



New Product Introduction

July 2021

[OptiMOS™ power MOSFETs in TOLG](#)

[OptiMOS™ power MOSFETs in TOLT](#)

[TLE9560/1/2 - DC Motor System IC](#)

[TLE9563/4 - BLDC Motor System IC](#)

[BGSX22G6U10 - DPDT GPIO 0.4 - 7.125 GHz antenna cross switch](#)

[ICL88xx family - Single-stage flyback LED controllers for constant voltage](#)

[StrongIRFET™ 2 power MOSFETs](#)

[XHP™ 3 6.5 kV half bridge module – FF225R65T3E3](#)

[32-bit TriCore™ AURIX™ TC33xLP](#)

[TLE9246xED - 4/6channel low-side Solenoid Driver](#)

[iMOTION™ motor controller new package variant for IMC100 family](#)

[OptiMOS™ 6 logic level MOSFET 40 V in SuperSO8](#)

[OptiMOS™ logic level MOSFETs 60 V in SuperSO8 and PQFN 3.3x3.3](#)

[XENSIV™ PAS CO2 Sensor2Go Evaluation Kit](#)

[XENSIV™ PAS CO2 Mini Evaluation Board](#)

[Reference Design with 11 kW SiC DC-DC converter for fast DC EV charging](#)

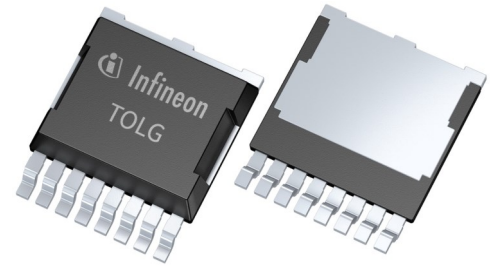
[Evaluation board with 650 V TRENCHSTOP™ 5 WR5 IGBT for Aircon & EV charger applications](#)

OptiMOS™ power MOSFETs in TOLG

TOLG is the new package added to the TOLx family, offering better thermal cycling on board (TCoB) performances.

This package offers the same high current and low profile features as the TO-Leadless (TOLL). The TOLG is compatible with the footprint to the TO-Leadless with the additional feature of gullwing leads for high thermal cycling.

Key benefits of the TOLG include high efficiency, lower EMI as well as high power density enabling high performance and overall system efficiency.



Features

- > Best in class technology
- > High current rating >300 A
- > Low ringing and voltage overshoot
- > 60% space board reduction compared to D²PAK 7pin
- > Gullwing leads

Benefits

- > High performance capability
- > High system reliability
- > High efficiency and lower EMI
- > Increased power density
- > High Thermal Cycling on Board performance

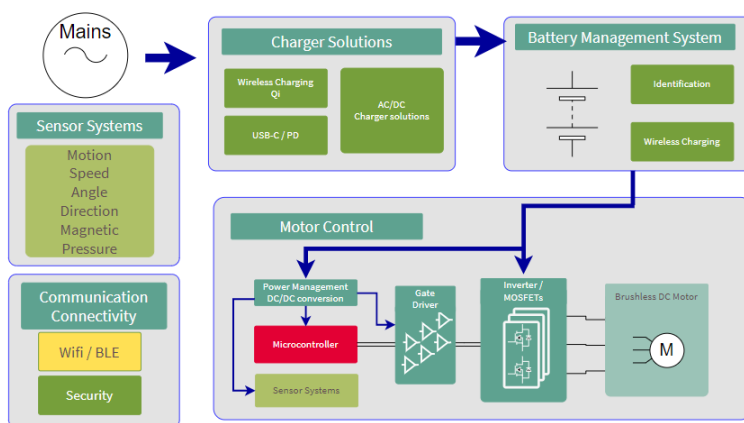
Competitive advantage

- > Better Thermal Cycling on Board (TCoB) in AI-IMS board compared to TOLL package and standard requirement IPC-9701

Target applications

- > e-scooter
- > Light electric vehicles
- > Forklift
- > Power and gardening tools
- > Battery management system
- > Hotswap

System diagram



Product collaterals / Online support

[Product family page](#)

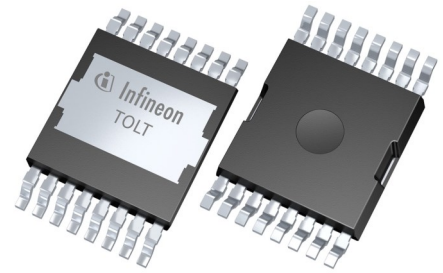
Product overview incl. data sheet link

OPN	SP Number	Package
IPTG007N06NM5ATMA1	SP005430755	PG-HSOG-8
IPTG011N08NM5ATMA1	SP005430759	PG-HSOG-8
IPTG014N10NM5ATMA1	SP005430771	PG-HSOG-8
IPTG111N20NM3FDATMA1	SP005431194	PG-HSOG-8
IPTG210N25NM3FDATMA1	SP005431198	PG-HSOG-8

OptiMOS™ power MOSFETs in TOLT

The new Infineon's OptiMOS™ TOLT in 80 V and 100 V is the new top side cooling package enabling superior thermal performance.

Infineon's OptiMOS™ power MOSFET family expands its high performance package offerings with the introduction of the TO-Leaded top-side cooling (TOLT) package to its portfolio. The TOLT package offers the same high current low profile benefits as the TOLL package with the additional advantage of top-side cooling for optimum thermal performance.



Features

- > Low $R_{DS(on)}$
- > High current rating
- > Top side cooling
- > Negative standoff

Benefits

- > Reduction in conduction losses
- > High current carrying capability
- > Superior thermal performance
- > Minimize thermal resistance to heatsink

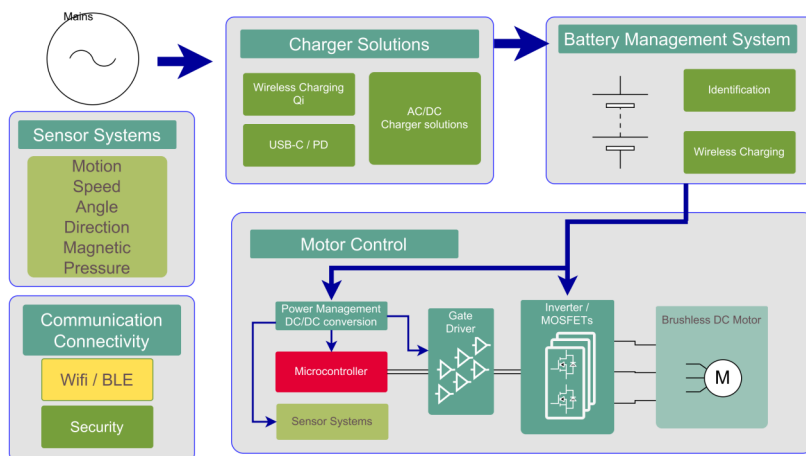
Competitive advantage

- > TOLT reduces thermal resistance to heatsink by up to 50% compared to TOLL package
- > Less than 5% of heat is transferred through the PCB
- > ~8% lower cost on heatsink and PCB with TOLT compared to TOLL solution

Target applications

- > Power tools
- > LEV
- > Forklift
- > e-scooter
- > Battery Management System
- > SMPS

System diagram



Product collaterals / Online support

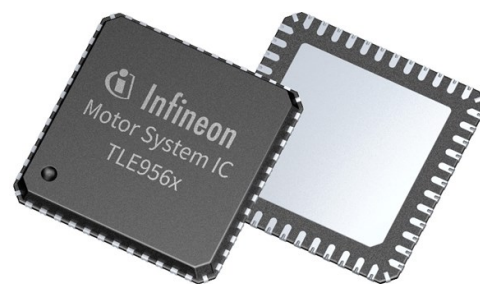
[Product family page](#)

Product overview incl. data sheet link

OPN	SP Number	Package
IPTC012N08NM5ATMA1	SP005447133	PG-HDSOP-16
IPTC014N08NM5ATMA1	SP005447138	PG-HDSOP-16
IPTC015N10NM5ATMA1	SP005447142	PG-HDSOP-16
IPTC019N10NM5ATMA1	SP005447146	PG-HDSOP-16

TLE9560/1/2 - DC Motor System IC

Infineon's Motor System IC family offers high integration and high performance with optimized system cost for DC motor control applications. It combines half-bridge gate drivers with power and communication supply. The family features multi MOSFET driver in brushed DC 2x or 4x half bridges pre-driver. The IC is complemented with a low-dropout voltage regulator of up to 250mA, CAN FD (5 Mbit/s) and LIN transceiver as well as high-side switches (7Ω typ.), wake inputs and supervision features.



Features

- > 2x/4x half-bridge drivers with up to 4 PWM inputs
- > 100mA constant gate charge current
- > 5 V LDO Vcc1 up to 250mA
- > Up to 5 HV wake inputs
- > Up to 4 protected HS Switches
- > Adaptive MOSFET control
- > CAN FD up to 5Mbps acc. ISO 11898-2:2016
- > CAN PN FD Tolerant* with "-3" variants
- > LIN2.2B / J2602
- > Window and Timeout Watchdog

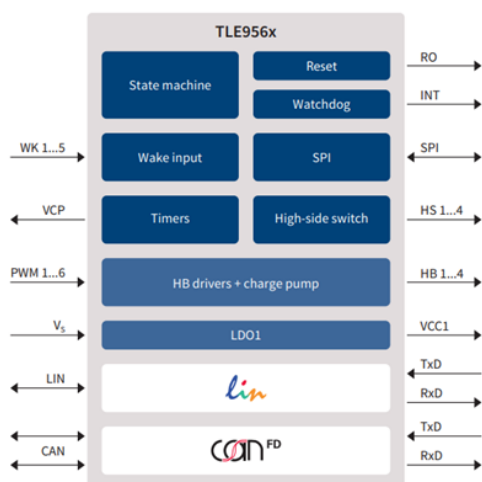
Benefits

- > Patented principle: optimized MOSFET switching provides lower switching losses and EMC optimization
- > First IC with integrated half-bridge driver, power supply and communication interface in the market
- > Peerless scalability within the (BL)DC Motor System IC family and half bridges to reduce time-to-market
- > Preventing damages on ECU level due to intelligent motor braking, when closing/opening manually

Target applications

- > Power lift gate
- > Seat control module
- > Sunroof module
- > HVAC flaps
- > Electric parking actuator
- > Steering column lock
- > Reversible seat belt

Block diagram



Product collaterals / Online support

[Product family page](#)

[Product brief](#)

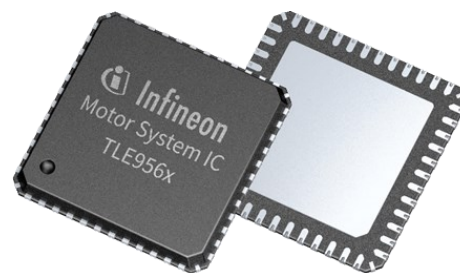
[Application note](#)

Product overview incl. data sheet link

OPN	SP Number	Package
TLE95603QXXUMA1	SP003986216	PG-VQFN-48
TLE9561QXXUMA1	SP002929130	PG-VQFN-48
TLE95613QXXUMA1	SP002929126	PG-VQFN-48
TLE9562QXXUMA1	SP002929122	PG-VQFN-48
TLE95623QXXUMA1	SP002929118	PG-VQFN-48
DCSHIELDTLE956XTOBO1	SP005408809	board

TLE9563/4 - BLDC Motor System IC

Infineon's Motor System IC family offers high integration and high performance with optimized system cost for BLDC motor control applications. The family features multi MOSFET driver in 3-Phase BLDC pre-driver configuration. The IC is complemented with a low-dropout voltage regulator of up to 250mA, CAN FD (5 Mbit/s) and LIN transceiver as well as high-side switches (7Ω typ.), wake inputs and supervision features.



Features

- > 3ph driver with up to 6 PWM inputs
- > 150mA constant gate charge current
- > 5V LDO Vcc1 up to 250mA
- > Up to 2 HV wake inputs
- > Up to 3 protected HS Switches
- > Adaptive MOSFET control
- > CAN FD up to 5Mbps acc. ISO 11898-2:2016
- > CAN PN FD Tolerant* with "-3" variants
- > LIN2.2B / J2602
- > Window and Timeout Watchdog

Benefits

- > Patented principle: optimized MOSFET switching provides lower switching losses and EMC optimization
- > First IC with integrated 3-phase driver, power supply and communication interface in the market
- > Bi-directional CSA can redundantize hall sensor usage if FOC is used
- > Compatibility for LIN and CAN FD reducing design-in effort
- > Reduced software development effort

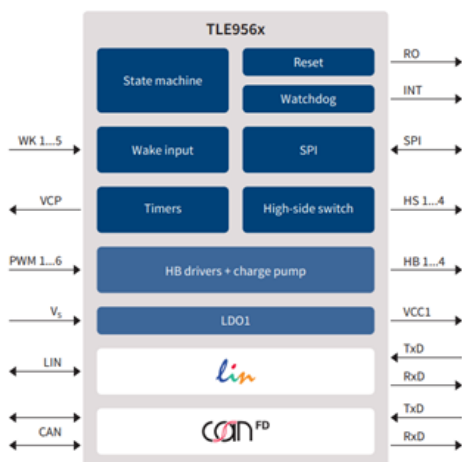
Competitive advantage

- > First product in the market with this unique level of integration with savings on system level
- > Reduced software development effort

Target applications

- > Fuel pump
- > Water pumps
- > Fans
- > Transfer case

Block diagram



Product collaterals / Online support

[Product family page](#)

[Product brief](#)

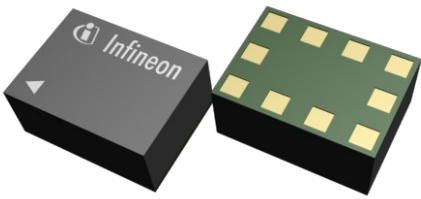
[Application note](#)

Product overview incl. data sheet link

OPN	SP Number	Package
TLE95633QXXUMA1	SP002929112	PG-VQFN-48
TLE9564QXXUMA1	SP002929108	PG-VQFN-48

BGSX22G6U10 - DPDT GPIO 0.4 - 7.125 GHz
antenna cross switch

The BGSX22G6U10 RF CMOS switch is specifically designed for GSM, WCDMA, LTE and 5G applications. This DPDT offers very low insertion loss even at high frequencies of up to 7.125GHz, low harmonic generation along with high isolation between RF ports. In addition, the fast switching speed enables 5G-SRS applications.



Features

- > High linearity up to 39dBm peak power
- > Low current consumption, min supply voltage 1.6 V
- > Ultra low insertion loss and high port to port isolation up to 7.125 GHz
- > Fast switching speed for 5G-SRS applications
- > GPIO control interface
- > No decoupling capacitors required for typical applications
- > RoHS and WEEE compliant package
- > Ultra low profile lead-less plastic package (MSL-1, 260°C per IPC/JEDEC J-STD-20)
- > Size: 1.1mm x 1.5mm

Benefits

- > Perfect fit for 5G-SRS application due to fast switching speed <2µs
- > Extended frequency application up to 7.125 GHz
- > High power handling support for 5G bands with power class 2 (n41, n77, n78, n79)
- > Very Low IL up to 0.5 dB @ 5 GHz

Target applications

- > RF path routing/swapping for cellular mobile devices
- > GSM, WCDMA, 4G/LTE and 5G applications

Competitive advantage

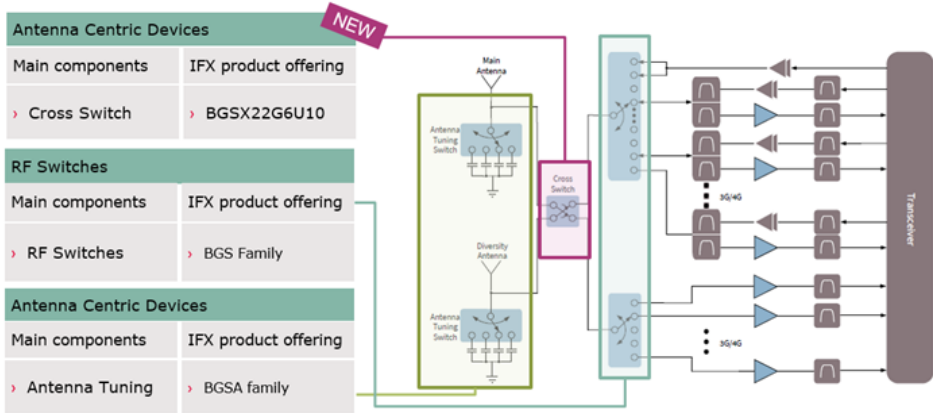
- > Very Low IL up to 0.5 dB @ 5 GHz
- > Fast switching speed <2µs

System diagram

Product collaterals / Online support

[Product page](#)

Application Block Diagram for RF Front End in a mobile phone



Product overview incl. data sheet link

OPN	SP Number	Package
BGSX22G6U10E6327XTSA1	SP005419565	PG-ULGA-10

ICL88xx family - Single-stage flyback LED controllers for constant voltage output

The ICL88xx family of single-stage flyback controllers for constant voltage output is tailored for LED lighting applications to meet the required performance cost-effectively. All three ICs offer benchmarking performance for power factor correction and total harmonic distortion at full-load as well as at low-load conditions. With their comprehensive set of protection features (compare table below) and bottom-up design, they are easy to design in and require a minimum number of external components. The controllers are optimized as secondary-side regulated (SSR) constant voltage (CV) output flyback controllers and are also well suited for primary-side regulation (PSR).



- > ICL8800 basic feature set with excellent PFC and THD and further lighting features
- > ICL8810 advanced variant with burst mode to ensure low standby for smart lighting
- > ICL8820 fully featured variant with burst mode and integrated jitter

Features

- > Optimized for SSR CV output flyback operation, additionally suited for PSR
- > $PF > 0.9$ and $THD < 10\%$ across a wide load range (AC input up to $277 V_{rms}$)
- > CCM and QRM with smart valley hopping
- > Burst mode (BM) to ensure low standby power ($< 100mW$)
- > Built-in jitter function

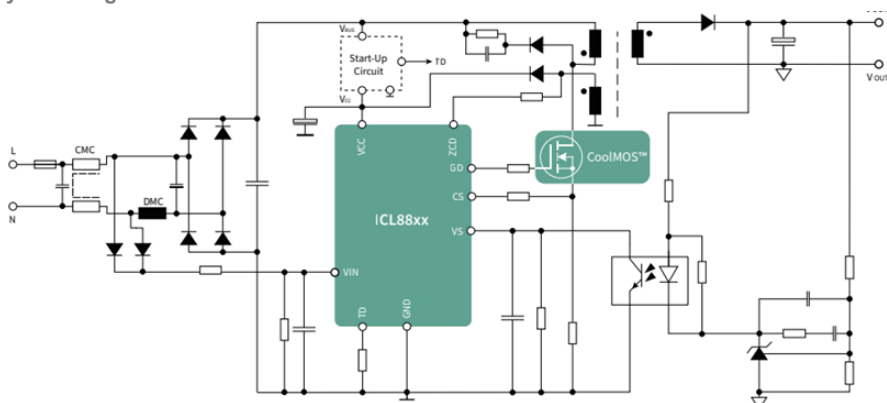
Benefits

- > Low BOM for a wide range of applications with dual-stage topologies and PFC functionality
- > Enables platform design and window drivers
- > Optimum efficiency and low EMI at low BOM without compromising light quality
- > ICL8810 contains additionally: Smart lighting in connection with microcontrollers (standby power $< 500 mW$, i.e. more power budget for additional components)
- > ICL8820 contains additionally: Fulfillment complying with EMI regulations in DC operation at low cost and effort

Target applications

- > LED driver and luminaires up to 125 W
- > Adapter, charger, flat TV, all-in-one PC, monitor up to 125 W

System diagram



Product collaterals / Online support

[Product family page](#)

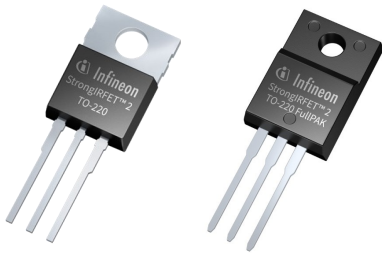
[Product brief](#)

Product overview incl. data sheet link

OPN	SP Number	Package
ICL8800XUMA1	SP003135776	PG-DSO-8
ICL8810XUMA1	SP005418406	PG-DSO-8
ICL8820XUMA1	SP005418407	PG-DSO-8

StrongIRFET™ 2 power MOSFETs

The new StrongIRFET™ 2 power MOSFETs 80 V and 100 V are Infineon's latest generation of MOSFET technology addressing a wide range of applications and are suitable for both low and high switching frequencies. This new family complements the well-established StrongIRFET™ MOSFETs by offering a higher-performance option.



Features

- > Broad availability from distribution partners
- > Excellent price/performance ratio
- > Ideal for high and low switching frequency
- > High current rating

Benefits

- > Increased security of supply
- > Right-fit products
- > Supports a wide variety of applications
- > Increased product ruggedness

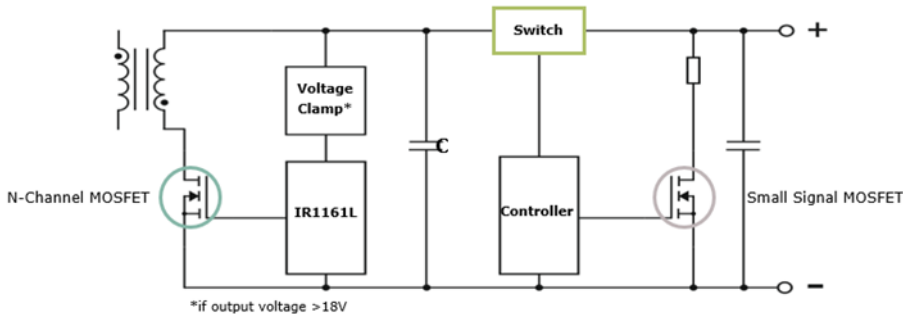
Competitive advantage

- > Right fit products for a wide range of applications
- > Broad availability at distribution partners
- > Excellent price/performance ratio

Target applications

- > Adapter
- > TVs
- > Motor drives
- > e-scooter
- > Battery management
- > Light electric vehicles
- > Robotics
- > Power and gardening tools

System diagram



Product collaterals / Online support

[Product family page](#)

[Product brief](#)

Product overview incl. data sheet link

OPN	SP Number	Package
IPP016N08NF2SAKMA1	SP005548844	PG-TO220-3
IPP019N08NF2SAKMA1	SP005548842	PG-TO220-3
IPP024N08NF2SAKMA1	SP005548843	PG-TO220-3
IPP040N08NF2SAKMA1	SP005548845	PG-TO220-3
IPP055N08NF2SAKMA1	SP005548846	PG-TO220-3
IPP050N10NF2SAKMA1	SP005548848	PG-TO220-3
IPP082N10NF2SAKMA1	SP005548849	PG-TO220-3
IPP129N10NF2SAKMA1	SP005549093	PG-TO220-3
IPA030N10NF2SXKSA1	SP005538815	PG-TO220-3
IPA082N10NF2SXKSA1	SP005549094	PG-TO220-3

XHP™ 3 6.5 kV half bridge module – FF225R65T3E3

XHP™ stands for flexible high power platform and it is characterized by its internal symmetry and low stray inductance. It can easily be paralleled for a modular approach and thus a scalable inverter design.

The latest add-on to the XHP™ 3 family is the FF225R65T3E3 - the first half-bridge module with 6.5 kV for traction applications.

The XHP™ supports low FIT rates and high reliability in harsh climatic conditions to allow trains to operate in the field for 30 years all over the world. The modules meet the EN60721-3-5 class 5K2 specifications for harsh environmental operation conditions as well as the EN45545 R22/R23 HL3 fire & smoke specifications.



Features

- > Standardized XHP™ 3 housing
- > 6.5 kV
- > 10.4 kV isolation
- > CTI 600
- > Fire and smoke classification according to EN45545 R22, R23, R24, HL2
- > AlSiC baseplate and AlN substrate
- > Ultrasonic welded terminals
- > Low stray inductance and symmetric internal current sharing
- > Modular concept

Benefits

- > Excellent scalability by paralleling of XHP™ modules
- > Accelerated design-in process due to simplified mechanical design
- > Clean switching

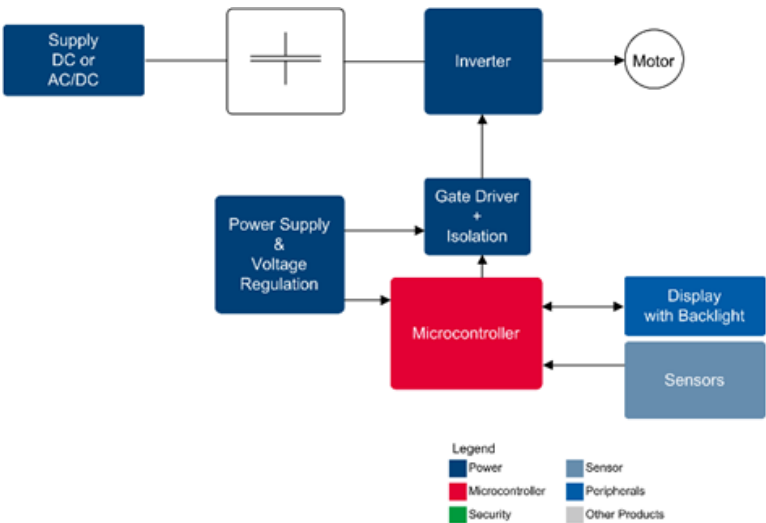
Target applications

- > Traction

Competitive advantage

- > First half-bridge module for 6.5 kV

System diagram



Product collaterals / Online support

[Product page](#)

[Application note](#)

Product overview incl. data sheet link

OPN	SP Number	Package
FF225R65T3E3BPSA1	SP001983752	AG-XHP3K65-361

32-bit TriCore™ AURIX™ TC33xLP

Infineon releases its low end AURIX™ TC33x microcontroller family. It comes back with an increase in performance, memory sizes, connectivity and more scalability to address the new automotive trends and challenges. In terms of performance, the T33xLP offers 1 core running at 200 MHz, up to 248 KBytes embedded RAM, and a consuming below 1 W.



Features

- > 1 TriCore™ running at 200 MHz (300 MHz*: on request)
- > Supporting floating point and fix point with all cores
- > 2 MB flash/ ECC protection
- > 248 KB SRAM / ECC protection
- > 64x DMA channels
- > Redundant and diverse timer modules (GTM, CCU6, GPT12)
- > 1x FlexRay, 8x CAN FD, 12x ASCLIN, 4x QSPI, 6x SENT, 1x I²S emulation
- > eVita full HSM (ECC256 and SHA2)
- > Broad range of packages
 - LFBGA-292, TQFP-144, TQFP-100, TQPF 80, BGA 180
- > ISO 26262 ASIL-D support
- > AUTOSAR 4.2 support
- > Standby mode controller
- > Temperature : -40°C to 125°C

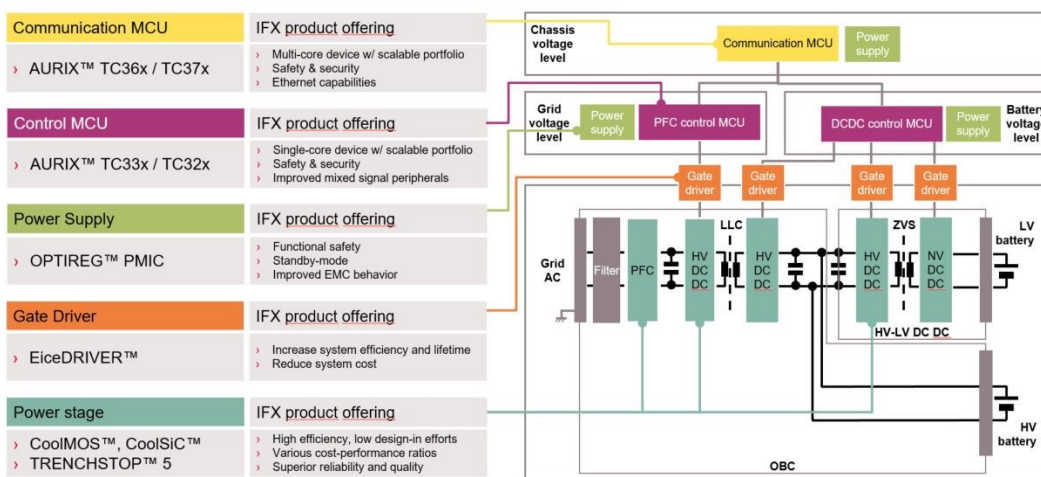
Benefits

- > Best-in-class performance enabling ASIL-D designs
- > Upward and downward scalable to the rest of AURIX™ TC3xx family
- > Easy migration from AURIX™ TC2xx thanks to high software and hardware compatibility

Target applications

- > Low end air bag
- > EPS
- > Active suspension
- > Low end Telematics
- > OBC and DCDC where no integration is done
- > Low voltage BMS
- > Smart actuators
- > 12V-48V components like oil pump / water pump / e-Clutch

System diagram



Product collaterals / Online support

[Product family page](#)

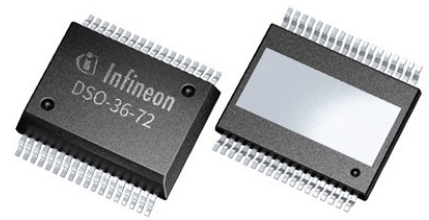
[Application note](#)

Product overview incl. data sheet link

OPN	SP Number	Package
TC332LP32F300FAAKXUMA1	SP004974864	PG-TQFP-80
TC333LP32F300FAAKXUMA1	SP004974874	PG-TQFP-100
TC334LP32F200FAAKXUMA1	SP001724294	PG-TQFP-144
TC336LP32F300SAAKXUMA1	SP004974908	PG-LFBGA-180
TC337LP32F300SAAKXUMA1	SP004974944	PG-LFBGA-292

TLE9246xED 4/6channel low-side Solenoid Driver

The TLE92464ED and TLE92466ED are a flexible, monolithic four and six channel solenoid driver IC designed for the control of four linear solenoids in automatic transmission, electronic stability control, and active suspension applications.



Features

- > Four/Six independent low side channels with integrated MOSFETs ($R_{DS(on)} = 115\text{ m}\Omega$)
- > <1% current control accuracy
- > Programmable setpoint from 0mA to 1.5 A
- > Load current including dither 1.8 A
- > Current in parallel channel mode 2.7 A
- > Integrated dither generator with programmable amplitude, frequency and waveform
- > 15 bit current setpoint resolution
- > Integrated sense resistor RSHUNT = 140 m Ω
- > Excellent immunity to large load supply voltage changes
- > Operation down to 3.5 V at VDD pin
- > 32 bit SPI with 8 bit CRC and SPI watchdog
- > Sophisticated protection and diagnostic functions for each channel in on and off state
 - Independent thermal shutdown for each channel
 - Diagnostic Function (Open Load, Short Circuit Ground, Over Current)
 - Voltage monitoring
 - Over temperature protection
- > Two independent current feedback paths
- > Integrated system clock with clock watchdog
- > Temperature range -40°C to 175 °C
- > Small power package PG-DSO-36-72
- > Green product (RoHS-compliant)
- > Pb-free (RoHS-compliant) package
- > AEC-Q100 Grade 0 qualified
- > ISO 26262 Safety Element out of Context for safety requirements up to ASIL C

Benefits

- > Enables ASIL D on system level
- > Full temp range up to 175°C
- > +/- 1% Current Accuracy over lifetime (-40°C to 150°C)
- > Excellent regulation performance for step responses
- > Excellent Battery Ripple Rejection
- > Ease of use due to family concept with 4CH TLE9246xED device
- > Same software and package as TLE9246xED enables maximal reuse
- > Scalable solution
- > Integrated Power Devices
- > Minimizes number of components placement, simplifies PCB layout
- > Enables current limitation, slew rate control and thermal protection
- > Improved Short-to-Battery performance

Target applications

- > Variable force solenoids (e.g. automatic transmission solenoids)
- > Other constant current solenoids
 - Idle air control
 - Exhaust gas recirculation
 - Vapor management valve
 - Suspension control

Product collaterals / Online support

[Product page, TLE92464ED](#)

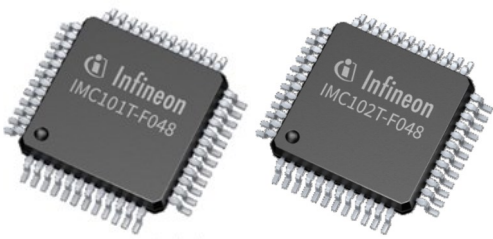
[Product page, TLE92466ED](#)

Product overview incl. data sheet link

OPN	SP Number	Package
TLE92464EDXUMA1	SP001662468	PG-DSO-36
TLE92466EDXUMA1	SP005343070	PG-DSO-36

iMOTION™ motor controller new package variant for IMC100 family

The iMOTION™ IMC100 devices are a family of motor control ICs for the highly efficient control of a variable speed drive (PMSM/BLDC), optionally in parallel with a boost or totem pole power factor correction (PFC). This product series has now been extended by a new package variant (QFP-48). The high pin count of the QFP-48 package makes the IMC100 a perfect fit for flexible application requirements. The integrated scripting engine provides further application flexibility by running customer specific scripts.



Features

- > Highly integrated solution for inverterized drives
 - All digital and analog components integrated
 - No external OPAMP or comparators required
 - 3.3 V or 5 V supply
- > Next generation of Motion Control Engine (MCE 2.0)
 - Field proven computation engine for high efficiency sinusoidal motor control
 - Single or leg shunt
 - Sensorless or optional hall support
 - Flexible host interface/control options
- > Integrated protection features
- > Multiple motor support with flexible parameter handling
- > High pin count package for flexible application requirements

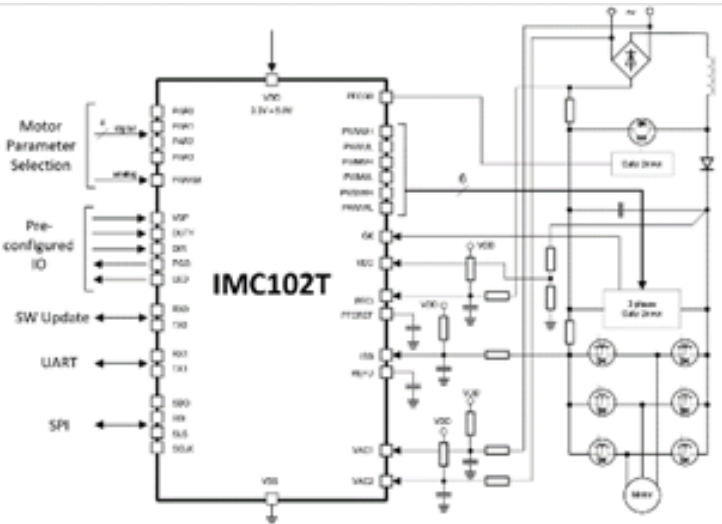
Benefits

- > Fastest time-to-market
 - No programming required
 - Easy motor parametrization and tuning
- > Lowest BOM cost
 - No external OPAMP or comparators required
 - Single shunt sensorless FOC operation (leg shunt/ hall sensors optional)
- > Full protection for power stage and motor
- > Full flexibility on gate driver and power stage

Target applications

- > Heating ventilation and air conditioning (HVAC)
- > Refrigeration and freezing – compressor drives

Block diagram



Competitive advantage

- > iMOTION™ Motion Control Engine

Product collaterals / Online support

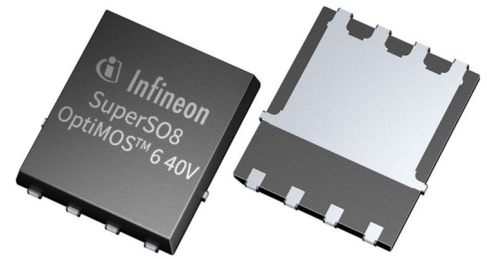
[Product family page](#)

Product overview incl. data sheet link

OPN	SP Number	Package
IMC101TF048XUMA1	SP001704756	PG-LQFP-48
IMC102TF048XUMA1	SP001704760	PG-LQFP-48
EVAL-M1-101TFTOBO1	SP004177742	board

OptiMOS™ 6 logic level MOSFET 40 V in SuperSO8

The new OptiMOS™ 6 MOSFET 40 V family from Infineon offers a benchmark solution for applications requiring a logic level gate drive. Improvements in on-state resistance and figure of merits enable designers to increase efficiency, allowing easier thermal design and less paralleling, leading to system cost reduction.



Features

- > N-channel - Enhancement mode
- > Very low on-resistance $R_{DS(on)}$
- > Superior thermal resistance
- > 175°C rated
- > 100% Avalanche tested
- > Halogen-free according to IEC61249-2-21
- > Optimized for synchronous application

Benefits

- > Highest system efficiency
- > Less paralleling required
- > Increased power density
- > Very low voltage overshoot
- > System cost reduction

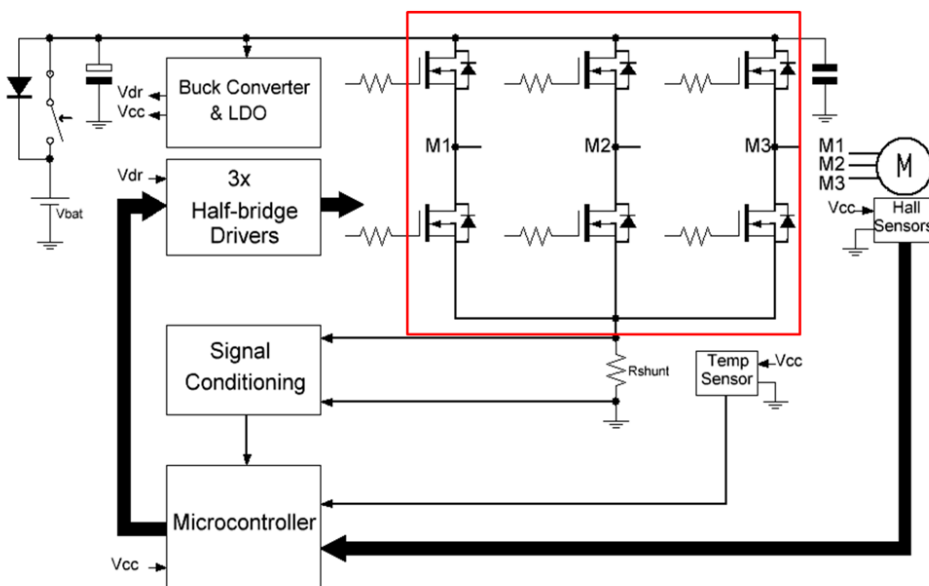
Competitive advantage

- > Infineon's leading thin wafer technology is enabling significant performance benefits.

Target applications

- > Battery powered applications
- > Battery powered tools
- > Battery management
- > Low voltage drives

System diagram



Product collaterals / Online support

[Product page](#)

[Product brief](#)

Product overview incl. data sheet link

OPN	SP Number	Package
ISC012N04LM6ATMA1	SP005559102	PG-TDSON-8

OptiMOS™ logic level MOSFETs 60 V in SuperSO8 and PQFN 3.3x3.3

OptiMOS™ logic level MOSFETs 60 V in SuperSO8 and PQFN3.3x3.3 enhance existing portfolio use in power tools, low voltage drives, adapter, charger and telecom applications.



Features

- > Lowest $R_{DS(on)}$ enables highest power density and efficiency
- > Higher operating temperature rating to 175°C for increased reliability
- > Low R_{thJC} for excellent thermal behavior
- > Lower reverse recovery charge (Q_{rr})

Benefits

- > Lower full load temperature
- > Less paralleling
- > Reduced overshoot
- > Increased system power density
- > Smaller size
- > System cost reduction
- > Engineering costs and effort reduction

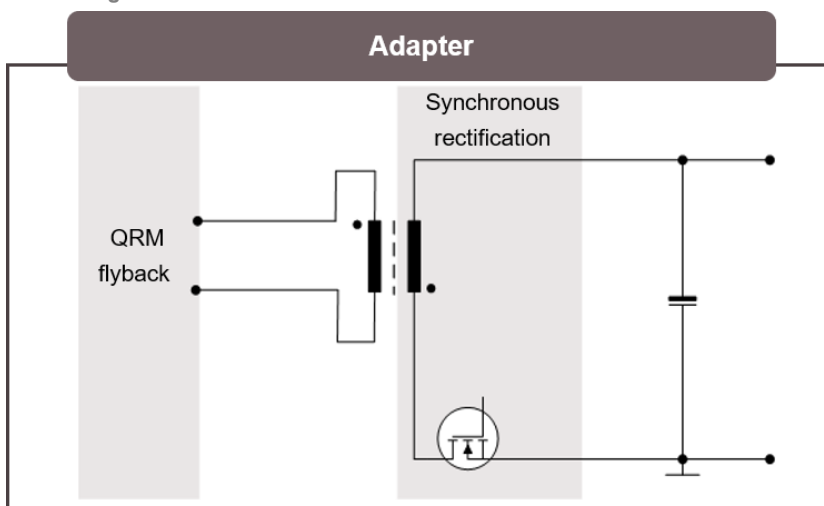
Competitive advantage

- > Capable of being driven directly from microcontrollers (slow switching)
- > Reduced system BOM compared with a normal level MOSFET

Target applications

- > Power tools
- > Low voltage drives
- > Server
- > Telecom
- > Charger
- > Adapter

Block diagram



Product collaterals / Online support

[Product family page](#)

Product overview incl. data sheet link

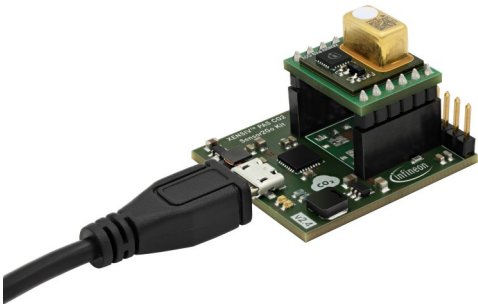
OPN	SP Number	Package
ISC009N06LM5ATMA1	SP005400730	PG-TSON-8
ISC011N06LM5ATMA1	SP005400954	PG-TDSON-8
ISZ034N06LM5ATMA1	SP005402741	PG-TSDSON-8

XENSIV™ PAS CO2 Sensor2Go Evaluation Kit

The XENSIV™ PAS CO2 Sensor2Go Evaluation Kit has been developed to enable the fast & easy evaluation of Infineon’s revolutionary Photo Acoustic Spectroscopy CO2 sensor.

The Sensor2Go Evaluation Kit contains:

- XENSIV™ PAS CO2 Evaluation Motherboard
- XENSIV™ PAS CO2 Mini Evaluation Board
- Micro-USB cable
- Software via Infineon toolbox



Features

- > Plug and play: direct connection to PC via micro USB
- > All power supplies generated on board
- > Logging of the sensor history
- > All key functionalities of the sensor available
- > Device can also be accessed via I2C

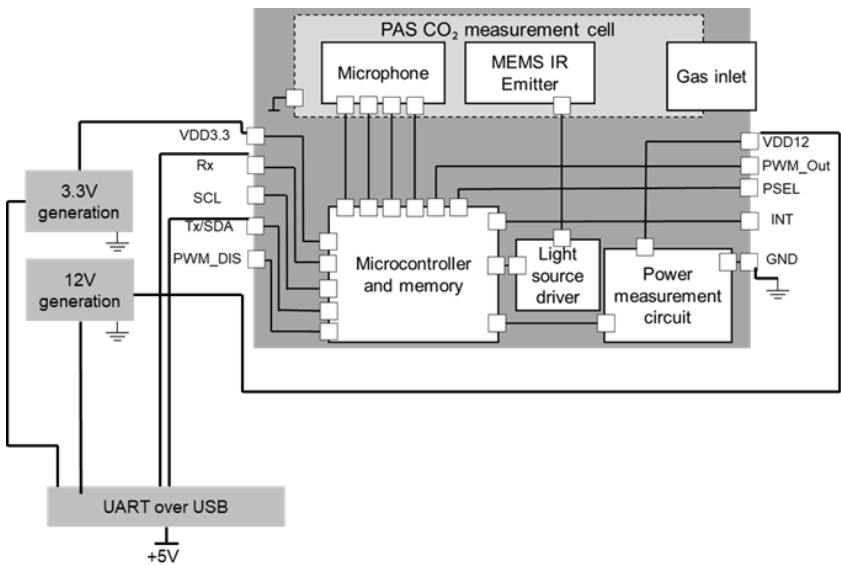
Benefits

- > Easy plug & play performance assessment of XENSIV™ PAS CO2 sensor
- > CO2 measurement & direct read-out in ppm

Target applications

- > HVAC (heating, ventilation and air conditioning) systems
- > Smart home & building appliances like air purifiers and IoT devices
- > Air quality monitors

Block diagram



Product collaterals / Online support

- [Board page](#)
- [Product brief](#)
- [User manual](#)
- [Getting started video](#)

Product overview incl. user manual link

OPN	SP Number	Package
EVALPASCO2SENSOR2GOTOB01	SP005582413	board

XENSIV™ PAS CO2 Mini Evaluation Board

The XENSIV™ PAS CO2 Mini Evaluation Board enables fast prototyping & first design of a CO2 sensing application using Infineon’s revolutionary Photo Acoustic Spectroscopy CO2 sensor

Using a standard pin header, it can be plugged-in very easily in a target application board, providing flexibility to PCB designers

The XENSIV™ PAS CO2 Mini Evaluation Board can be ordered in smaller quantities: this is more convenient in the early stage of an application development compared to a standard reel.



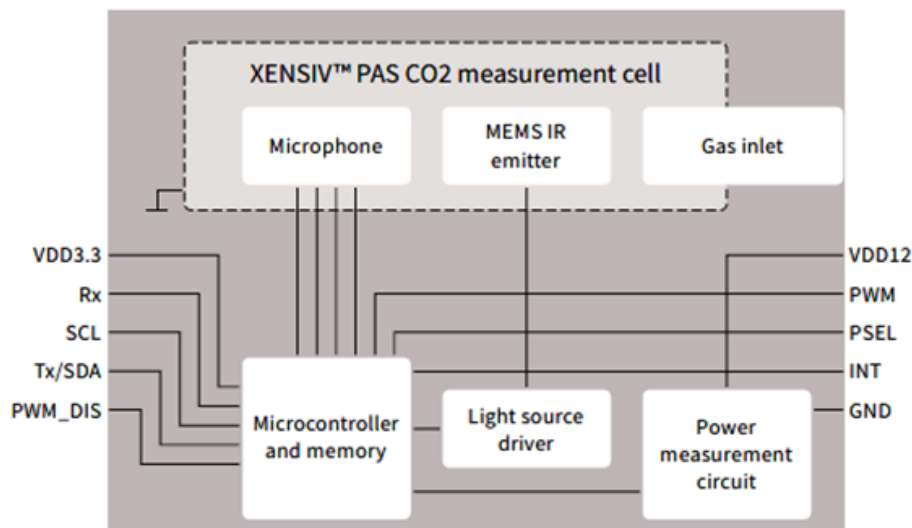
Features

- > Compatible with XENSIV™ PAS CO2 Sensor2Go Evaluation Kit for easy lab evaluation
- > Easy connection to application board with standard 2.54mm pin header – no reflow process needed
- > Access to all signals and functions of the product
- > Compatible with a combined PCB layout supporting reflow assembly for later use

Target applications

- > HVAC (heating, ventilation and air conditioning) systems
- > Smart home & building appliances like air purifiers and IoT devices
- > Air quality monitors

Block diagram



Product collaterals / Online support

- [Board page](#)
- [Product brief](#)
- [User manual](#)
- [Getting started video](#)

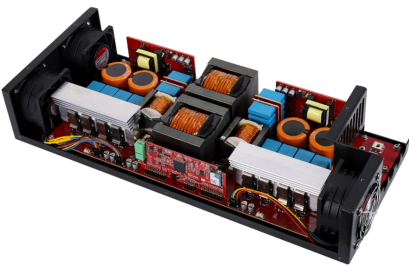
Product overview incl. user manual link

OPN	SP Number	Package
EVALPASCO2MINIBOARDOBO1	SP005577475	board

Reference Design: 11 kW SiC DC-DC converter for fast DC EV charging

This reference design provides a blueprint for the fast realization of bi-directional DC-DC converters with 11 kW and up to 800 V.

Thanks to its soft-switching topology and a wide output voltage range from 550 V up to 800 V it can be re-used to accelerate the prototyping of DC EV charging and energy storage systems.



Features

- > 11 kW at full output voltage range (550 – 800 V)
- > Bi-directional power flow capability
- > High peak efficiency $\geq 97.2\%$
- > High power density: $> 4 \text{ kW/l}$
- > 1200 V and 1700 V CoolSiC™ MOSFETs

Benefits

- > DC-DC converter blueprint for re-use in DC EV charging wall-boxes and energy storage systems
- > Enables attractive business models (V2G and V2B) for end customers
- > Minimum losses and cooling efforts
- > Small size and weight for easy installation
- > Low cost per kW on system level

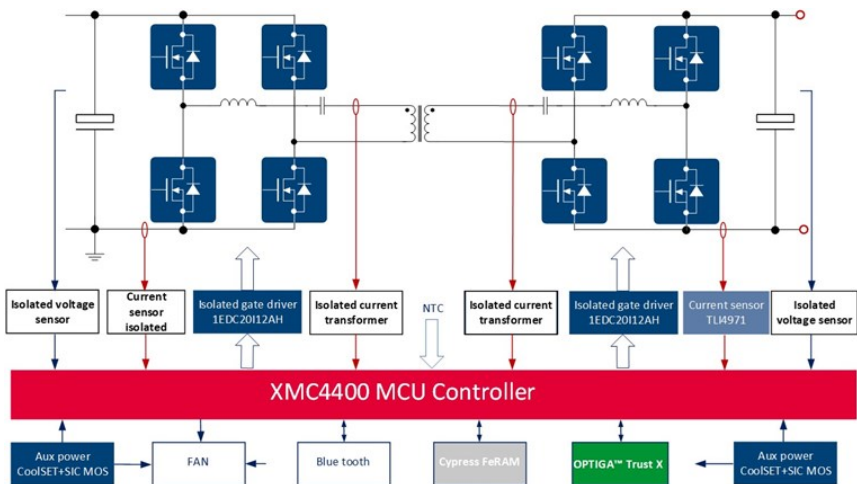
Target applications

- > Chargers from 30 kW to 150 kW
- > Chargers from 50 kW to 350 kW
- > Energy Storage Systems
- > Fast EV charging
- > Power Conversion Systems

Competitive advantage

- > 11 kW at full output voltage range (550 – 800 V)
- > Bi-directional power flow capability
- > High peak efficiency $\geq 97.2\%$
- > High power density: $> 4 \text{ kW/l}$

System diagram



Product collaterals / Online support

[Product page](#)

[User manual](#)

Product overview incl. user manual link

OPN	SP Number	Package
REFDAB11KIZSICSYSTOBO1	SP005556834	board

Evaluation board with 650 V TRENCHSTOP™ 5 WR5 IGBT for Aircon & EV charger applications

This board is a fast switching, analog-controlled two-channel interleaved 5 KW PFC converter with our TRENCHSTOP™ 5 WR5 IGBT IKW40N65WR5. It is designed to showcase the use of WR5 IGBT with high switching frequencies up to 60 kHz in interleaved PFC application, which enables many system benefits such as smaller size PFC choke, overall system size, and as well as BOM cost.

The board demonstrates a very effective example of design with our low side gate driver 1ED44175 and rapid1 power silicon diode IDW60C65D1.



Features

- > Interleaving operation
- > Adjustable switching frequency
- > Continuous conduction mode
- > Average current control
- > Cycle-by-cycle peak current limiting
- > Thermal shutdown feature for power semiconductors

Benefits

- > Achieve twice the fsw and half the ripple current effect than standard boost PFC
- > Smaller EMI filter
- > Lower inductor current ripple than single PFC operation
- > Zero inductor current ripple at 50% duty cycle
- > TRENCHSTOP™ 5 WR5 IGBT enables high fsw, which allows placing the inductors on board
- > High efficiency up to 97.8% can be achieved

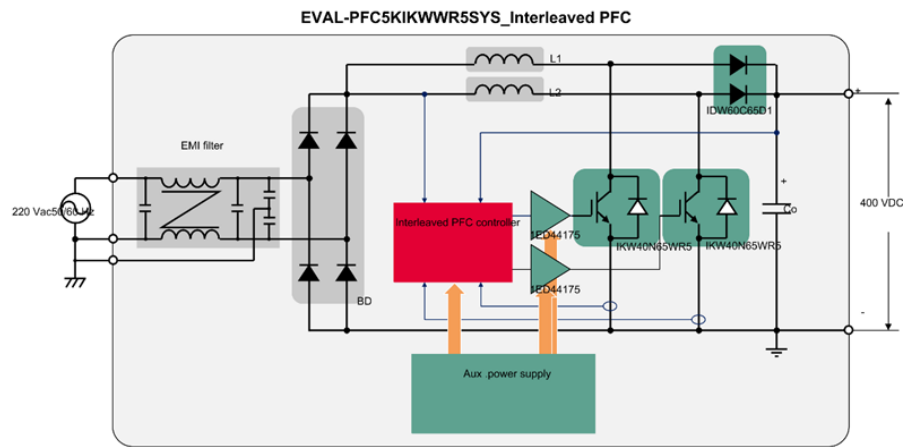
Competitive advantage

- > Easy and quick devices selection
- > Shorten development period
- > Reduced system costs
- > Smaller form factor

Target applications

- > Fast EV charging
- > Residential aircon - motor-, system control and monitoring

System diagram



Product collaterals / Online support

[Product page](#)

[User manual](#)

Product overview incl. data sheet link

OPN	SP Number	Package
EVALPFC5KIKWWR5SYSTOBO1	SP005573703	board