New Product Introduction

August 2022

ESD123-B2-W0201

ESD227-U1-W01005

Wireless charging IC WLC1115 – 15 W transmitter controller IC

CIPOS™ Micro IPM IM241 series

BTT3050EJ - HITFET™24V, the first LSS family with PWM operation up to 20 kHz

OptiMOS™ 6 sTOLL - new 7x8mm2 Power MOS Package Perfect choice for future automotive applications up to 250A

PrimeBlock DD170N36K

TLD5191ES

BGT60ATR24C - XENSIV™ 60 GHz radar sensor for automotive in-cabin sensing

Evaluation board for 650 V TRENCHSTOP™ 5 WR6 IGBT - EVAL-PFC5KIKWWR6SYS

PROFET ONE4ALL MB V1

XENSIV™ KIT CSK BGT60TR13C

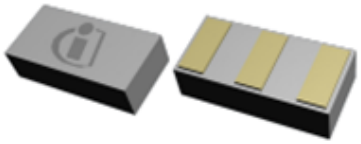
XENSIV™ PAS CO2 Shield2Go Board

XENSIV™ KIT CSK PASCO2

ESD123-B2-W0201

Low Capacitance, 2 line, bi - directional ESD / transient protection diode (TVS: transient voltage suppressor)

Bi - directional, 5.5 V, 2 line, 0.23 pF, 0201, RoHS and halogen free compliant



Features

- Low capacitance
- 2 lines of protection in super small package
- Small package

Benefits

- USB ready ESD protection
- Improved high speed signal performance
- Single device per differential pair

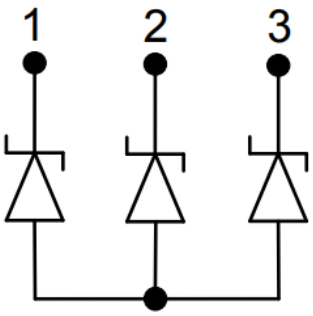
Competitive advantage

- 2 lines of low capacitance ESD protection - perfect for differential pairs

Target applications

- High speed I/O
- Capacitance sensitive applications

Block diagram



Product collaterals / Online support

Product page

Product overview incl. data sheet link

OPN	SP Number	Package
ESD123B2W0201E6327XTSA1	SP005350941	SG-WLL-3

ESD227-U1-W01005

Low clamping voltage, low capacitance, uni - directional ESD / transient protection diode (TVS: transient voltage suppressor)

Uni - directional, 5.5 V, 1.4 pF, 01005, RoHS and halogen free compliant

Features

- Low clamping
- Uni - directional protection device
- Ultra small package
- Improved negative direction for especially sensitive SOCs

Benefits

- Improved system reliability
- Absolute minimum board space
- Best protection allows engineers to focus on higher value portions of their designs

Competitive advantage

- Super ESD protection in smallest possible package

Target applications

- GPIO, user interface, buttons, digital interfaces
- Audio interfacts, headsets

Block diagram

Product collaterals / Online support

Product page

Product overview incl. data sheet link

OPN	SP Number	Package
ESD227U1W01005E6327XTSA1	SP005446530	SG-WLL-2

Wireless charging IC WLC1115 – 15 W transmitter controller IC

Wireless charging IC WLC1115 is a highly integrated wireless charging transmitter IC that includes USB-PD/PPS sink, DC/DC controller, a full bridge inverter, sensing peripherals, configurable memory and software that supports Qi v1.3.x and proprietary charging protocols. Infineon's wireless charging controllers (WLC) offer highly integrated yet scalable platforms that help to meet compliance and proprietary charging requirements with configurable software.

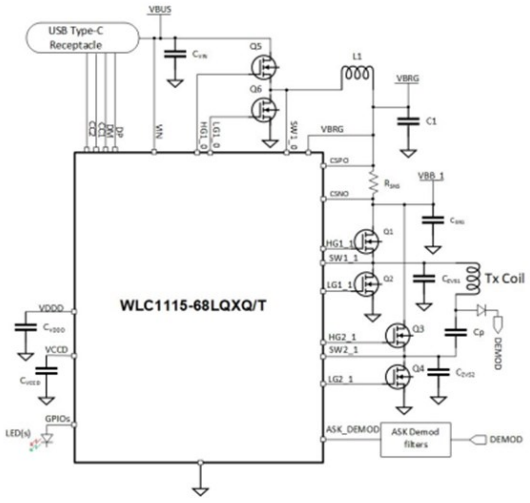
Features

- Qi v1.3.2 EPP transmitter
- Integrated USB-PD / PPS controller
- Integrated buck for voltage control
- Integrated gate drivers
- Foreign Object Detection (FOD) using Q - factor, resonant frequency, and power loss methods
- Multipath ASK demodulation
- Input voltage range: 4.5 V - 24 V
- Communication ports: I2C, UART
- Temperature range: -40 ° C - 105 ° C

Benefits

- Single-Chip 15 W transmitter
- Adaptive Foreign Object Detection (FOD)
- Adjustable protection – OVP, OCP, OTP
- Configurable software supported

Block diagram



Product overview incl. data sheet link

OPN	SP Number	Package
WLC1115-68LQXQ	SP005742435	PG-VQFN-68
WLC1115-68LQXQT	SP005742473	PG-VQFN-68

Competitive advantage

- Highly integrated
- Low - cost 15 W wireless charging transmitter IC for various applications
- Includes USB-PD / PPS sink, DC/DC controller, a full bridge inverter, sensing peripherals, configurable memory and software
- Supports Qi v1.3.x and proprietary charging protocols
- Combined with Infineon's USB-C charger solutions, MOSFETs and OPTIGA™ Trust Charge the WLC1115 solution offers a complete product package that can help meet stringent regulatory, compliance requirements

Target applications

- Smartphones
- Smart speakers
- Docking station
- Monitor stand
- Power bank
- Furniture integrated
- Industrial
- Healthcare
- Aftermarket auto accessory

Product collaterals / Online support

Product page

Product brief

Application note

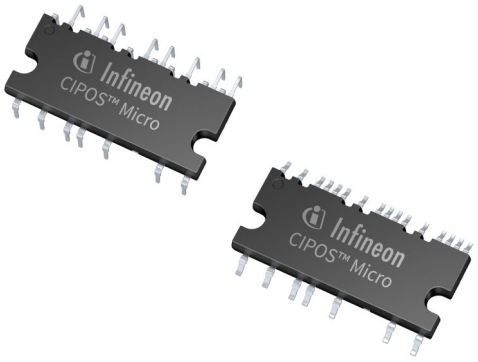
CIPOS™ Micro IPM IM241 series

IM241 series is new generation of CIPOS™ Micro, based on the latest RCD2 IGBT technology.

Increased power density up to 6 A in compact sized package and optimized performance for low power applications such as aircon IDU/ODU, fans, pumps, dishwasher or washing machine drain pumps.

CIPOS™ Micro package is 30% smaller than competition, resulting in PCB space saving and also screw hole on package enables to enhance heat dissipation.

Offering 2 different switching speed options; IM241-xxxxB for low loss, IM241-xxxxJ for low EMI



Features

- Reverse Conducting IGBT Gen 2 (RCD2) optimized for motor drives
- Fast and slow speeds versions for low loss and low EMI operation
- Temperature monitor with NTC
- Accurate overcurrent shutdown (±5%)
- Fault reporting and programmable fault clear
- Advanced input filter with shoot - through protection
- Open - emitter for single and leg - shunt current sensing
- Isolation 2000 VRMS, 1 min
- HV H3TRB qualified
- UL - certified

Benefits

- Enhanced power capability
- Application optimized solution for both low loss and low EMI version
- Improved system ruggedness through enhanced protection features & isolation voltage
- Easy to design in products
- Superior humidity ruggedness

Competitive advantage

- PCB space saving by 30% smaller package than competitors

Target applications

- Low power motors up to 500 W
- Aircon ODU / IDU fan
- Fan motors
- Pumps
- Dish washer
- Washing machine
- Refrigerator
- General purpose motor drives – Light load

Product collaterals / Online support

Product family page

Product overview incl. data sheet link

OPN	SP Number	Package
IM241L6S1BAUMA1	SP005426927	PG-DIP-23
IM241L6T2BAKMA1	SP005426929	PG-DIP-23
IM241M6S1BAUMA1	SP005426933	PG-DIP-23
IM241M6S1JAUMA1	SP005426935	PG-DIP-23
IM241M6T2BAKMA1	SP005426937	PG-DIP-23
IM241M6T2JAKMA1	SP005426941	PG-DIP-23
IM241S6S1BAUMA1	SP005426945	PG-DIP-23
IM241S6S1JAUMA1	SP005426955	PG-DIP-23
IM241S6T2BAKMA1	SP005426953	PG-DIP-23
IM241S6T2JAKMA1	SP005426957	PG-DIP-23

BTT3050EJ - HITFET™ 24V, the first LSS family with PWM operation up to 20 kHz

The BTT3050EJ is a 50 mΩ single channel smart low - side power switch within a PG-TDSO-8 exposed package providing embedded protective functions. The 24 V fast low - side switch is driving PWM up to 20 kHz and together with BTT30180EJ completes the HITFET™ + 24 V family.

Features

- > $R_{DS(ON)}$ = 50 mΩ
- > Current limitation: 16 A
- > Nominal current : 3.5 A
- > Turn on: 3.7 µs to 48 µs
- > Slew - rate: 0.6 V / µs to 15 V / µs
- > Slew - rate pin control for PWM
- > Diagnosis via STATUS pin
- > Over - temperature protection with latch shutdown

Benefits

- > Power losses / EMI optimization with SRP
- > Reset of latch via status pin (configuration of IN to STATUS also possible)
- > High short circuit robustness

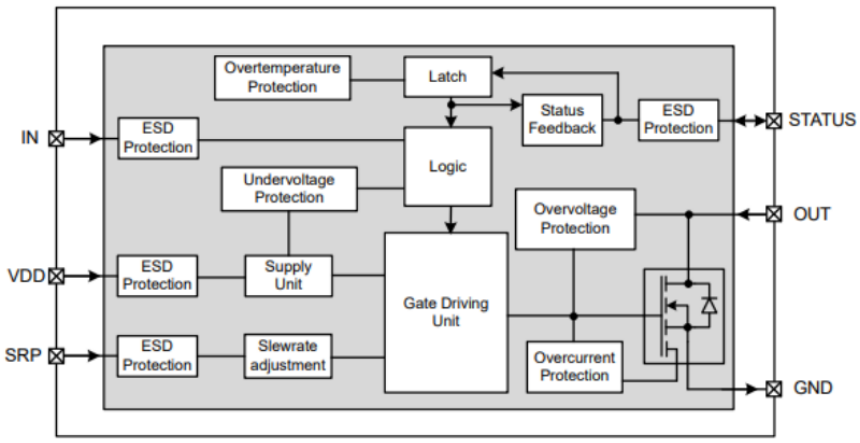
Competitive advantage

- > Highest design flexibility in terms of package variety and $R_{DS(ON)}$ scalability

Target applications

- > All types of resistive, inductive and capacitive 24 V low - side loads
- > 24 V fast half - bridge applications together with PROFET™ + 24 V BTF6070-2ERV
- > Suitable for driving applications with high PWM (up to 20 kHz)

Block diagram



Product collaterals / Online support

Product page

Product overview incl. data sheet link

OPN	SP Number	Package
BTT3050EJXUMA1	SP005431073	PG-TDSO-8

OptiMOS™ 6 sTOLL - new 7 x 8 mm² power MOS package
Perfect choice for future automotive applications up to 250 A

OptiMOS™ 6 40V is a power MOSFET for all automotive applications, especially EPS, DC/DC and BLDC in CO2 friendly vehicles. It offers high current capability of 250 A, best in class power density and power efficiency at Infineon's well known quality level for robust automotive packages.

Features

- JEDEC registered
- Advanced leadless package with leading MOS technology
- 7 x 8 mm² small footprint
- 250 A high current capability
- Leadless package with low package resistance and minimized stray inductance
- Leading technology OptiMOS-5™ 40 V and OptiMOS-6™ 40 V
- $R_{DS(ON)}$ range: 0.55 mΩ – 1.4 mΩ
- AOI capable package for automated optical inspection

Benefits

- High power and current density
- High thermal capacity lead - frame package
- Reduced conduction losses
- Optimized switching behavior
- Reduced form factor compared to traditional DPAK / D2PAK
- Industry standard package (JEDEC MO-319A)
- Automotive robust package

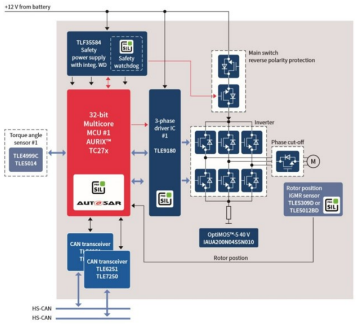
Competitive advantage

- Small footprint of 7 x 8 mm² than many competitors
- IFX automotive quality
- Leading electrical performance
- Low ohmic ron, low FoM (Ron * Qg)
- Up to 250 A current capability
- AOI capability

Target applications

- 12V EPS
- 12V braking
- 12V BLDC
- 12V - 48V DC/DC
- 12V disconnect switch

Block diagram



Product collaterals / Online support

Product page

Product overview incl. data sheet link

OPN	SP Number	Package
IAUA250N04S6N005AUMA1	SP005596859	PG-HSOF-5
IAUA250N04S6N008AUMA1	SP005596860	PG-HSOF-5
IAUA250N04S6N007EAUMA1	SP005596862	PG-HSOF-5
IAUA200N04S5N010AUMA1	SP001497688	PG-HSOF-5
IAUA180N04S5N012AUMA1	SP002655470	PG-HSOF-5
IAUA120N04S5N014AUMA1	SP001497666	PG-HSOF-5

PrimeBlock DD170N36K

The DD170N36K is a rectifier diode module in a 34 mm package with blocking voltage of 3600 V and 170 A continuous current. The package features pressure contact technology using an isolated copper base plate.

Customers designing medium voltage drives, can benefit from the smaller foot print; 3600 V in a 34 mm package instead of 50 mm.

Features

- Pressure contact technology for high reliability
- Industrial standard package
- Electrically insulated base plate
- Short on fail
- Highest robustness and reliability

Benefits

- 3600 V blocking voltage available in smaller foot print (34 mm instead of 50 mm)
- Designed for high overload and power cycling requirements
- High DC blocking stability over whole lifetime
- High surge current capability especially for short grid spikes
- One supplier for a broad range of power block modules

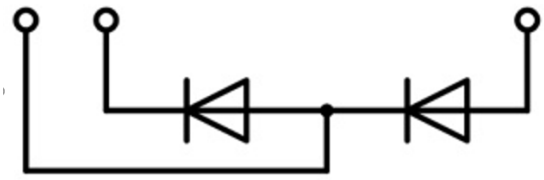
Competitive advantage

- Module with high blocking capability (3.600 V) available in 34 mm housing

Target applications

- Medium voltage drive

Block diagram



Product collaterals / Online support

Product page

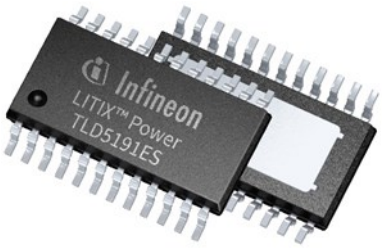
Product family page

Product overview incl. data sheet link

OPN	SP Number	Package
DD170N36KHPSA1	SP005629449	BG-PB34AT-1

TLD5191ES

LITIX™ Power TLD5191ES is a synchronous 4 - switch buck - boost DC/DC controller with built-in protection features.
This concept is beneficial for driving high power LEDs with maximum system efficiency and minimum number of external components for automotive exterior lighting.



Features

- MOSFET 4 - switch buck-boost DC/DC controller for high power buck-boost LED control
- Constant current and constant voltage regulation
- Wide VIN range (4.5 V to 40 V)
- Wide LED forward voltage range (V_{out} range from 2 V to 55 V)
- LED current accuracy +/-3% at Tj=25° C and 4% over the whole automotive temperature range
- Switching frequency range from 200 kHz to 700 kHz
- Maximum efficiency in every condition (up to 96%)
- EMC optimized device: spread spectrum always active
- Overvoltage, shorted LED fault and over - temperature diagnostic outputs
- Adjustable soft start
- Enhanced dimming features: analog and PWM dimming (from digital input or sourced by embedded PWM engine)
- Available in a small thermally enhanced TSDSO-24 package
- Automotive AEC Qualified

Benefits

- Enable compact design due to high efficiency
- Reduced EMI emissions
- Easy diagnosis of the load due to reliable protections

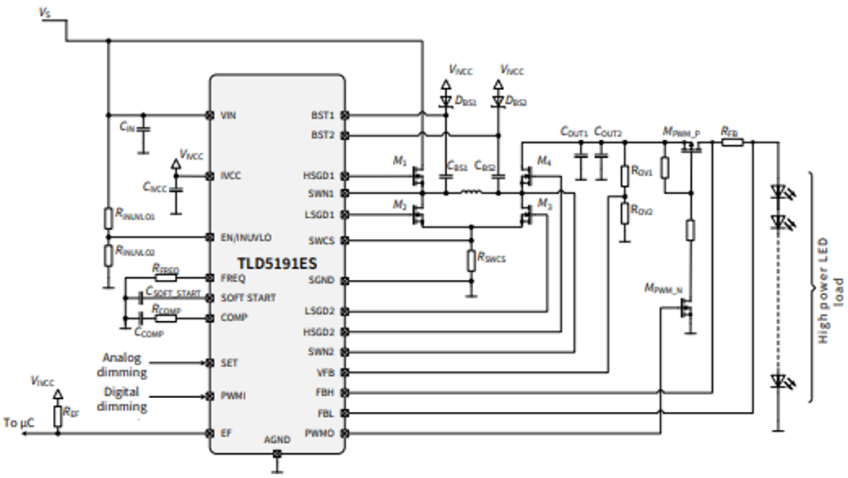
Competitive advantage

- Spread spectrum always on
- PWM embedded engine
- State-of-the-art current accuracy
- Small 24 - pin package

Target applications

- Especially designed for driving high power LEDs in automotive applications
- Automotive exterior lighting: full LED headlamp assemblies (low beam, high beam, matrix beam, pixel light)
- Voltage pre-regulator for rear lamp assemblies
- General purpose DC-DC for constant current or constant voltage applications as USB, mobile wireless charger and multipurpose pre-regulation for infotainment

Block diagram



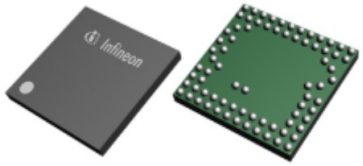
Product collaterals / Online support

Product page

Product overview incl. data sheet link

OPN	SP Number	Package
TLD5191ESXUMA1	SP005420838	PG-TSDSO-24

BGT60ATR24C - XENSIV™ 60 GHz radar sensor for automotive in - cabin sensing



XENSIV™ BGT60ATR24C, an automotive 60 GHz radar sensor, enables ultra - wide bandwidth FMCW operation in a small package. Sensor configuration and data acquisition are enabled with a digital interface and the integrated state machine enables independent data acquisition with power mode optimization for lowest power consumption.

Features

- 60 GHz radar sensor for FMCW operation
- 4 GHz bandwidth
- 2 TX / 4 RX channels
- Digital interface for chip configuration and radar data acquisition
- Optimized power modes for low - power operation
- Integrated state machine for independent operation
- AEC-Q100/101 qualified

Benefits

- Low power consumption
- Accurate and robust performance
- Excellent thermal management
- Size and space optimized solution

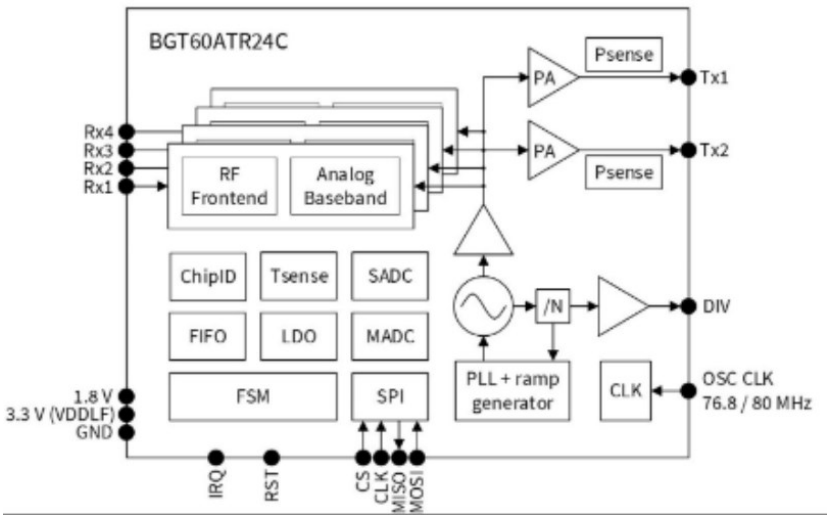
Competitive advantage

- Very low power consumption
- Excellent thermal management removes need of expensive heatsink
- Most compact solution on the market

Target applications

- Radar frontend for gesture sensing
- High resolution FMCW radars
- Short range sensing operations
- Hidden sensing applications behind radome

Block diagram



Product collaterals / Online support

Product page

Product brief

Board page

Product overview incl. data sheet link

OPN	SP Number	Package
BGT60ATR24CE6327XTMA1	SP005350514	PG-VFWLB-76
SHIELD_60ATR24ES_01	SP005448216	-

Evaluation board for 650 V TRENCHSTOP™ 5 WR6 IGBT - EVAL-PFC5KIKWWR6SYS

The EVAL-PFC5KIKWWR6SYS is an evaluation board for Aircon and EV charger applications. It features the TRENCHSTOP™ 5 WR6 (IKWH40N65WR6), EiceDRIVER™ Gate driver IC (1ED44175N01B) as well as a rapid diode (IDW60C65D1).

It is a fast switching, analog - controlled two - channel interleaved 5 kW PFC converter. It can achieve an efficiency of up to 97.8%. Another benefit includes twice the switching frequency and half the current ripple than single PFC cycle. As a result the inductors can be placed on the board.

Features

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

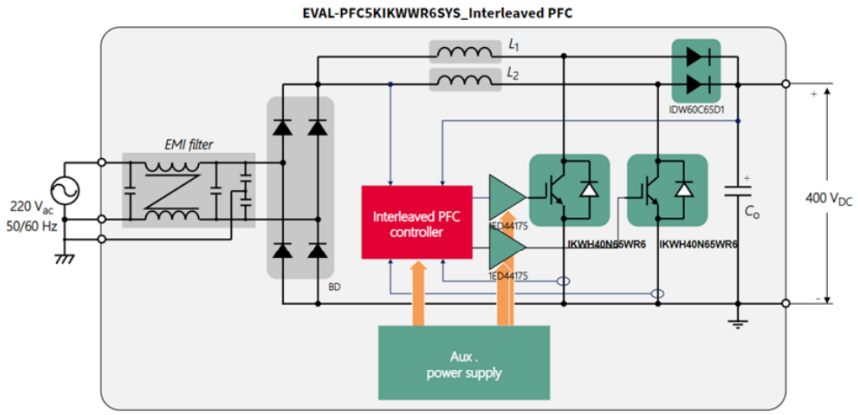
Benefits

- High efficiency up to 97.8% can be achieved
- Double f_{sw} and halved ripple current effect, resulting in a smaller EMI filter than standard boost PFC
- Lower inductor current ripple than single PFC operation
- Zero inductor current ripple at 50% duty cycle
- The TRENCHSTOP™ 5 WR6 IGBT enables a high f_{sw}, allowing the inductors to be placed on the board, resulting in a smaller form factor
- Shorten development period & reduced system costs

Target applications

- Commercial HVAC system
- Residential aircon- motor-, system control and monitoring

Block diagram



Product collaterals / Online support

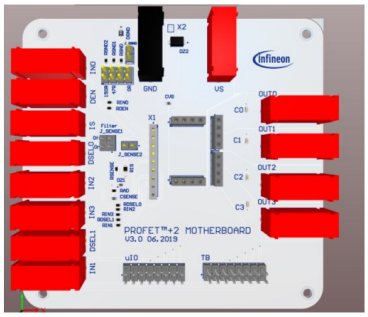
Board page

User manual

Product overview incl. user manual link

OPN	SP Number
EVALPFC5KIKWWR6SYSTOBO1	SP005828495

PROFET ONE4ALL MB V1



This motherboard is designed to handle all devices of the PROFET™ +2 12V and PROFET™ Load Guard 12V families. The board is the successor of PROFET™ PLUS2 MOTH BRD, providing further compatibility to future devices. Banana connectors are provided for the connection to the power lines. The purpose of this board is to provide a quick pick and place solution for customers' lab evaluations. The motherboard in combination with the daugtherboard is capable to drive typical automotive loads.

Features

- Operating voltage range 3.1 V - 28 V with 3.3 V and 5 V compatible logic input
- Protection: current tripping, over - temperature, overvoltage, load
- Diagnosis: load current sense output
- Optimized for design flexibility across the family by pin to pin and external components compatibility
- Miniaturization / Shrink of the PCB Area

Benefits

- 50% reduced internal operating current consumption
- Simplified & cost efficient ground network
- Current sense accuracy (kILIS) ≤ 5% @ nominal load current
- Benchmark cranking voltage capability able to work down to 3.1 V
- Smaller package size for area savings
- Very low output leakage current (≤ 0.5 µA up to 85° C)

Target applications

- Body Applications
- Lighting
- Power Distribution
- ADAS & AD modules

Competitive advantage

- One motherboard for several devices and easier device exchange (PROFET™+2, Load Guard, Wire Guard)

Product collaterals / Online support

Board page

User manual

Product overview incl. user manual link

OPN	SP Number
PROFETONE4ALLMBV1TOBO1	SP005729731

XENSIV™ KIT CSK BGT60TR13C

The XENSIV™ KIT CSK BGT60TR13C is the goto IoT sensors platform for IoT device development. It helps you create new prototype ideas based on radar sensors.

Features

- Sense: XENSIV™ BGT60TR13C (60 GHz radar) and DPS368 barometric pressure sensor
- Compute: PSoC™ 62 - ultra low power dual core CM4 / CMO+ MCU
- Connect: low power Wi - Fi (2.4 & 5 GHz) and Bluetooth® 5.0 combo module
- Secure: Optiga™ Trust M

Benefits

- Plug & Play - fast prototyping
- Software emample: 10 min to enable presence detection
- Fasten your time to market
- Future technology; be the first in the market

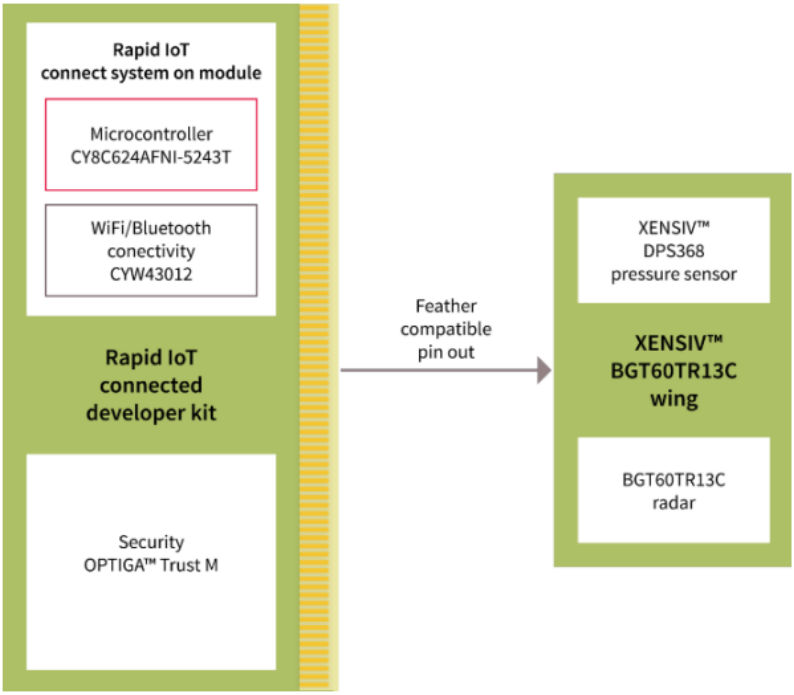
Target applications

- Smart home: smart speaker, smart TV, smart thermostats
- Smart building: HVAC, lighting applications, entrance counter
- Smart appliances: heater, kitchen appliances
- Smart devices: viatl sensing, gesture control, segmentation and tracking

Competitive advantage

- Performance and enablement
- Easy to use: out of the box software examples and codes available
- Optimized reference design: cost, size, performance

Block diagram



Product collaterals / Online support

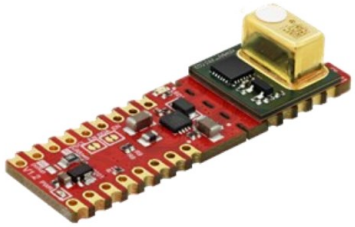
Board page

User manual

Product overview incl. data sheet link

OPN	SP Number
KITCSKBGT60TR13CTOBO1	SP005635357

XENSIV™ PAS CO2 Shield2Go Board



Testing IoT system behavior with an integrated prototyping concept from Infineon (Easy mix and match approach, sensor, security, microcontroller and adapter boards).

Features

PAS CO2 Sensor

- Exceptionally small form factor
- Highest accuracy and robust performance at ppm level (+ 30ppm + 3% of reading)
- SMD package delivered in tape and reel
- Advanced compensation and self-calibration algorithms
- Various configuration options (e.g. Sampling rate, baseline calibration) and interfaces (UART, I2C, PWM)

Shield2Go Board

- Ready to use Arduino Library on GitHub
- Flexibility to develop a customized application with Arduino and Rasberry PI
- Fitting security, additional sensor & microcontroller boards as well as IoT adapters available on Infineon for Makers: Shield2Go & MyIoT – Infineon Technologies for easy mix and match

Target applications

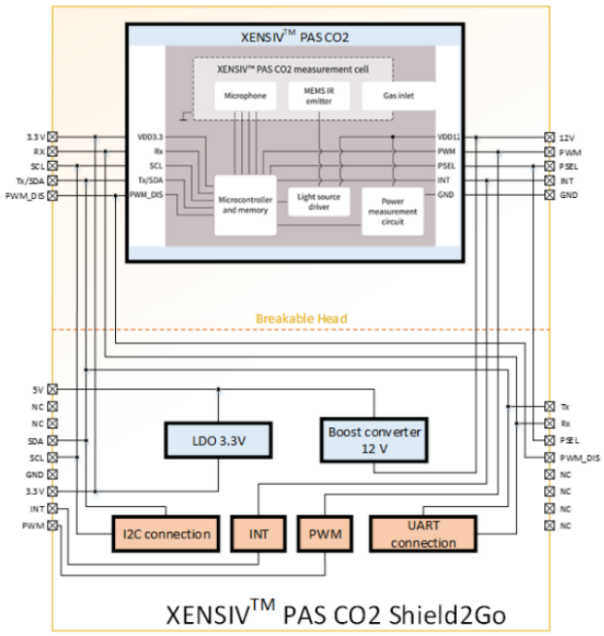
Key applications for air quality monitoring and/or demand controlled ventilation

- HVAC (Heating, Ventilation, Air Conditioning)
  - Residential-, commercial-, automotive HVAC as well as air purifiers
- Smart home & building
  - Smart thermostats, lighting & air quality devices
- Agriculture / greenhouses

Competitive advantage

- Fastest evaluation and development of IoT systems: Infineon's Shield2Go boards offer a unique customer and evaluation experience. All boards are equipped with one Infineon IC and come with a ready-to-use Arduino library. Easy mix match of compatible boards

Block diagram



Product collaterals / Online support

Board page

Quickstart guide

Product overview incl. user manual link

OPN	SP Number
SHIELDPASCO2SENSORTOBO1	SP005569590

XENSIV™ KIT CSK PASCO2

Rapid prototyping platform for use cases based on Infineon's XENSIV™ PAS CO2 sensor

The XENSIV™ connected sensor kit is an enabler for rapid development of a custom solution built on Infineon products. The connected sensor kit supports customers in testing sensor - driven IoT products and use cases as well as in prototyping. It offers a realtime sensor evaluation with custom configurations and cloud - based PAS CO2 sensor data visualization.

Features

- Exceptionally small form factor
- Small form - factor (22.5 mm x 63 mm x 30 mm)
- Adafruit feather compatible design
- Wi - Fi and Bluetooth 5.0 - compliant combo radio module
- Power optimized design, deployable with battery
- Interchangeable sensor wings – 60GHz radar, PAS CO2
- Seamless integration into ModusToolbox™

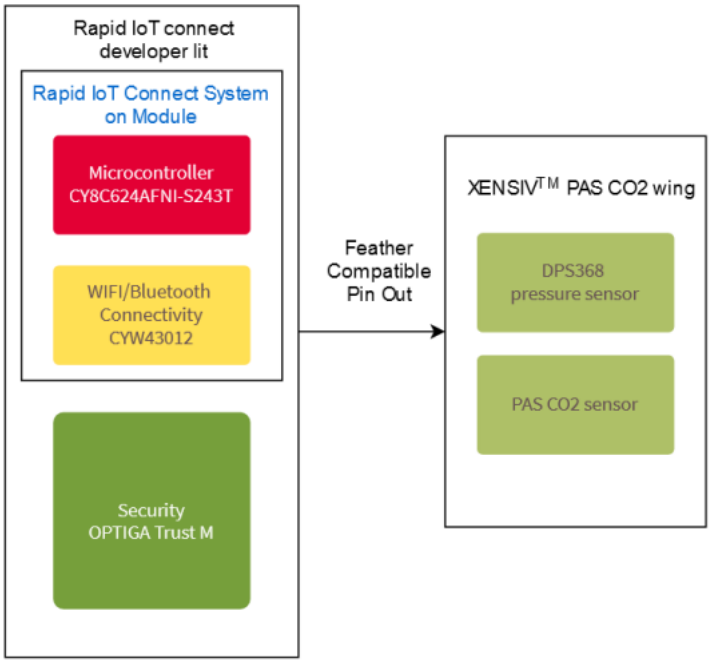
Benefits

- Ideal for prototyping battery - powered IoT devices due to optimized power consumption. Suited for customer field trials
- Rapid development and deployment via code examples in ModusToolbox™ for presence detection, entrance counter, air quality measurements. Enabler for multi - sensor data fusion
- Secure cloud device onboarding and management with OPTIGA™ Trust M. Secure kit provisioning (unique user ID)

Target applications

- Smart home and buildings – smart speaker, air purifiers, air quality monitoring devices, HVAC, smart retail
- Smart appliances - refrigerators, air conditioner

Block diagram



Product collaterals / Online support

Board page

User manual

Product overview incl. user manual link

OPN	SP Number
KITCSKPASCO2TOBO1	SP005634124