Comprehensive set of protections

Benefits

- High-frequency operation for size reduction
- Reduced power losses with GaN
- High efficiency at high switching frequency

Competitive advantage

- Full system solution optimized for GaN
- High frequency operation and design miniaturization is possible
- Demonstrating low standby power consumption and high frequency operation
- Demonstrating 700 V GaN switches in DPAK package

Target applications

- Lighting
- Battery chargers

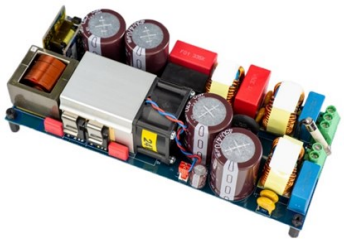
Product collaterals / Online support

Board page

Product overview incl. application notes link

OPN	SP Number
EVALICL8830GANTOBO1	SP006167026

Evaluation board EVAL_3K3W_TP_PFC_SIC2 - 3300 W CCM bi-directional totem pole PFC



This evaluation board enabled by the CoolSiC™ 650 V G2 is designed for high-efficiency, high-power-density applications like high-end servers and telecom. It features a bridgeless totem pole power factor corrector (PFC) with bi-directional power capability, suitable for battery charging/forming applications. The totem pole operates in continuous conduction mode in both rectifier and inverter mode, with digital control based on the XMC™ microcontroller.

Features

- High-efficiency bridgeless TP PFC
- High power density
- Enabled by CoolSiC™ MOSFET 650 V G2
- Improved performance and robustness
- Digitally controlled with XMC1404
- Bi-directional capability (DC-AC)

Benefits

- Efficiency close to 99.2%
- Compact form factor (72 W/in³)
- Low component count
- Bi-directional operation
- Digital control

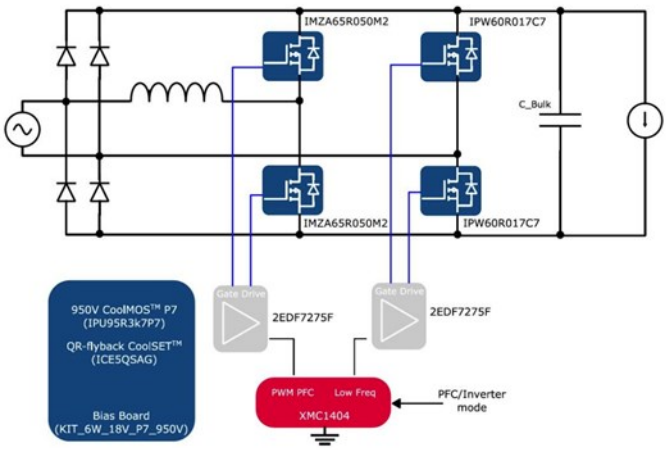
Product collaterals / Online support

Board page

Target applications

- AC-DC power conversion for telecom infrastructure
- Battery chargers
- Battery formation
- Power conversion
- Server Power Supply Units (PSU)

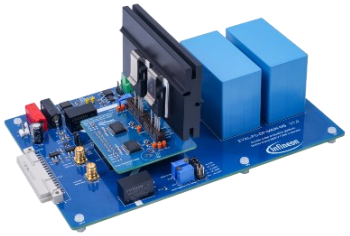
Block diagram



Product overview incl. application notes link

OPN	SP Number
EVAL3K3WTPPFCSIC2TOBO1	SP006069118

Evaluation board EVAL-PS-DP-MAIN-M5



The universal evaluation platform, which incorporates the EiceDRIVER™ gate driver IC, showcases various driving configurations for discrete power semiconductors in both 3-pin and 4-pin TO247 packages. This platform is composed of a motherboard and a gate driver, designed modularly for future expansion. The motherboard supports up to 800 V and 130 A pulsed current.

Features

- > V_{CC2}: -5 V to +20 V
- > V_{CC1} supply fixed at +5 V
- > SMA-BNC gate connection
- > Optional coaxial shunt current measure
- > Optimized commutation loop
- > External load inductor connection
- > Adjustable temperature testing

Benefits

- > Evaluation design with drivecard
- > Benchmark all TO-247-3 / 4-pin packages
- > Modular for future expansion

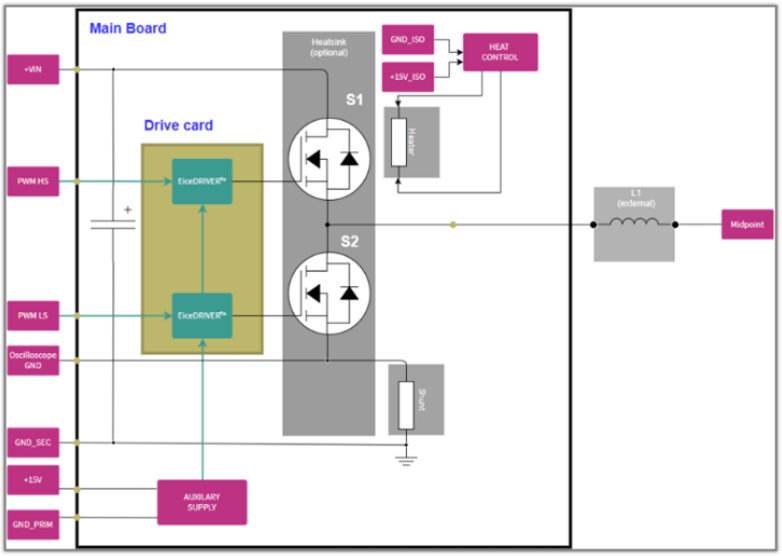
Target applications

- > Photovoltaic
- > Servo motor drive and control
- > Uninterruptible power supplies (UPS)

Product collaterals / Online support

Board page

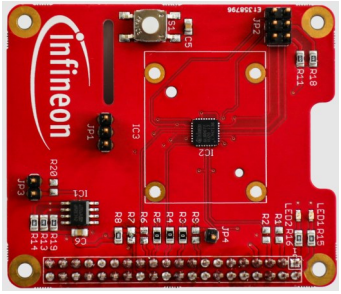
Block diagram



Product overview incl. user manual link

OPN	SP Number
EVALPSDPMAINM5TOBO1	SP006045822

OPTIGA™ TPM SLB 9672 RPI evaluation board



The OPTIGA™ TPM SLB 9672 RPI evaluation board provides a quick and easy way for developers to get started with Infineon OPTIGA™ TPM SLB 9672 for Raspberry Pi. The board comes as a Raspberry Pi HAT (hardware attached on top) that conforms with the rules defined by the Raspberry Pi Foundation. This add-on makes it easier for users to connect the board to all 40-pin GPIO Raspberry Pi boards.

Features

- OPTIGA™ TPM SLB 9672VU2.0
- Standard Raspberry Pi HAT, compatible with Raspberry Pi 40-pin header
- Serial peripheral interface (SPI)
- 3.3 V or 1.8 V power supply
- Intuitive quick-start guide including all necessary software, tools, and documentation

Benefits

- Simple integration with Linux-based OS thanks to easy-to-understand materials and sample codes on GitHub
- “Plug-and-play” solution without any configuration changes to a normal Raspberry Pi OS

Target applications

- Networking equipment
- Servers
- Medical devices
- Programmable Logic Controllers (PLC)
- Industrial control and automation

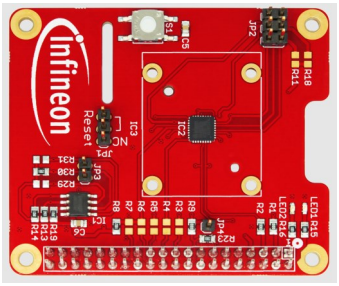
Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
TPM9672FW1624RPIEBTOBO1	SP006132911

OPTIGA™ TPM SLB 9673 RPI evaluation board



The OPTIGA™ TPM SLB 9673 RPI evaluation board provides a quick and easy way for developers to get started with Infineon's OPTIGA™ TPM SLB 9673 for Raspberry Pi. The board comes as a Raspberry Pi HAT (hardware attached on top) that conforms with the rules defined by the Raspberry Pi Foundation. This add-on makes it easier for users to connect the board to all 40-pin GPIO Raspberry Pi boards.

Features

- Standard Raspberry Pi HAT header, compatible with Raspberry Pi 40-pin header
- I^2C communication bus interface
- 3.3 V or 1.8 V power supply
- Reset input from Raspberry Pi board
- Intuitive quick start guide including all necessary software, tools, and documentation

Benefits

- Simple integration with Linux-based OS thanks to easy-to-understand materials and sample codes on GitHub
- Proven, standardized turnkey IoT security solution

Target applications

- Networking equipment
- Medical devices
- Programmable logic controllers (PLC)
- Industrial control and automation
- Surveillance cameras
- Smart buildings

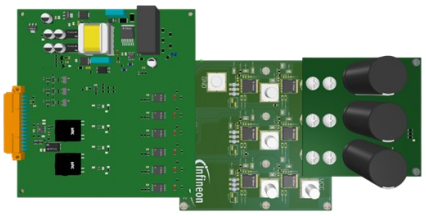
Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
TPM9673FW2624RPIEBTOBO1	SP006132913

EVAL_10KW_B6_SIC400V - virtual design for a 3-phase B6 inverter up to 10 kW



The EVAL_10KW_B6_SIC400V uses a B6 inverter with isolated gate driver used for driving motors, supporting both ACIM and PMSM up to 10 kW. It utilizes the CoolSiC™ MOSFET 400 V G2 in a B6 configuration, allowing for power level fine-tuning.

The kit includes a power board, a capacitor board, and a gate driver board, enabling designers and researchers to evaluate them in a working setup and adapt the circuits according to their specific needs.

Features

- Test platform for 3-ph half-bridge (B6)
- Power board with air-cooled heatsink
- Capacitor board for inverter current
- Isolated gate driver board
- Complete design files for download

Benefits

- Virtual design for SiC based B6 inverter
- Layout and heatsink design guidance
- High efficiency
- Smooth switching waveforms
- Supports KIT_XMC4400_DC_V drive card

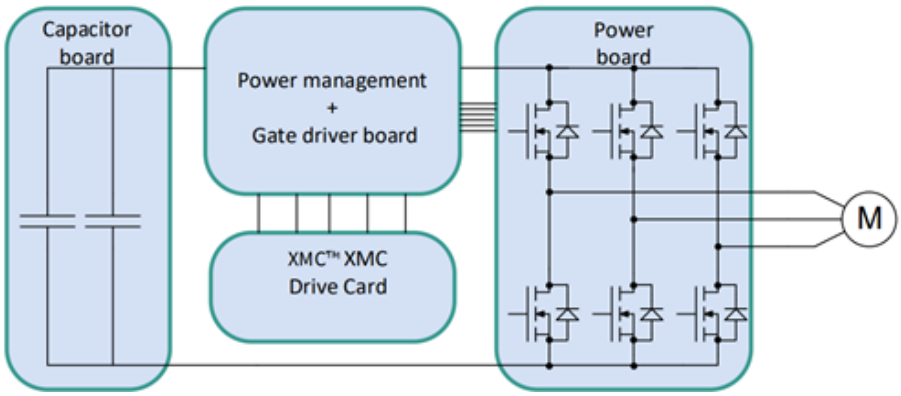
Target applications

- Energy storage systems
- Motor Control
- Photovoltaic
- Residential air conditioning: Smart (IoT) and efficient cooling
- Servo motor drive and control

Product collaterals / Online support

Board page

Block diagram



Product overview incl. user manual link

OPN	SP Number	Note
EVAL_10KW_B6_SIC400V	SP006155272	This is a virtual evaluation board with design files available for download here

REF_6KWHERIC - 6 kW inverter reference design for single phase solar energy system solutions

The REF-6KWHERIC power conversion board consists of a single-phase power stage, supporting up to 6 kW using CoolSiC™ MOSFET 750 V. The board uses a HERIC topology which utilizes additional MOSFETs to manage the freewheeling current during the time that the H-bridge MOSFETs are off. Using this topology increases the efficiency of the board. Additionally, the separate XMC7200-based control board (REF-CLBXMC7PEC) is required to complete the setup.

Features

- Uses HERIC topology
- Thermal protection
- Large heat sink for passive cooling
- Over current protection
- Over voltage protection

Benefits

- High efficiency (98% at full load)
- Optimized thermal management
- No external cooling needed

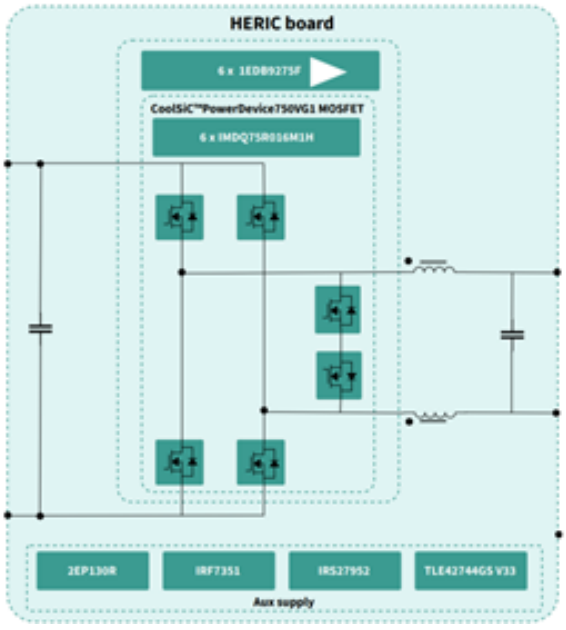
Target applications

- Photovoltaic

Product collaterals / Online support

Board page

Block diagram



Product overview incl. user manual link

OPN	SP Number	Note
REF6KWHERICTOBO1	SP006151325	This is a virtual evaluation board with design files available for download here

AURIX™ TC4x MC ISAR Autosar MCAL, SafeTlib and CDSP Filter Chain Library

Infineon's embedded productive software portfolio for AURIX™ comprises:

MC-ISAR AUTOSAR MCAL Drivers, Safety Software (SafeTlib) and CDSP Filter Chain Library.

To request a free 3-month full Evaluation license or if your company already has an existing project, for TC2xx/TC3xx/TC4x MC-ISAR drivers, click here.

Features

- MCAL: AURIX™ MC-ISAR TC4x
  - 35 drivers, 22 with ASIL-D safety claim
  - AUTOSAR version R20-11, MEM drivers in R21-11
  - Virtualization and Multicore support
  - Allocation of drivers to different safety partitions
  - Separation for all productive drivers
  - Data routing driver minimize latency (by 70-80%) and CPU load
  - Ethernet drivers enable switch functions for filtering and forwarding based on VLAN ID
- AURIX™ TC4x SafeTlib
  - Coverage of AURIX™ TC4x Top Level Safety REQs (TLSRs) & external safety measures
  - Enable safety operation of the chip (startup and runtime)
  - Enablement of TLF4x PMIC from Infineon
- AURIX™ TC4x CDSP Filter Chain Library: includes more than 10 filter functions and 12 ready-to-use configurable CDSP filter chains. These DSP features enable:
  - Filtering trends in noise from voltage and temperature sensor
  - Filtering trends in noise from supply domains used by high compute SoC
  - Filtering noise from power distribution lines e.g., MOSFETs
  - Calculating min, max, and average values over an accumulated number of TMADC samples
  - Enhancing resolution/oversampling of TMADC

Target applications

- MCAL: AURIX™ MC-ISAR TC4x:
  - All AUTOSAR application in all domains (engine, chassis, safety, body, etc.)
  - Drivers can be used even outside of AUTOSAR applications e.g. CAV Commercial Agricultural Vehicles, industrial, marine applications etc.
- AURIX™ TC4x SafeTlib: any AURIX™ TC4x application that is addressing safety related use cases
- AURIX™ TC4x CDSP Filter Chain Library: (sensor-less) e-motor phase current/ rotation speed measurement for OBC / DC-DC and traction motor inverter

Product collaterals / Online support

AURIX™ TC4x MC ISAR Autosar MCAL

SafeTlib

CDSP Filter Chain Library

Benefits

- MCAL: AURIX™ MC-ISAR TC4x
  - Free 3-month full evaluation license available
  - Supporting latest standards
  - Avoiding the need for additional driver for ASIL D argumentation
  - Eases software partitioning and gives more flexibility; driver can be executed in an ASIL D domain
  - Eases system level safety argumentation
  - ASPICE v4.0 L3 compliant development process
- AURIX™ TC4x SafeTlib
  - SW targeted to be ASIL-D
  - ISO 26262:2018 compliance, ISO 21434 compliance in evaluation
  - ASPICE v3.1 L3 compliant development process
- AURIX™ TC4x CDSP Filter Chain Library
  - ISO26262 ASIL D, freedom from interference
  - Quality process: ASPICE v4.0

Competitive advantage

- Safety
  - Avoiding the need for additional driver for ASIL D argumentation
  - Eases software partitioning and gives more flexibility; driver can be executed in an ASIL D domain
  - Eases system level safety argumentation
- Multicore, virtualization
  - Enabling support for virtual ECUs
  - Eases software partitioning and gives more flexibility; driver can operate from multiple cores
- ISO21434 cybersecurity
  - Supporting mandatory cybersecurity standard
  - Infineon provides Cybersecurity incident response for reported incidents
- ASPICE
  - Supporting latest standards: ASPICE ver3.1 level 3 targeted
  - Avoids need of intensive customer audits