



## New Product Introduction

January 2025

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## PSOC™ Automotive 4000S



PSOC™ 4 Automotive is a scalable and reconfigurable platform architecture for a family of programmable embedded system controllers with an Arm® Cortex®-M0+ CPU while being AEC-Q100 compliant. It combines programmable and reconfigurable analog and digital blocks with flexible automatic routing. The PSOC™ 4000S product family is a member of the PSOC™ 4 Automotive platform architecture. It is a combination of a microcontroller with standard communication and timing peripherals, a capacitive touch-sensing system (CapSense) with best-in-class performance, programmable general-purpose continuous-time and switched-capacitor analog blocks, and programmable connectivity. PSOC™ 4000S products will be upward compatible with members of the PSOC™ 4 Automotive platform for new applications and design needs.

### Features

- > 32-bit Arm® Cortex®-M0+ CPU with up to 48 MHz frequency
- > Up to 32 KB of flash and 4 KB of SRAM
- > AEC-Q100 qualified for automotive applications
- > Programmable analog and digital blocks
- > Low-power operation: 1.71 V to 5.5 V, deep sleep mode with 2.5 µA digital system current
- > Capacitive sensing with best-in-class SNR (>5:1) and water tolerance
- > Serial communication: 2x reconfigurable I2C, SPI, or UART blocks
- > Up to 34 programmable GPIO pins with flexible configuration options
- > Operating temperature range: -40°C to +125°C (E-grade)

### Competitive advantage

- > Low power ARM® Cortex® based
- > Robust and reliable CAPSENSE, inductive sense and multi-sense converter
- > "Edge-connectivity" through LIN, CXPI
- > CAN FD, iso-UART, options with integrated LIN-SBC-functionality
- > Safety: ISO 26262 up to ASIL B (SEooC) / ASIL C (App-specific)
- > Security: ISO 21434-ready – process compliance and partial ("off the shelf")

### Benefits

- > Fourth-generation CAPSENSE™
- > Solves complex design problems with PSOC™ 4
- > Simplified low-power system design
- > CAPSENSE™: industry's best capacitive sensing solution
- > Reduced system costs
- > Reliable operation in harsh automotive EM environment

### Target applications

- > PSOC™ for infotainment / HVAC systems
- > PSOC™ for interior HMI
- > PSOC™ for automotive exterior HMI
- > PSOC™ for steering wheel HMI
- > PSOC™ for liquid level sensing
- > PSOC™ for passenger occupant and hands-on-detection

### Product collaterals / Online support

[Product family page](#)

[Link to ModusToolbox™ software](#)

### Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">CY8C4025LQS-S411</a>	SP005648639	PG-VQFN-24
<a href="#">CY8C4025LQAS411XQLA1</a>	SP006053493	PG-VQFN-24
<a href="#">CY8C4045PVS-S412</a>	SP005648695	PG-SSOP-28
<a href="#">CY8C4045LQS-S411</a>	SP005648685	PG-VQFN-24

## CoolSiC™ Schottky diode 2000 V G5 in TO-247-2



The CoolSiC™ Schottky diode 2000 V G5 family is now also available in a TO-247-2 package. The diodes enable higher efficiency and design simplification in high DC link systems up to 1500 V<sub>DC</sub>. In addition, they offer first-class thermal performance thanks to the .XT interconnection technology. The diodes are the perfect fit for the matching CoolSiC™ MOSFET 2000 V portfolio.

### Features

- > No reverse recovery current / no forward recovery
- > High surge current capability
- > Temperature independent switching behavior
- > Low forward voltage even at high operating temperature
- > Tight forward voltage distribution
- > Specified dv/dt ruggedness
- > .XT interconnection technology for best-in-class thermal performance

### Benefits

- > High power density
- > Matching CoolSiC™ MOSFET 2000 V available
- > Topology simplification

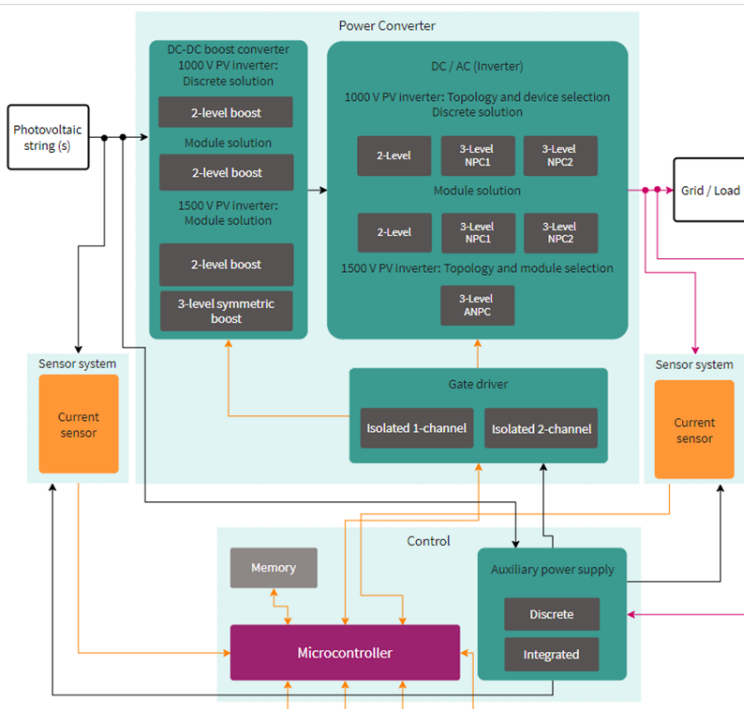
### Competitive advantage

- > First discrete SiC Diode device in the market with blocking voltage up to 2000 V
- > Sufficient over-voltage margin for 1500 V<sub>DC</sub> system compared to 1700 V SiC diodes
- > Pin to pin compatible with the available 2-pin packages on the market

### Target applications

- > String inverter
- > EV charging

### Block diagram:



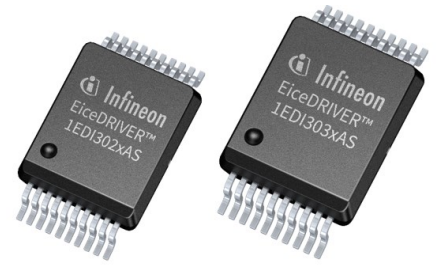
Product collaterals / Online support

[Product family page](#)

### Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">IDWD10G200C5XKSA1</a>	SP005855883	PG-TO247-2
<a href="#">IDWD25G200C5XKSA1</a>	SP005855885	PG-TO247-2
<a href="#">IDWD40G200C5XKSA1</a>	SP005855887	PG-TO247-2
<a href="#">IDWD50G200C5XKSA1</a>	SP005855889	PG-TO247-2
<a href="#">IDWD80G200C5XKSA1</a>	SP005855891	PG-TO247-2

# EiceDRIVER™ 1EDI3025AS, 1EDI3026AS, 1EDI3028AS, 1EDI3035AS, 1EDI3038AS isolated gate driver ICs for EV



EiceDRIVER™ 1EDI302xAS and 1EDI303xAS (x = 5, 6, 8) are the most compact ISO 26262-compliant isolated gate driver ICs for IGBT and SiC technologies currently available in the market. The 1EDI302x/3xAS (x = 5, 6) devices with a strong 20 A output stage are tailored for high-power traction inverters of all power classes even over 300 kW. Cost-optimized variants 1EDI3028 / 38AS with a 15 A output stage are ideal for usage in entry level BEV and PHEV inverters and for the excitation circuit of externally excited synchronous machines.

## Features

- > 1-channel gate driver IC with reinforced insulation (VDE 0884-17)
- > ISO 26262-compliant (ASIL B)
- > Variants preconfigured for SiC or IGBT (up to 1200 V)
- > Strong output stage (up to 20 A) and miller clamping
- > Fast DESAT detection and separate SOFTOFF pin (<1µs)

## Benefits

- > Matching Infineon's SiC GEN2 and IGBT EDT3 technologies
- > No SPI needed, diagnosis & ADC readout via pins and PWM stream
- > Includes all monitoring needed for ASIL D inverters
- > Fastest DESAT supporting latest SiC
- > Compact package (DSO-20 10.3 x 6,4 mm) saving board space

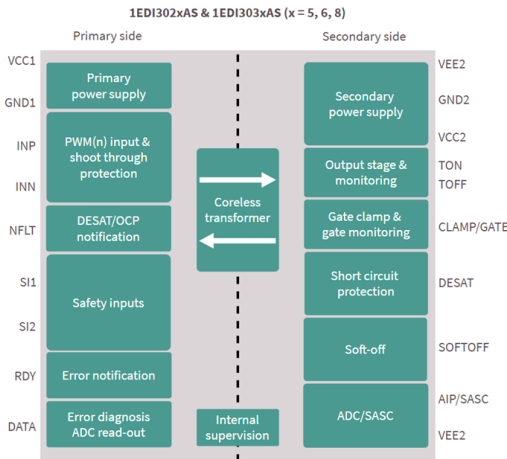
## Competitive advantage

- > Most compact and cost-effective ISO 26262-compliant isolated gate driver IC in the market tailored for traction inverters and fitting to all ISO-compliant sub systems in the EV driver train
- > System approach: Perfectly matching latest Infineon's SiC and IGBT technologies and the HybridPACK™ Drive G2 Fusion Module using EDT3 and CoolSiC™ G2

## Target applications

- > xEV traction inverter
- > Auxiliary inverter
- > Fuel-cell compressor
- > High availability DC/DC
- > EESM exciter

## Block diagram:



## Product collaterals / Online support

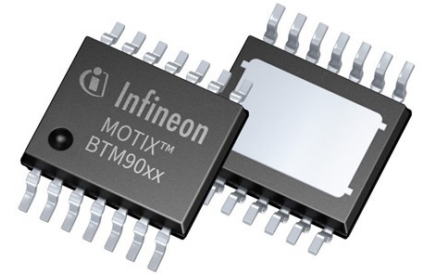
[Product family page](#)

## Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">1EDI3025ASXUMA1</a>	SP005741499	PG-DSO-20
<a href="#">1EDI3026ASXUMA1</a>	SP005741501	PG-DSO-20
<a href="#">1EDI3028ASXUMA1</a>	SP006008852	PG-DSO-20
<a href="#">1EDI3035ASXUMA1</a>	SP005741503	PG-DSO-20
<a href="#">1EDI3038ASXUMA1</a>	SP005882067	PG-DSO-20
<a href="#">1EDI3028EVALBOARDTOBO1</a>	SP006062250	
<a href="#">1EDI302YASEVALBOARDTOBO1</a>	SP005881847	
<a href="#">1EDI3038EVALBOARDTOBO1</a>	SP006062252	
<a href="#">1EDI303YASEVALBOARDTOBO1</a>	SP005881849	



## MOTIX™ BTM9010EP and BTM9011EP full-bridge ICs



MOTIX™ BTM90xx full-bridge ICs for automotive brushed DC motor control applications are AEC-Q100 qualified. The products with a supply voltage range for normal operation from 7 V to 18 V (extended: 4.5 V to 40 V) provide a broad range of protection and diagnosis features. SPI variants BTM90x1EP support Daisy-chained operation. BTM9021EP additionally provides watchdog. The TSDSO-14 package with exposed pad ensures optimized thermal performance.

### Features

- > Supply voltage range 7 – 18 V, for transients 4.5 – 40 V
- > BTM901x min current limit 10 A, 5.2 A for 1sec @ 85°C (coming soon: BTM902x min current limit 20 A, 8.8 A for 1 sec)
- > BTM902x min current limit 20 A, 8.8 A for 1sec @ 85°C
- > PWM frequency up to 20 kHz
- > SPI variants BTM9011/21 supporting daisy chain operation
- > Current sense on both high side and low side
- > Independent half-bridge mode (more flexibility)

### Benefits

- > Extensive protections and diagnostics features
- > Tiny package with lowest pin count
- > Improved thermal performance with exposed pad (11 mm<sup>2</sup>)
- > AEC-Q100 qualified (Grade 1)
- > QM device with safety documentation (ISO 26262-ready)

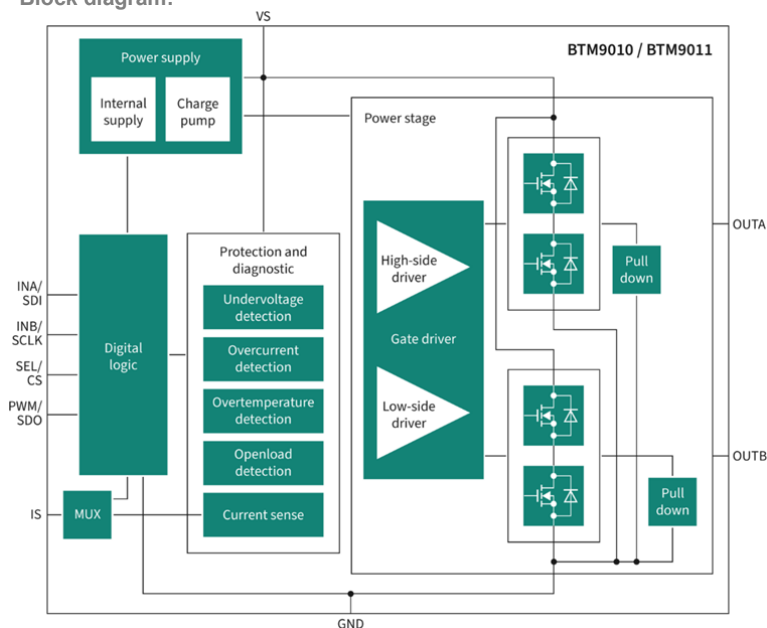
### Competitive advantage

- > Small PCB footprint
- > Improved thermal performance with exposed pad
- > EMC: slew rate configurable in two modes
- > Current sense for both high side and low side
- > Overload (OL) detection without current sense method
- > Flexible half-bridge control
- > On state open load detection

### Target applications

- > Door lock / safe lock
- > Fuel / e-charging lid
- > Mirror fold
- > Door cinching latch
- > Trunk cinching latch
- > Body control modules

### Block diagram:



### Product collaterals / Online support

[Product page BTM9010EP](#)

[Product page BTM9011EP](#)

[Board page](#)

### Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">BTM9010EPXUMA1</a>	SP005740088	PG-TSDSO-14
<a href="#">BTM9011EPXUMA1</a>	SP005858383	PG-TSDSO-14
<a href="#">KITBTM901011TOBO1</a>	SP005930684	

## OptiMOS™ 7 100 V and 80 V SSO8 Automotive MOSFETs

These 100 V and 80 V automotive MOSFETs are built with Infineon's next, leading-edge, power semiconductor technology: OptiMOS™ 7. These products are offered in our versatile, robust, high current SSO8 5 x 6 mm<sup>2</sup> SMD package. They are designed specifically for high performance, high quality and the robustness needed for demanding automotive applications.



### Features

- > Fast switching times (turn on/off)
- > Low on-resistance,  $R_{DS(on)}$
- > Leading edge FOM ( $R_{DS(on)} \times Q_g$ )
- > High single avalanche current and SOA capability
- > Tight threshold voltage,  $V_{GS(th)}$ , range
- > Extended qualification beyond AEC-Q101

### Benefits

- > Superior switching performance; low switching losses
- > Very low conduction losses
- > High power efficiency
- > Increased ruggedness
- > Well-suited for parallel placement
- > Designed and built with robustness needed for demanding automotive applications

### Competitive advantage

- > Highest efficiency achieved by leading-edge FOM ( $R_{DS(on)} \times Q_g$ )
- > Very tight  $V_{GS(th)}$  range simplifies the challenge of placing MOSFETs in parallel
- > Unique fused source pins reduce the risk of hot spots and enhance solder joint reliability

### Target applications

- > LED front and rear exterior Lighting
- > 48 V motor control (pumps, fans, braking, steering, HVAC)
- > DC-DC converters
- > Engine management / direct injection

### Product collaterals / Online support

[Product family page](#)

### Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">IAUCN10S7N040ATMA1</a>	SP005923824	PG-TDSON-8
<a href="#">IAUCN10S7N074ATMA1</a>	SP005402862	PG-TDSON-8
<a href="#">IAUCN10S7L180ATMA1</a>	SP005402873	PG-TDSON-8
<a href="#">IAUCN08S7L110ATMA1</a>	SP005402870	PG-TDSON-8

## 1ED314xMC12H 5.7 kV (rms) single-channel gate driver IC with reinforced isolation, 6.5 A output current, output and UVLO variants

EiceDRIVER™ compact single-channel isolated gate driver with 6.5 A sinking and 6 A sourcing peak output current in 8-pin LDSO wide body package for IGBTs, MOSFETs and SiC MOSFETs.

Multiple UVLO variants and options for separate outputs, UVLO referenced to GND2 and adjustable UVLO.



### Features

- > 2300 V funct. offset volt. capable for up to 2300 V IGBT, Si and SiC switches
- > Galv. isolated coreless transformer
- > Up to 6.5 A typical peak output current
- > 35 V abs. max. output supply voltage
- > High CMTI > 300 kV/μs
- > 3.3 V and 5 V input supply voltage

### Benefits

- > 8 mm in.-to-out. creepage and clearance
- > CTI 600 package
- > IEC 60747-17 (planned), UL 1577; VIORM = 1767 V (peak, reinforced); VISO = 6.84 kV (rms) for 1 second; VISO = 5.7 kV (rms) for 1 min

### Competitive advantage

- > Multiple UVLO variants and options for separate outputs, UVLO referenced to GND2 and adjustable UVLO
- > 40 ns propagation delay, 7 ns max. part-to-part prop. delay skew
- > Active shutdown, short circuit clamping, overtemperature protection

### Target applications

- > Din rail power supply
- > Energy storage systems
- > EV charging
- > General purpose drives
- > Motor control and drives
- > Photovoltaic

### Product collaterals / Online support

[Product family page](#)

### Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">1ED3141MC12HXUMA1</a>	SP005847756	PG-LDSO-8
<a href="#">1ED3142MC12HXUMA1</a>	SP005847758	PG-LDSO-8
<a href="#">1ED3143MC12HXUMA1</a>	SP005847760	PG-LDSO-8
<a href="#">1ED3144MC12HXUMA1</a>	SP005847762	PG-LDSO-8
<a href="#">1ED3145MC12HXUMA1</a>	SP005847764	PG-LDSO-8



# CIPOS™ Mini 600 V, 15 A / 20 A / 30 A 3- TRENCHSTOP™ IGBT7 IM06B15AC1, IM06B20AC1 and IM06B30AC1



IM06BxxAC1-series offers 15 A, 20 A and 30 A in 600 V class up to 3.0 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.

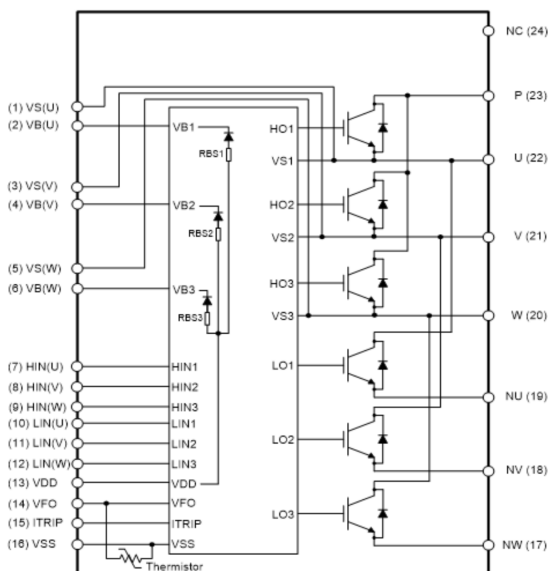
## Features

- > Based on TRENCHSTOP™ IGBT 7
- > 600 V 3-phase inverter with open emitters
- > Current rating from 15 A to 30 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

## 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

## Block diagram:



## 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 applications
- > Enhanced reliability and system efficiency

## Target applications

- > Residential AC
- > Washing machine
- > Heat-pump
- > Industrial fans and pumps
- > Low-power motor drives

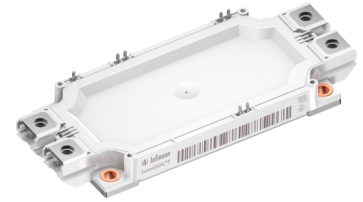
Product collaterals / Online support

[Product family page](#)

## Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">IM06B15AC1XKMA1</a>	SP006037340	PG-MDIP-24
<a href="#">IM06B20AC1XKMA1</a>	SP006037342	PG-MDIP-24
<a href="#">IM06B30AC1XKMA1</a>	SP006037344	PG-MDIP-24

## EconoDUAL™ 3 variants



Infineon herewith releases different EconoDUAL™ 3 module variants, e.g., with solder pin or with pre-applied thermal interface material (TIM).

### Features

- > Highest power density
- >  $T_{vj\_op} = 175^{\circ}\text{C}$  overload
- > Integrated NTC temperature sensor
- > Isolated baseplate

### Benefits

- > Higher inverter output current for the same frame size
- > Avoidance of paralleling of IGBT modules
- > Reduced system costs by simplification of the inverter systems
- > Easy and most reliable assembly
- > High inter-connection reliability

### Competitive advantage

- > EconoDUAL™ 3 is a well-established and flexible Medium Power Package, suitable for a broad range of applications

### Target applications

- > Commercial, construction and agricultural vehicles (CAV)
- > Energy storage systems
- > General purpose motor drive - varying frequency and voltage
- > HVAC control module
- > Motor control

### Product collaterals / Online support

[Product page FF900R12ME7](#)

[Product page FF600R12ME7](#)

[Product page FF450R12ME7](#)

[Product page FF900R12ME7W](#)

[Product page FF750R17ME7DP B11](#)

### Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">FF900R12ME7BPSA1</a>	SP006017779	AG-ECONOD-711
<a href="#">FF600R12ME7BPSA1</a>	SP006017770	AG-ECONOD-741
<a href="#">FF450R12ME7BPSA1</a>	SP006017766	AG-ECONOD-741
<a href="#">FF900R12ME7WBPSA1</a>	SP006080650	AG-ECONOD-711
<a href="#">FF750R17ME7DPB11BPSA1</a>	SP005630287	AG-ECONOD-711

# P-channel power MOSFETs 60 V in SOT-223 package for automotive applications

This product family features a low  $R_{DS(on)}$  for easy power loss management, making it the best-in-class MOSFET in a SOT-223 package, targeted for automotive applications. The main advantage of a P-channel device is the reduction of design complexity.



## Features

- > Automotive qualification (AEC-Q101, Infineon automotive)
- > Lowest  $R_{DS(on)}$  in portfolio
- > Availability

## Benefits

- > Part quality and reliability: parts qualified to automotive standards.
- > Production capacity
- > Long production lifetime and support
- > Need to reduce overall power consumption of electronic systems to extend battery lifetime

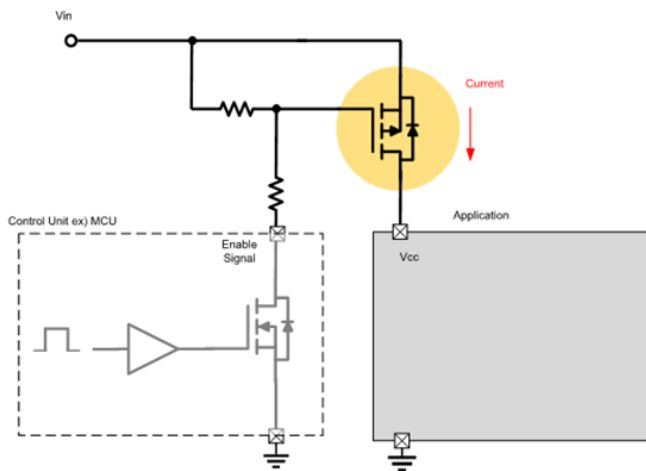
## Competitive advantage

- > Automotive qualification
- > Lowest  $R_{DS(on)}$  drives higher efficiency.
- > Price positioning within portfolio based on  $R_{DS(on)}$  performance

## Target applications

- > Load switch
- > High side for switching supply

## Block diagram:



## Product collaterals / Online support

[Product page ISP670P06NMA](#)

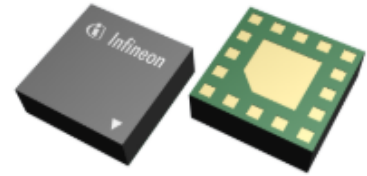
[Product page ISP16DP10LMA](#)

## Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">ISP670P06NMAXTSA1</a>	SP005862870	PG-SOT223-4
<a href="#">ISP16DP10LMAXTSA1</a>	SP005863817	PG-SOT223-4

## RF CMOS switch BGSX24M2U16

The BGSX24M2U16 RF CMOS switch is specifically designed for LTE and 5G antenna applications. This Dual Pole Four Throw (DP4T) cross-switch offers low insertion loss and low harmonic generation. The switch is controlled via a MIPI RFFE control interface. The on-chip controller permits very low power-supply voltage from 1.1 to 1.3 V or the standard supply voltage from 1.65 to 1.95V. Unlike GaAs technology, external DC blocking capacitors at the RF ports are only required if DC voltage is applied externally. The device has a very small size of only 2.0 mm x 2.0 mm and a thickness of 0.6 mm.



### Features

- > High linearity up to 39 dBm input power
- > Fast switching time (max 2  $\mu$ s) for 5G SRS applications
- > Low insertion loss and high port-to-port isolation up to 7.125 GHz
- > Fully compatible with MIPI 2.1 RFFE standard with 4 USIDs
- > Low current consumption
- > 1.2 V / 1.8 V  $V_{IO}$  support
- > Software and hardware programmable USID
- > Ultra low profile lead-less plastic package (MSL-1, 260 °C per IPC / JEDEC J-STD-20)

### Target applications

- > DP4T antenna routing/swapping for cellular mobile devices
- > LTE and 5G applications

### Product collaterals / Online support

[Product page](#)

### Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">BGSX24M2U16E6327XTSA1</a>	SP005832423	PG-ULGA-16

## XENSIV™ – KP30x pressure sensors for detection of side crashes

Infineon Technologies XENSIV™ KP30x are pressure sensors for the detection of side crashes in passenger cars and for other pressure based collision detection systems like pedestrian or front crash protection. In these applications, the pressure sensor is assembled in a door module located within the car's side door or connected to another crash sensitive air volume like a tube in the bumper of the car.



### Features

- > PS15 compliant
- > AK-LV 29 compliant
- > Built-in self diagnose features
- > Supports multiple operation modes
- > Unique ID numbers
- > PC evaluation board available

### Benefits

- > Easy customization with end of line programming via PS15 interface in the final customer module
- > Low design-in effort due to drop-in compatibility to previous safety pressure sensor family
- > Best-in-class cost performance

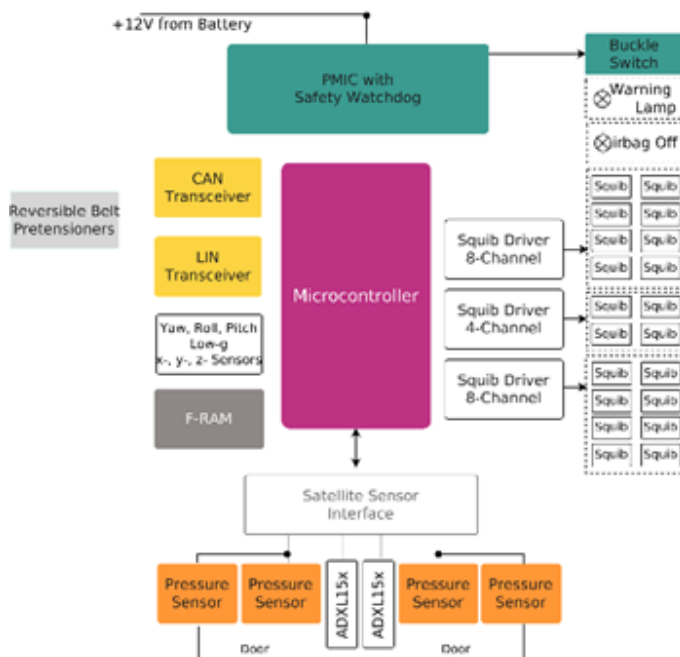
### Competitive advantage

- > Easy design-in
- > Fully Qualified acc. AEC-Q100
- > Less failures and recalls
- > Extra safety

### Target applications

- > Side crash detection (KP300 and KP305)
- > Pedestrian impact detection (KP305)

### Block diagram:



Product collaterals / Online support

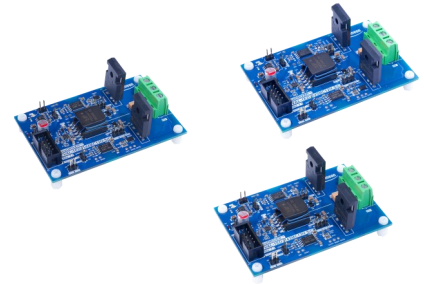
[Product family page](#)

Product overview incl. datasheet link

OPN	SP Number	Package
<a href="#">KP300XTMA1</a>	SP001236060	PG-DSOF-8
<a href="#">KP305XTMA1</a>	SP001236092	PG-DSOF-8

## Evaluation board for 1ED314xMC12H - 6.5 A, 5.7 kV (rms) single-channel isolated gate driver with separate outputs, 12.5 V UVLO

The evaluation board is designed to evaluate the 1ED314xMC12H isolated gate driver IC in a half-bridge configuration. This board includes two 1ED314xMC12H, two IMZA120R020M1H CoolSiC™ 1200 V SiC Trench MOSFETs, and a galvanically isolated on-board power supply generated with the EiceDRIVER™ Power 2EP130R transformer driver IC. The board can be used to evaluate other ICs from the 1ED314xMC12H family by replacing the gate driver IC.



### Features

- > 1ED314xMC12H isolated gate driver ICs
- > IMZA120R020M1H 1200 V SiC MOSFETs
- > 2EP130R transformer driver IC
- > 12.5 / 13.6 V UVLO protection w/ hysteresis

### Benefits

- > Easy measurement and configuration
- > On-board power supply
- > Half bridge configuration
- > Switches unassembled

### Competitive advantage

- > Multiple UVLO variants and options for separate outputs, UVLO referenced to GND2 and adjustable UVLO
- > 40 ns propagation delay, 7 ns max. part-to-part prop. delay skew
- > Active shutdown, short circuit clamping, overtemperature protection

### Target applications

- > Din rail power supply
- > Energy storage systems
- > EV charging
- > General purpose drives
- > Motor control and drives

### Product collaterals / Online support

[Board page EVAL-1ED3142MC12H-SIC](#)

[Board page EVAL-1ED3144MC12H-SIC](#)

[Board page EVAL-1ED3145MC12H-SIC](#)

### Product overview incl. user manual link

OPN	SP Number
<a href="#">EVAL1ED3142MC12HSICTOBO1</a>	SP006063036
<a href="#">EVAL1ED3144MC12HSICTOBO1</a>	SP006063038
<a href="#">EVAL1ED3145MC12HSICTOBO1</a>	SP006063041

## Evaluation board EVAL\_2EDL803X\_F5B

This board features the EiceDRIVER™ 2EDL803x-F5B, a junction isolated high-side and low side gate driver IC. The open loop buck topology showcases the half bridge driving capability of the IC with flexibility to have user defined gate drive waveforms along with the option to evaluate wide variety of MOSFETs available across Infineon portfolio in various footprints, thus helping to reduce the design and validation time.



### Features

- > Evaluation board of 2EDL8033-F5B and 2EDL8034-F5B
- > Independent LI and HI gate drives
- > Wide input voltage range from 36 V to 75 V
- > Evaluation of basic buck topology

### Benefits

- > SMA connectors for easy connection
- > Various MOSFET package selection
- > Easy access to each pin of the driver
- > Large buck inductor

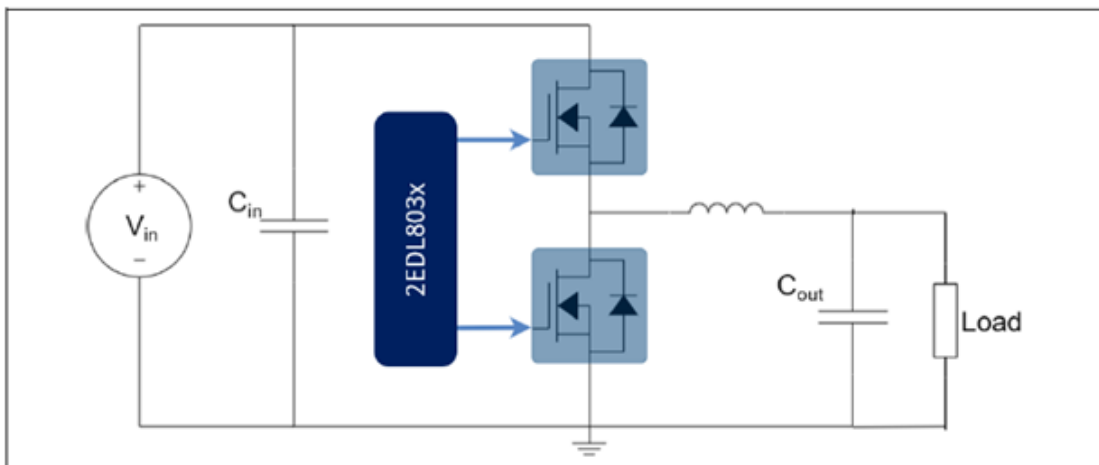
### Target applications

- > DC-DC power conversion for telecom infrastructure
- > Server power supplies

### Product collaterals / Online support

[Board page](#)

### Block diagram:



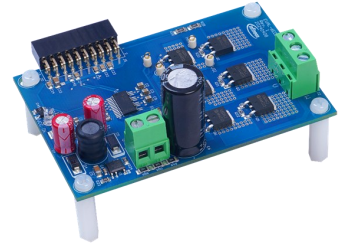
**Figure 1** Block diagram of EVAL\_HB\_2EDL803x

Product overview incl. user manual link

OPN	SP Number
<a href="#">EVAL2EDL803XF5BTOBO1</a>	SP006068087

## Evaluation board EVAL-6EDL04I065PR

Evaluation board, EVAL-6EDL04I065PR, features Infineon's latest silicon-in-insulator (SOI) EiceDRIVER™ gate driver IC, 6EDL04I065PR, and TRENCHSTOP™ Reverse Conducting (RC) IGBT, IKD06N60RC2, in a compact, cost-effective three-phase inverter bridge designed to drive a brushless direct current (BLDC) motor.



The board demonstrates 6EDL04I065PR features such as the integrated low-ohmic bootstrap diode, over-current protection (OCP), enable, and fault-reporting, in a compact TSSOP-25 package.

Using Infineon's SOI technology, 6EDL04I065PR is tolerant to negative transient voltage in inductive load applications. The device can tolerate repetitive negative transient voltage of up to 100 V.

### Features

- > Infineon thin-film-SOI-technology
- > Maximum blocking voltage +650 V
- > Output source / sink current +0.165 A / -0.375 A
- > Integrated ultra-fast, low-ohmic bootstrap diode
- > Separate control circuits for all six drivers
- > Detection of over current and under voltage supply
- > Externally programmable delay for fault clear after over current detection
- > 'Shut down' of all switches during error conditions
- > CMOS and LSTTL compatible input (positive logic)
- > Signal interlocking of every phase to prevent cross-conduction

### Benefits

- > Integrated bootstrap diode provide space savings and reduced BOM cost
- > Fast and accurate integrated over-current protection, provides space and cost savings compare to a discrete op-amp component solution while protecting the switches
- > Compared to standard junction-isolation technologies, Infineon SOI can provide up to 50% lower level shift losses leads lower temperature operation and higher reliability
- > Compared to standard junction-isolation technologies, Infineon SOI technology provides insensitivity of the bridge output to negative transient voltages up to - 100 V for increased robustness and reliability
- > The TSSOP-25 package (TSSOP-28 with 3 pins removed) provides the best trade-off between small IC package and clearance / creepage distances

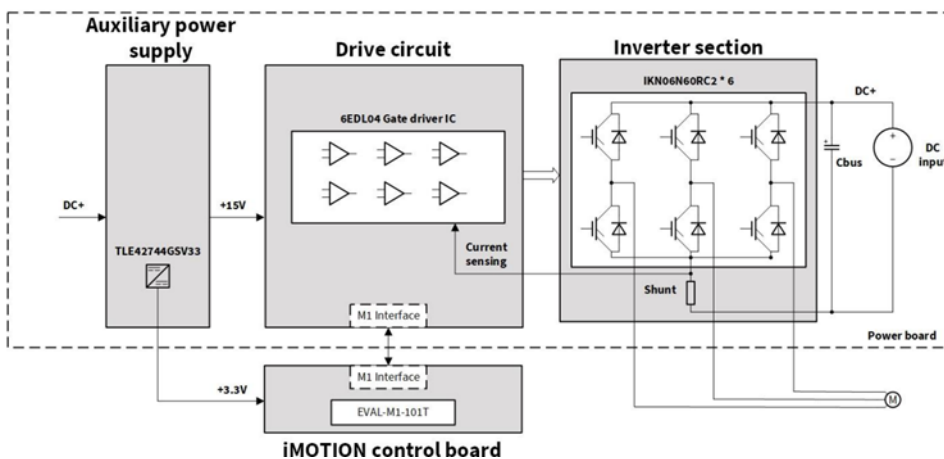
### Target applications

- > Major home appliances, refrigeration compressors, air-conditioning
- > Fans, pumps
- > Motor drives, general purpose drives

### Product collaterals / Online support

[Board page](#)

### Block diagram:

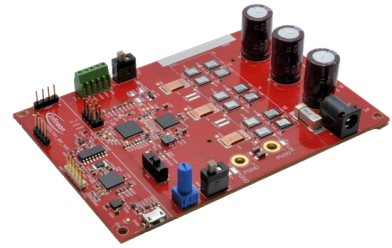


Product overview incl. user manual link

OPN	SP Number
<a href="#">EVAL6EDL04I065PRTOBO1</a>	SP006081826



## Evaluation board EVAL\_6EDL7151\_36V\_1kW



The EVAL\_6EDL7151\_36V\_1kW is a comprehensive evaluation platform designed to evaluate the MOTIX™ 6EDL7151, a 3-phase smart gate driver integrated circuit (IC). The IC enables the development of high-performance battery-powered products that utilize brushless DC (BLDC) or permanent magnet synchronous (PMSM) motors. The MOTIX™ 6EDL7151 is highly configurable, allowing it to drive a wide range of MOSFETs to achieve optimal system efficiency.

### Features

- > 12 V to 36 V operating voltage range
- > Rated phase current up to 75 A
- > Off-state diagnostics
- > On-board J-link debugger
- > Overcurrent and overvoltage protection
- > Potentiometer to control speed

### Benefits

- > Reduced development time and effort
- > Reduced BOM count
- > Complete protection including off-state diagnostics
- > Programmability through ModusToolbox™ Motor Suite GUI

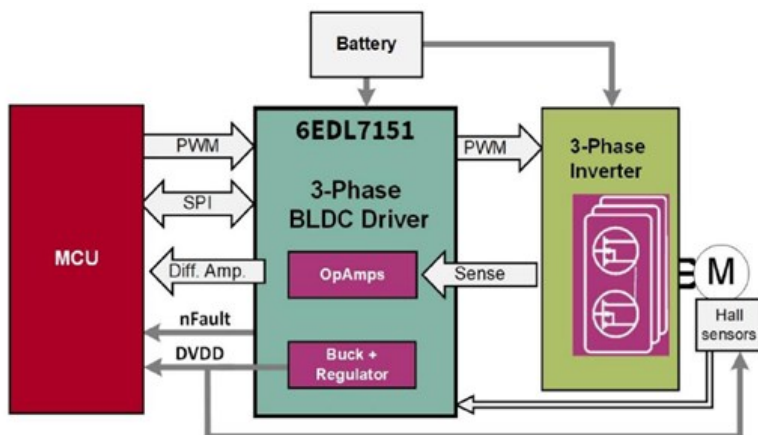
### Target applications

- > Battery-powered power tools and gardening tools
- > Robotic lawn mowers
- > E-bikes
- > RC toys, consumer drones and multicopters
- > Pumps and fans

### Product collaterals / Online support

[Board page](#)

### Block diagram:



Product overview incl. application notes link

OPN	SP Number
<a href="#">EVAL6EDL715136V1KWTOB01</a>	SP005876701

## Protocol analyzer tool CY4500-EPR EZ-PD™

CY4500-EPR EZ-PD™ Protocol analyzer tool records traffic passively on the configuration channel (CC) and allows users to analyze and debug USB power delivery communication. The analyzer supports extended power range (EPR) up to 48 V at 5 A. CY4500-EPR EZ-PD™ Protocol analyzer installer includes a free Windows-based GUI - EZ-PD™ analyzer utility (default). The GUI can be used to decode the USB-C PD messages.



### Features

- > GUI to decode msgs on CC line real-time
- > Decodes latest USB-PD spec messages
- > Graphical view of the CC lines
- > Graphical view of VBUS voltage & current
- > Debug headers for CC, VBUS and SBU
- > Firmware upgradable for future updates
- > Available on Windows, MacOS and Linux

### Benefits

- > Monitors PD traffic for debugging
- > Monitors VBUS voltage and current
- > Message ID based triggering

### Target applications

- > Protocol analyzer

### Product collaterals / Online support

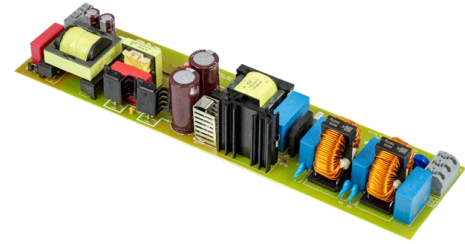
[Board page](#)

### Product overview incl. user manual link

OPN	SP Number
<a href="#">CY4500-EPR</a>	SP006071961

## Reference board REF\_ICL5102HV\_350W

Highly efficient, dimmable 350 W AC/DC LED driver reference board, demonstrating the performance of the ICL5102HV, an advanced 980 V resonant halfbridge controller IC with an integrated PFC stage. It is designed for LED driver applications such as horticulture and fishing lighting, street lighting, and parking space lighting where high AC input voltage systems are commonly used.



### Features

- > High-efficiency w/resonant LCC topology
- > Wide output voltage range
- > Analog dimming for precise  $I_{out}$  control
- > AC input voltage capability up to 980 V
- > Robust Design with CoolMOS™ PFD7 950 V

### Benefits

- > Increased overall system efficiency
- > Enhanced flexibility w/ analog dimming
- > Increased reliability
- > Simplified design with LCC Design Tool
- > Cost-effective with single-sided PCB

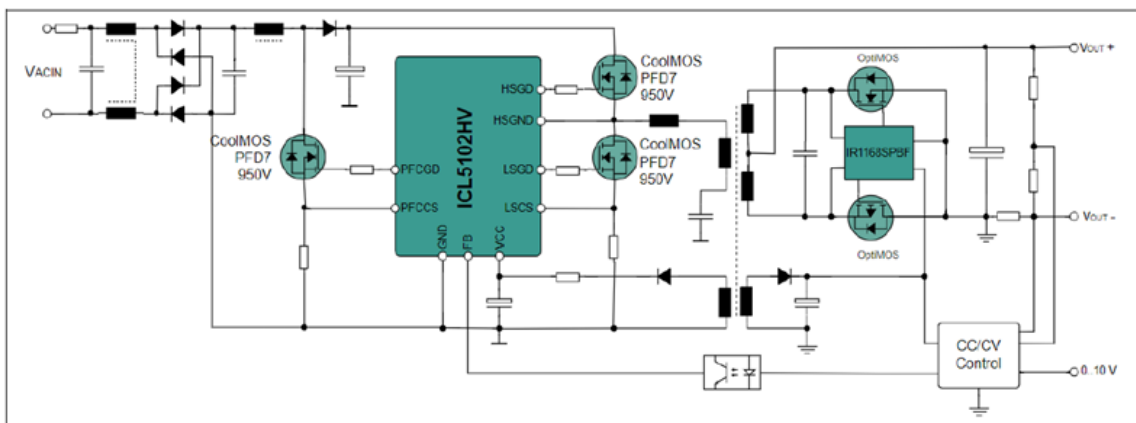
### Target applications

- > Lighting ICs
- > LED Driver

### Product collaterals / Online support

[Board page](#)

### Block diagram:

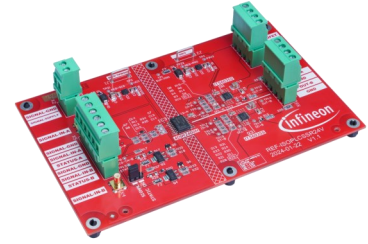


Product overview incl. application notes link

OPN	SP Number
<a href="#">REFICL5102HV350WTOBO1</a>	SP006094105

## Reference board REF-ISOPLCSSR24V

The board combines two Infineon ProFET™ ITS6035S with a digital Isolator 4DIR2400H for two 24 V digital outputs with a current capability up to 4 A DC. The reference board supports two high-side power switches with integrated diagnosis and withstands up to 5700 V<sub>rms</sub> isolation voltage suitable for safety isolation.



### Features

- > 2-channel high-side switch module for up to 4.5 A output current each
- > User adjustable current limitation
- > Short-circuit / overcurrent protection
- > Integrated Overtemperature protection
- > Synchronized discharge functionality
- > Input / output reinforced galvanic isolation

### Benefits

- > Enhanced safety through galvanic isolation and protected high side outputs
- > Precise current monitoring and control
- > Versatile input voltage options

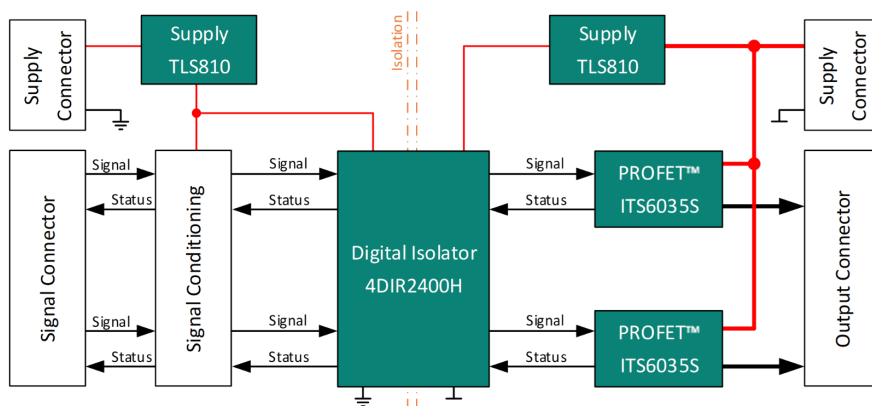
### Target applications

- > Industrial

### Product collaterals / Online support

[Board page](#)

### Block diagram:



### Product overview incl. user manual link

OPN	SP Number
<a href="#">REFISOPLCSSR24VTOB01</a>	SP006045318

## XENSIV™ DRILL TRIGGER V2

The DrillTriggerV2 includes a pre-mounted magnet and two feathers. All 3D magnetic sensor 2GO kits fit on this add on component. The add on enables linear movements and direction selection, similar as HMI interface on power tools. It can be used in versatile applications such e.g. vacuum cleaner, power drill, etc.



### Features

- > For all 3D sensor 2GO kits
- > Use case:
  - > Control trigger for e.g. power drill
  - > Multidimensional measurement
  - > Linear trigger and direction selection
  - > Magnet included
  - > Add on component adapter

### Benefits

- > Reduce amount of components
- > Increase functionality

### Target applications

- > Industrial
- > Consumer

Product collaterals / Online support

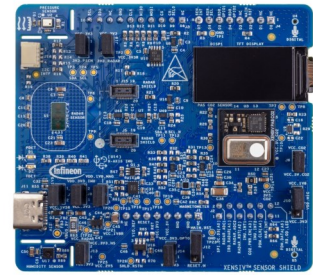
[Board page](#)

Product overview incl. user manual link

OPN	SP Number
<a href="#">DRILLTRIGGERV2TOBO1</a>	SP006066136

# XENSIV™ Sensor Shield

Elevate your IoT development with the XENSIV™ Sensor Shield, offering a robust array of sensors for precise data collection. This shield is a powerhouse of sensor technology, featuring a 60 GHz radar, disruptive CO2 sensor based on photoacoustic spectroscopy, temperature, humidity, pressure, and motion sensors, MEMS microphones, and a high-contrast TFT display, connecting to PSoC™ microcontroller kits and the CYW20829 via the Arduino Uno header.



## Features

- > Full suite of XENSIV™ sensor technology including the 60 GHz radar sensor, CO2 sensor, pressure, temperature and humidity sensor
- > Two XENSIV™ MEMS digital microphones
- > OPTIGA™ Trust M security solution
- > SPI-based TFT display
- > Headers compatible with Arduino UNO R3
- > ModusToolbox™ support with integrated device drivers and code examples

## Target applications

- > Home Entertainment
- > Air Conditioner and HVAC
- > Home Appliances
- > Security Systems

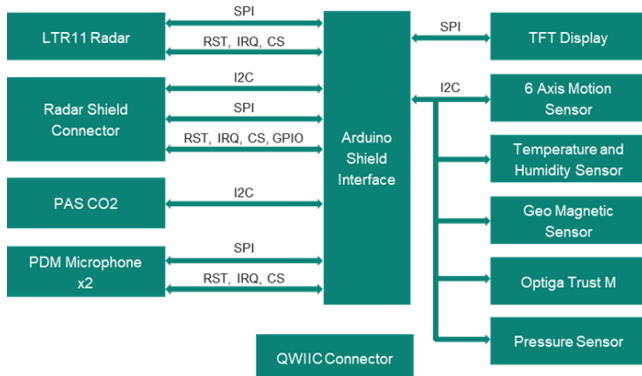
## Product collaterals / Online support

[Board page SHIELD\\_XENSIV\\_A](#)

[Board page CYW920829M2EVK-02](#)

[Board page CY8CKIT-062S2-43012](#)

## Block diagram:



## Product overview incl. user manual link

OPN	SP Number
<a href="#">SHIELDXENSIVA</a>	SP006018677
<a href="#">CYW920829M2EVK-02</a>	SP005962701
<a href="#">CY8CKIT-062S2-43012</a>	SP005670449

## Benefits

- > Plug and play connection to MCU kits
- > Precise data from diverse sensors
- > Crystal-clear audio input
- > Advanced presence detection
- > Reliable humidity and temperature tracking
- > User-friendly development environment

## Competitive advantage

- > Comprehensive Sensor Kit: equipped with a 60 GHz radar, CO2 sensor, temperature, humidity, pressure sensors, MEMS microphones, and a TFT display, the XENSIV™ Sensor Shield offers a robust array of sensors for precise and diverse data collection in IoT applications
- > Seamless integration: initial support for the PSoC™ 6 kit (CY8CKIT-062S2-43012) and the CYW20829 Bluetooth® kit (CYW920829M2EVK-02) via Arduino Uno connector
- > Enhanced security features: Incorporates the OPTIGA™ Trust M security solution, providing advanced security measures to safeguard data and ensure reliable operation in various environments
- > User-friendly development tools: fully supported by ModusToolbox™ software with integrated device drivers, the kit offers a streamlined development experience, enabling quick and efficient sensor integration and application development. Additionally, it supports tools like Deepcraft for developing machine learning algorithms and leveraging ready-made models, enhancing its capabilities for AI-driven applications
- > Versatile application range: ideal for a wide range of applications including home entertainment, HVAC systems, home appliances and security systems, making it a flexible and valuable tool for diverse IoT projects