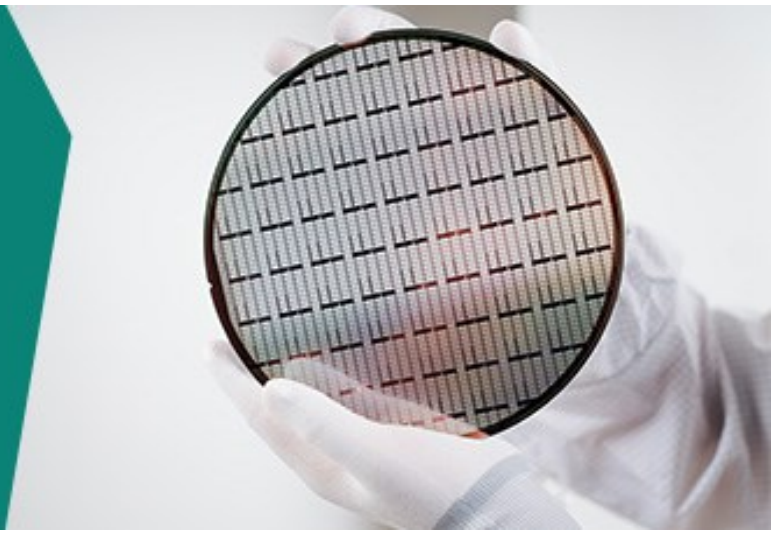
New Product Introduction



New Product Introduction

June 2025

PSOC™ 4100T Plus Multi-Sense microcontrollers

CoolGaN™ Transistors 700 V G5

600 V CoolMOS™ 8 SJ MOSFET

Lower power ESS portfolio extension

CIPOS™ Mini 600 V, 50 A three-phase intelligent power module IM06B50GC1

Power and Prime Block 60 mm: best reliability and best-in-class

Small signal MOSFET industrial-grade portfolio extension

BGM787U50: 7x LNA-bank with output cross-switch for 5G

IM68D128B XENSIV™ MEMS microphone with new single backplate (SBP) technology

XENSIV™ – TCI integrated thermal conductivity-based sensor

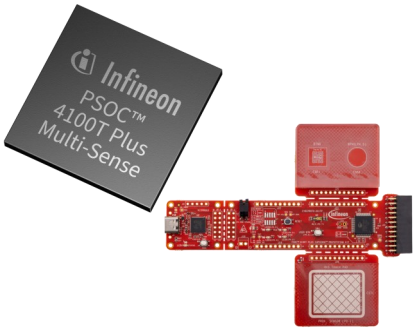
PSOC™ Control C3M5 Motor Drive Control Card

XENSIV™ – TLE4999X linear sensors PROGRAM-KIT

Industrial Communication Protocols for XMC7000 microcontrollers

Class B and SIL2 compliant functional safety self-test library within ModusToolbox™

PSOC™ 4100T Plus Multi-Sense microcontrollers



The PSOC™ 4100T Plus family of Arm® Cortex®-M0+ microcontrollers, combines analog and digital blocks with Infineon's high-performance technology, which includes CAPSENSE™, inductive sensing and liquid level sensing. Along with system control and HMI capabilities, the PSOC™ 4100T Plus offers enhanced reliability through 3x ESD improvements compared to other PSOC™ 4 products, it also adds 1 % IMO option to improve clock accuracy to support system level synchronous communication. It supports Infineon's 5th generation CAPSENSE and technology and expands the sensor inputs to 32, allowing designers to use all technologies on a single chip.

Features

- 32-bit MCU subsystem
  - 48-MHz Arm® Cortex®-M0+
  - Up to 128-KB flash
  - Up to 32-KB SRAM
- 5th Generation CAPSENSE™ and multi-sense
  - Supports self-capacitive and mutual-capacitive sensing
  - Inductive sensing, liquid sensing and CAPSENSE™ hover touch
  - Ultra-low power consumption
- Programmable digital blocks
  - Six 16-bit timer/counter/pulse-width modulator (TCPWM) blocks
  - Two serial communication blocks (SCBs) configurable as I^2C, SPI, or UART
  - Three UART blocks with RTS and CTS
- 12-bit 1 MSPS ADC with 8-channel sequencer
- I/O Subsystem
  - Up to 53 GPIOs, 32 sensor inputs

Benefits

- System control + HMI in a single chip
- Multi-Sensing capabilities
- 5th Gen CAPSENSE™
- Inductive sensing
- Liquid level sensing
- CAPSENSE™ hover touch
- Wide range of HMI options
- Low power consumption

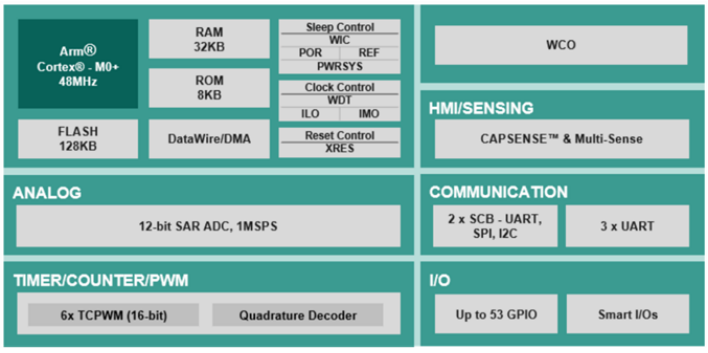
Competitive advantage

- 5th Generation CAPSENSE™ with 32 sensor inputs, quick and easy way to implement a touch interface application
- Multi-sense capable, enabling single chip sensing solutions for capacitive sensing, CAPSENSE™ hover touch, inductive, and liquid level sensing
- 1% IMO accuracy for improved system reliability and reduced BOM
- Improved ESD/EMI for robust and reliable operation against electrostatic discharges and power supply noise

Target applications

- Wearables | hearable: AR/VR glasses, over the ear headphones
- Smart Home | appliance: White goods, countertop appliances, touch-controlled screens, smart connected IoT products
- Other consumer | industrial: PC and Gaming, consumer electronics, dimming controller, remote controls, printers, touchscreens

Block diagram



Product collaterals / Online support

Product family page

Board page

Product overview incl. datasheet and user manual link

OPN	SP Number	Package
CY8C4147AZQT493XQSA1	SP006039740	PG-TQFP-48
CY8C4147AZQT495XQSA1	SP006039747	PG-TQFP-64
CY8CPROTO-041TP	SP006073359	Kit

CoolGaN™ Transistors 700 V G5

The new generation of 700 V GaN power transistors allows for increased efficiency at high-frequency operation and meets the highest quality standards, enabling highly reliable designs with superior efficiency.

Available in bottom-side cooled ThinPAK package, this new family of GaN transistors is well-designed for consumer applications with slim form factors.

Features

- 700 V e-mode power transistor
- Ultrafast switching
- No reverse-recovery charge
- Capable of reverse conduction
- Low gate charge, low output charge
- Superior commutation ruggedness
- Low dynamic $R_{DS(on)}$
- High ESD robustness: 2 kV HBM - 1 kV CDM
- Bottom-side cooled package
- JEDEC qualified (JESD47, JESD22)

Benefits

- Supports high operating frequency
- Enables highest system efficiency
- Enables ultrahigh power density designs
- Supports BOM cost savings

Target applications

- AC-DC auxiliary power supplies
- AC-DC power conversion for telecom infrastructure
- Consumer electronics
- Data center and AI data center solutions
- Home appliances
- Industrial power supplies
- Power conversion
- USB-C adapters and chargers

Product collaterals / Online support

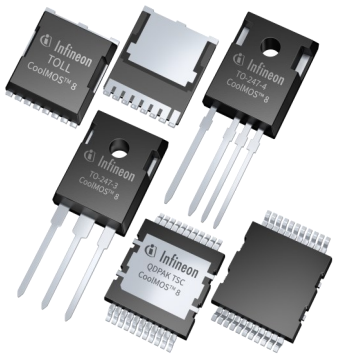
Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IGLR70R140D2SXUMA1	SP006123196	PG-TSON-8
IGLR70R200D2SXUMA1	SP006123208	PG-TSON-8
IGLR70R270D2SXUMA1	SP006123216	PG-TSON-8

600 V CoolMOS™ 8 SJ MOSFET

Infineon's newest CoolMOS™ 8 at 600 V is leading the way in high voltage super-junction MOSFET technology worldwide, setting the standard for both technology and price performance on a global scale. The series is equipped with an integrated fast body diode, making it suitable for a wide range of applications. It is enhancing Infineon's WBG offering and the successor of the 600 V CoolMOS™ 7 MOSFET family including P7, S7, CFD7, C7, G7 and PFD7.



Features

- World class $R_{DS(on)}$ * A
- Integrated fast body diode
- Excellent commutation ruggedness
- Advanced interconnect technology
- Gradual portfolio including BiC 7 mΩ
- Top-side cooling packages

Benefits

- 14 - 42 % lower R_{th}
- Ease of use and fast design-in
- Low ringing tendency
- Simplified portfolio
- System level innovation
- 0.1 % Efficiency improvement over C7, and 0.17 % over P7

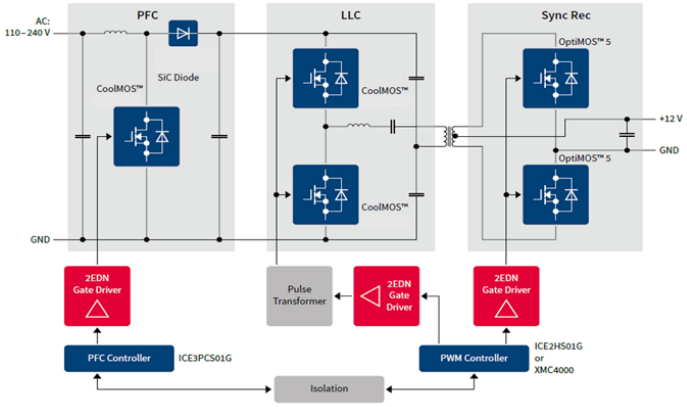
Competitive advantage

- World class $R_{DS(on)}$ * A
- 14 - 42 % lower R_{th}
- Top-side cooled packages like QDPAK
- Infineon quality
- Enhancing CoolSiC™ offering
- 7 mΩ offering in QDPAK for SSCB

Target applications

- Server
- Telecom
- Super solid-state solutions (relays, circuit breakers)
- EV charging
- Solar and energy storage systems
- UPS
- Industrial SMPS
- Lighting
- Residential aircon PFC
- Fridge compressor
- Charger / adapter

Block diagram



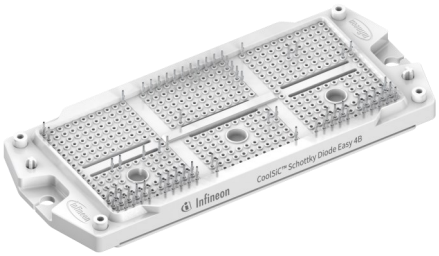
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IPDQ60R070CM8XTMA1	SP006022676	PG-HDSOP-22
IPT60R055CM8XTMA1	SP006023063	PG-HSOF-8
IPT60R070CM8XTMA1	SP006023062	PG-HSOF-8
IPT60R120CM8XTMA1	SP006023021	PG-HSOF-8
IPT60R160CM8XTMA1	SP006023020	PG-HSOF-8
IPW60R070CM8XKSA1	SP006023083	PG-TO247-3
IPW60R120CM8XKSA1	SP006023065	PG-TO247-3
IPZA60R070CM8XKSA1	SP006023087	PG-TO247-4

Lower power ESS portfolio extension



EasyPACK™ 3B in 3-level NPC 2 and EasyPACK™ 4B in ANPC topology featuring 1200 V TRENCHSTOP™ IGBT H7, EC7, L7, rapid diode.

Both modules are equipped with high current PressFit pin contact technology and NTC. These single module solutions targeting 1000 V_{DC} and 125 kW (F3L420R12W3H7_H21) or 1500 V_{DC} 200 kW (F3L420R12W4H7_H11) power conversion system design.

Features

- Easy family with 12 mm height
- Very low stray inductance
- Overload capabilities up to 175°C
- High current pin

Benefits

- Easy to design
- Increased power density
- Best cost-performance with reduced system costs

Competitive advantage

- Reduced system costs
- Easy to design product
- High degree of freedom for inverter design
- Highest power density

Target applications

- Energy storage application

Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
F3L420R12W3H7H21BPSA1	SP006049686	AG-EASY3B-3111
F3L420R12W4H7H11BPSA1	SP006031911	AG-EASY4B-7011

CIPOS™ Mini 600 V, 50 A three-phase intelligent power module IM06B50GC1

IM06B50GC1 offers 50 A in 600 V class up to 8.0 kW power rating. It is designed to control 3-phase motors in variable speed drives applications such as low-power industrial motor drives, pumps, fan drives and HVAC.

Features

- Based on TRENCHSTOP™ IGBT 7
- 600 V 3-phase inverter with open emitters
- Current rating from 50 A
- Rugged 600 V SOI gate driver technology (6EDM3)
- Over current shutdown
- Under-voltage lockout at all channels
- Low side pins accessible for all phase current monitoring
- H3TRB passed
- UL-certified

Benefits

- Very low power loss and excellent thermal performance thanks to IGBT7 technology and package innovation
- Designed to provide excellent performance at both low switching frequency applications as well as high switching
- Enhanced reliability and system efficiency

Competitive advantage

- Broad application coverage thanks to excellent power loss and thermal performance
- Excellent system level size reduction with enhanced power density in a compact package platform

Target applications

- Heating ventilation and air conditioning (HVAC)
- Residential AC
- Industrial drives

Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
IM06B50GC1XKMA1	SP006082065	PG-MDIP-24

Power and Prime Block 60 mm: best reliability and best-in-class

Power Block: Thyristor and diode modules in TT, TD, and DD configuration with isolated housing on aluminum or copper baseplate. Up to 4.5 kV blocking voltage (DD), 600 A avg on-state current (TT/TD), and 4 kV insulation voltage.

Prime Block: best in class thyristor and diode modules in TT, TD, and DD configuration with isolated housing. Up to 820 A average on-state current.

Features

- Power and prime block
  - Short-on-fail capability
  - S20 Types for paralleling
  - Thermal-interface-material pre-applied
- Prime block
  - Best-in-class power density in standard housing

Benefits

- Reduced system cost and more compact design possible
- Reduced collateral damage with line fuses compared to solder technology
- Protection against corrosive gases (rubber, etc.)
- Long lifetime due to good power cycling capability and high dc blocking stability

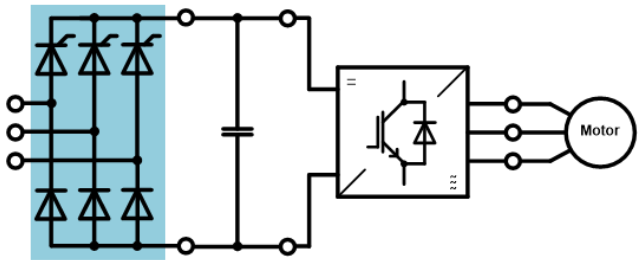
Competitive advantage

- Power block modules come in market standard design and outperform in system costs, reliability and resilience
- Prime block modules come in market standard design and outperform in power density and system costs

Target applications

- LVD and MV drives
- LV soft starters
- UPS: SBS and STS

Block diagram



Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
TT590N18KOFXPSA1	SP005896101	BG-PB60E2A-1
TD590N18KOFXPSA1	SP005896097	BG-PB60E2A-1
DD800N22KXPSA1	SP005900499	BG-PB60E2C-1

Small signal MOSFET industrial-grade portfolio extension

Infineon is strategically positioned to address the thriving industrial market and its core applications with a dedicated, comprehensive portfolio.

This new portfolio of N- and P-channel devices comes with excellent robustness and price / performance ratio in SOT-23 and SOT-223 packages and 60 V to 240 V breakdown voltages. Together with an extensive industrial grade portfolio, which includes both enhancement and depletion mode devices ranging from 60 V to 600 V breakdown voltages, Infineon is well positioned to address the growing industrial market segment.

Features

- Standard small outline packages
- Excellent robustness and price/performance ratio
- Broad availability at distribution partners
- Highest manufacturing and supply standards

Benefits

- Space and cost saving, broad range of applications, ease of design-in
- High quality and competitive price
- Convenient selection and purchasing, short lead times
- Reliable delivery and supply security

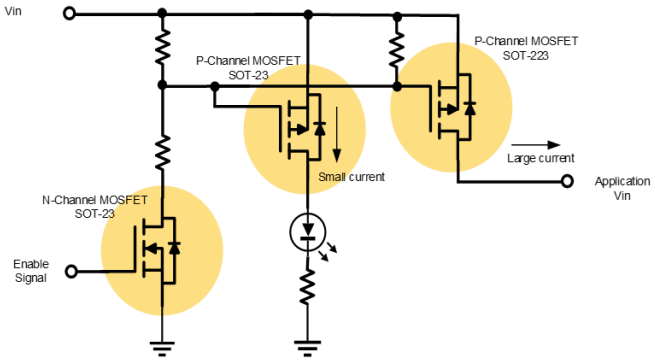
Competitive advantage

- Competitive pricing
- Dedicated production capacity
- Reliability
  - Tested to the JEDEC industrial standard, ensuring a higher level of quality and reliability compared to consumer-grade products
  - Designed to withstand the demands of industrial applications

Target applications

- Home appliances
- Cordless power tools
- Lighting
- Power supplies
- Industrial automation
- Medical

Block diagram



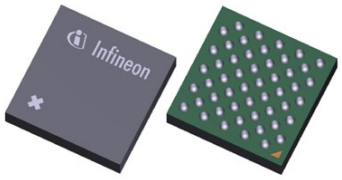
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
BSS83IXUSA1	SP006013447	PG-SOT23-3
BSS84IXUSA1	SP006013451	PG-SOT23-3
BSS131IXUSA1	SP006013443	PG-SOT23-3
BSP170IATMA1	SP006013461	PG-SOT23-4
BSP171IATMA1	SP006013457	PG-SOT23-4

BGM787U50 : 7x LNA-bank with output cross-switch for 5G



The BGM787U50 is a 7x LNA-bank with 2x low band and 5x mid / high band LNA groups with a complex output 7P7T cross-switch, designed for EN_DC/CA and MIMO operations.

Features

- Wide operating frequency range: 600 - 2700 MHz
- 2x LB LNA group: 600 - 960 MHz
- 5x MLB/MHB LNA group: 1400 - 2700 MHz
- Highly flexible output MUX
- Gain mode support for MediaTek, LSI and Qualcomm platforms
- Support of 4x4 MIMO and EN-DC with just 2 LNA-banks
- Programmable power gain: 23.1 dB to -12.8 dB
- Programmable current consumption for each LNA: 1.7 – 12.2 mA
- Noise figure for high gain mode: 0.8 dB
- Support of 1.2 V and 1.8 V V_{dd}/V_{io}
- RF output internally matched to 50 Ω
- Suitable for LTE / LTE-advanced, 4G and 5G applications
- Integrated DC block capacitors at input and output
- Pin to pin compatible with MT6191 and BGM687U50
- Low power operation
- Small form factor 2.8 mm x 2.8 mm
- RoHS and WEEE compliant package
- USID select pin

Competitive advantage

- Wide operating frequency range: 600 - 2700 MHz
- Highly flexible output MUX
- High gain: 23.1 dB

Product collaterals / Online support

Product page

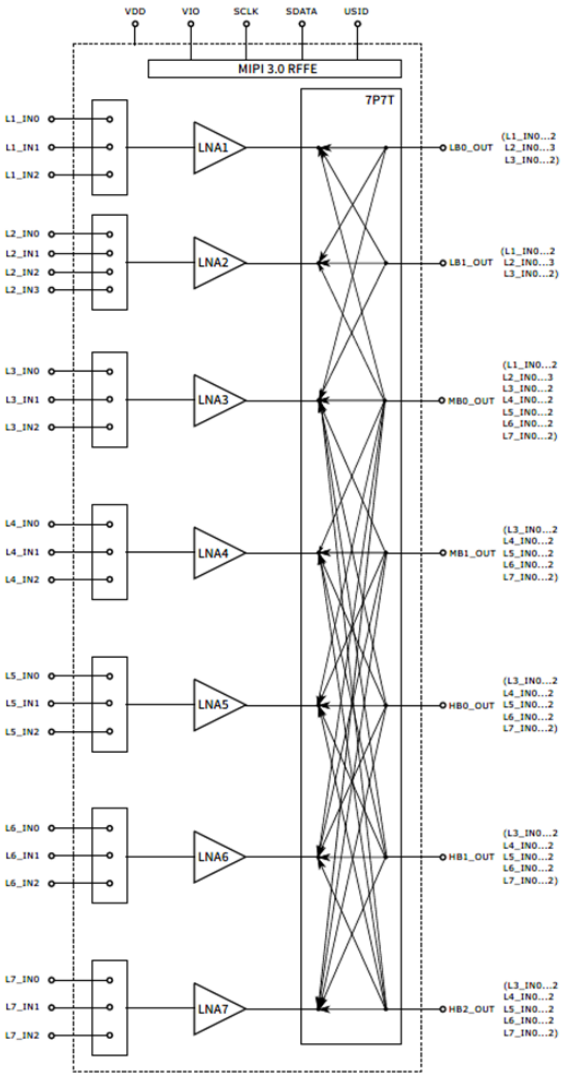
Benefits

- Wide operating frequency range
- Highly flexible output MUX
- Compatible to MediaTek, LSI and Qualcomm platforms

Target applications

- Suitable for 5G and 4G applications

Block diagram



Product overview incl. datasheet link

OPN	SP Number	Package
BGM787U50E6327XUMA1	SP006005201	PG-WF2BGA-50

IM68D128B XENSIV™ MEMS microphone with new single backplate (SBP) technology

IM68D128B is a low power digital XENSIV™ MEMS microphone designed for applications which require a digital PDM MEMS microphone with high SNR (low self-noise), low distortion (high AOP), and low current consumption. This microphone is the first digital Infineon XENSIV™ MEMS microphone with single backplate technology (SBP), the industry standard for mid-end microphones focusing on simplicity, robustness at an excellent performance to cost ratio.

Features

- New single backplate (SBP) technology
- Low 580 µA current consumption in always on mode
- Component level IP57 water and dust resistant
- 67.5 dB(A) Signal-to-noise ratio
- Acoustic overload point (AOP) of 128 dBSPL
- Tight sensitivity (-37 ± 1 dB) tolerance
- 20 Hz low frequency roll-off

Benefits

- Battery saving without compromising in acoustic performance
- Clear audio signals even for high sound pressure levels
- Highest precision of audio beams and algorithms

Target applications

- Active noise cancellation (ANC): Headphones and earphones
- Smartphones and mobile devices
- Hearing enhancement devices
- Voice user interface (VUI): e.g. smart speaker, home automation, and IOT devices
- Power constrained applications
- Automotive applications

Product collaterals / Online support

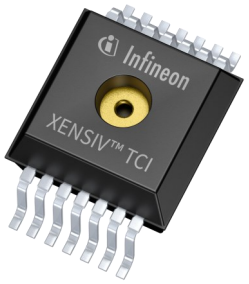
Product page

Board page

Product overview incl. datasheet link

OPN	SP Number	Package
IM68D128BV01XTMA1	SP006086453	PG-TLGA-5
KITIM68D128BV01FLEXTOBO1	SP006114517	Kit

XENSIV™ – TCI integrated thermal conductivity-based sensor



Infineon's XENSIV TCI sensors provide reliable detection of hydrogen (H_2) gas in demanding automotive and industrial applications such as FCEVs, H_2 combustion engines, H_2 refueling stations, BEVs (battery electric vehicles), ESS (energy storage systems), H_2 electrolyzes and stationary fuel cells. XENSIV™ TCIx gas sensors operate on the principle of TC and utilize a full differential MEMS sensor concept. The TC is measured by heating up parts of the MEMS structures and measuring the heat transfer through the gas. TC sensing provides the highest robustness and stability for rough automotive applications. Unlike metal oxide based (MOX) sensors and catalytic combustion (CC) sensors, no chemical reaction takes place in TC gas sensors as they are based on a physical measuring principle. This makes TC gas sensors immune to the risk of poisoning and the tendency to high offset drift shown by chemical sensors.

Features

- Automotive grade sensor reliability up to 105°C
- Thermal conductivity measurement principle - lifetime of 15 years with low drift
- Fast response time
- Ultra-low current consumption

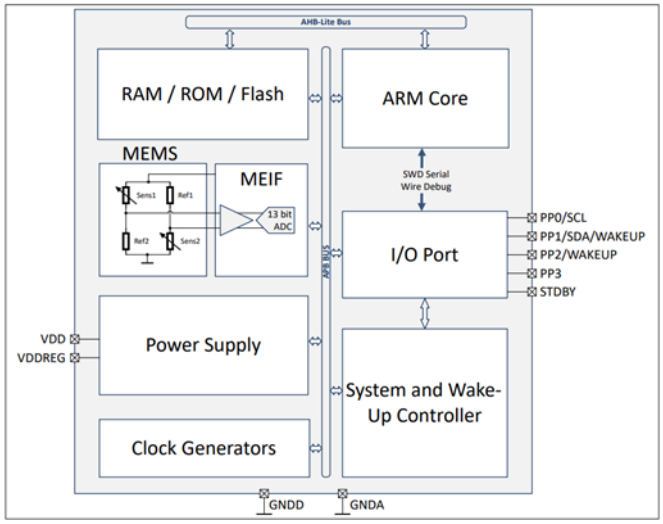
Benefits

- No maintenance or replacement needed - no poisoning effect over lifetime
- 15 years of lifetime with low drift

Target applications

- Thermal runaway detection in vehicle (xEV) or stationary batteries (ESS)
- Fuel cell hydrogen leakage detection
- Electrolyzes, hydrogen transport and storage

Block diagram



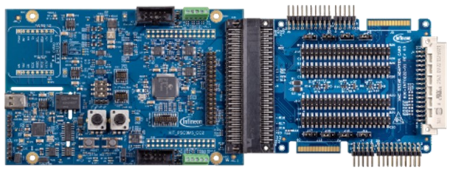
Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
TCIXTMA1	SP006004240	PG-DSOSP-14

PSOC™ Control C3M5 Motor Drive Control Card



The PSOC™ Control C3M5 CC2 motor control kit is an evaluation board designed to help engineers in developing PSOC™ Control C3 based motor control solutions. A suitable power stage can quickly be made with available MADK connector (M1/M3/M5) to drive a variety of motors. The board features an isolated onboard debugger for programming and debugging over a USB interface. The kit comes with a motor control card and adapter board to connect to customer's own power board and motor.

Features

- PSOC Control C3M5 PSC3M5FDS2AFQ1
- Connection to MADK boards (M1, M3, M5)
- On-board debugger (SEGGER J-Link LITE)
- 2 User LED - user-controlled LED
- 2 Debug LED and Aux LED - Debugger LEDs

Benefits

- Out-of-the-box configuration
- Sensored or sensorless FOC motor control
- Can be configured to run two motors
- Code examples to shorten development
- Modular setup to adapt new power boards

Competitive advantage

- Idle-Sampling ADC with 16 synchronous channels up to 12 MSPS, up to 12x built-in gain without the need of external OpAmp
- HW acceleration of operations with CORDIC accelerator and autonomous HPPASS SAR ADC allows to off-load the CPU
- TCPWM and low-latency trigger mux with precise control of dead time, duty and period of PWM allows support 2 motors + PFC
- Versatile timers with 80ps high-resolution option for finest control
- State-of-the-art security, with PSA L2 certification

Target applications

- Power / Gardening tools
- Lawn mower robots
- Home robots
- Residential aircon ODU
- Large and medium home appliances drives
- PV inverters
- LEV
- EV charging
- General purpose drives
- LED Lighting
- Servo Drives
- Commercial aircons

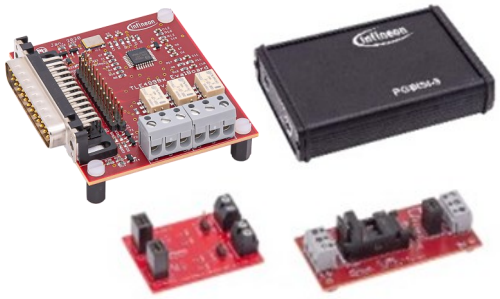
Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
KITPSC3M5CC2	SP006051086

XENSIV™ – TLE4999X linear sensors PROGRAM-KIT



The hardware evaluation setup includes a PGSISI-3 interface box and an evaluation board with a satellite board. The XENSIV interface box connects to a Windows PC via USB. The software allows reading sensor output values, programming, and calibration, including temperature compensation and multi-point calibration.

Features

- External magnetic setup
- Manual parameter setup
- Guided temp comp setup
- Automatic gain and offset calculation
- Burn and erase functionality for EEPROM
- Logging data in csv format

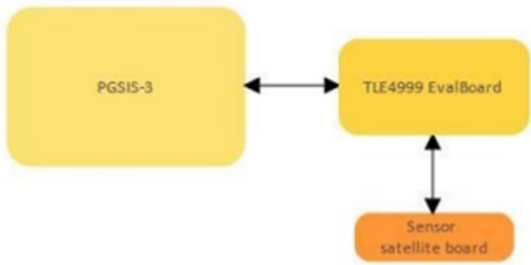
Benefits

- Real time feedback if sensor registers
- Easy to use programming and calibration

Target applications

- Automotive safety critical applications
- Linear movement position sensing
- EPS torque position
- Pedal sensor
- Electrical throttle control

Block diagram



Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
TLE4999XPROGRAMKITTOBO1	SP001701202

Industrial Communication Protocols for XMC7000 microcontrollers

Industrial communication protocols for XMC7000 is an advanced software library offered by Infineon. Making use of the XMC7000 microcontrollers existing interfaces, including ethernet and fieldbus, the industrial communication protocol library facilitates the implementation of six different communication protocols: PROFINET RT®, EtherNet/IP®, CANopen®, CC-Link®, Modbus/TCP®, and EtherCAT Master®.

Fully integrated into ModusToolbox™, in a GitHub repository, supporting access to always up-to-date, easily accessible libraries.

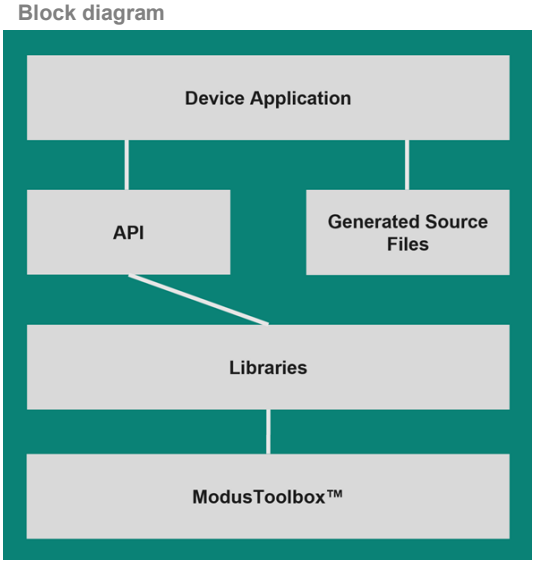
Features

- Industrial communication protocols
- PROFINET RT®
- EtherNet/IP®
- CANopen®
- CC-Link®
- Modbus/TCP®
- EtherCAT Master®
- All protocol libraries are included in ModusToolbox™

Competitive advantage

- Outstanding performance with the multi-protocol firmware running on a dedicated Arm® Cortex® M7 in the XMC7000 dual core, while the application runs on another
- Multi-protocol firmware hosts a built-in webserver, providing network diagnostic data in real-time
- Great connectivity options with multiple serial interfaces, gigabit ethernet, CAN FD, and GPIOs
- ModusToolbox™ delivers seamless integration of the XMC7000 with the industrial communication protocols, featuring its multi-core debugging

Block diagram



Benefits

- Enablement of industrial communication protocols
  - One or multiple protocols can be used
  - Pre-integrated protocols save time to market
- ModusToolbox™ integration
  - Ease of use with less complexity
  - Multiple user-friendly code examples
  - No need for deep expertise in ethernet and fieldbus protocols
  - Faster time to market with less resources
- GitHub repository
  - Up-to-date libraries
  - Easily accessible
  - Extensive documentation
  - Superior user experience

Target applications

- Servo drives
- I/O modules
- Stepper motors
- Robotic arms
- PLC

Product collaterals / Online support

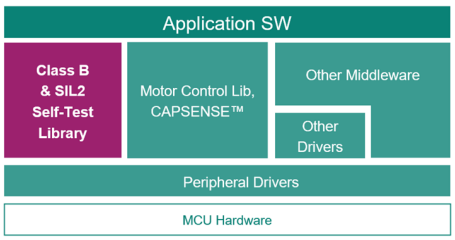
ModusToolbox™ Software

Board page

Product overview incl. user manual link

OPN	SP Number
KITXMC72EVK	SP005829648
XMC7SOFTWAREPREMIUMSOFT1	SP006113775

Class B and SIL2 compliant functional safety self-test library within ModusToolbox™



Infineon provides functional safety self-test library (STL) to help customers achieve their functional safety goals. This library supports a wide range of Infineon microcontrollers and makes use of the advanced MCU hardware features to provide functional safety mechanisms for a variety of end applications.

Together with ModusToolbox™, it provides a robust ecosystem to achieve IEC 60730 Class B and IEC 61508 SIL2 certifications.

Class B certification for the safety libraries has been completed with the third-party test lab. SIL2 certification is in progress.

Features

- CPU registers: Check for stuck bits
- Program counter: Check jumps to the correct address
- Program flow: Checks correct firmware program flow
- Interrupt handling and execution: Proper interrupt calling and periodicity
- Flash (invariable memory): Memory corruption
- SRAM (variable memory): Stuck bits and proper memory addressing
- Stack overflow: Checks stack overflow with the program data memory during program execution
- Digital I/O: Test for pins short
- Peripheral self-test: Analog, TCPWM, CORDIC, I^2C, SPI, CAN, UART loopback, and others

Target applications

- Consumer applications: Home appliances, laundry machines, cordless vacuum cleaner, countertop appliances, power, and gardening tools
- Robotics: Collaborative robot (Cobot), humanoid robots, industrial robot, mobile robot, domestic robot (vacuum, lawn, pool), drone and multicopter
- Industrial applications: General purpose drives (GPD), servo drives

Benefits

- Functional safety support for MCUs
  - Optimal usage of MCU resources
  - Qualified and maintained SW
  - Free evaluation option and code examples
  - Comprehensive user documentation
  - Application notes
  - UL certificate to help accelerate customer certification
- ModusToolbox™ integration
  - Ease of use
  - Multiple application notes and user-friendly code examples
  - No need for deep expertise
  - Faster time to market
  - Superior user experience
- GitHub repository
  - Up-to-date libraries
  - Easily accessible
  - Extensive documentation

Product collaterals / Online support

Functional Safety page

Application note PSOC Control C3

Application note XMC7000

Application note PSOC 6

Application note PSOC 4

ModusToolbox™ software

Functional safety code examples

ModusToolbox™ safety library