New Product Introduction

September 2024

CoolSiC™ MOSFET 400 V Generation 2

CoolSiC™ Schottky diode 2000 V G5 IDYHxxG200C5

OptiMOS™ 6 power MOSFET 150 V

StrongIRFET™ 2 30 V in TO-220

AQG324 qualified EasyPACK™ with CoolMOS™ for on-board chargers

HybridPACK™ Drive G2 FS520R12A8P1LB

OptiMOS™ 7 power MOSFETs 15 V in PQFN 2x2

Introducing five new additions to the TRENCHSTOP™ IGBT7 family

150 V single N-channel OptiMOS™ 5 MOSFET in DirectFET™ package

CoolSiC™ MOSFET 650 V G2, 7 mΩ in TO247 and TO247-4 pin

Dualband GPS LNA BGA535N6

XENSIV™ PAS CO2 5 V sensor

XENSIV™ – TLE49SRx3 magnetic angle sensors

EZ-PD™ PAG2-PD USB-C PD controller

OPTIGA™ Authenticate NBT Dev Kit and Dev Shield

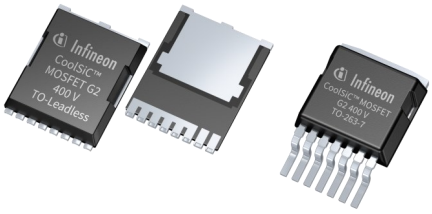
Reference board REF_1KW_PSU_5G_GAN

Reference board REF_SSCB_AC_DC_1PH_16A

Evaluation boards EVAL_TDA38806_1.8VOUT, EVAL_TDA38806_3.3VOUT,

Evaluation board EVAL_1K6W_PSU_CFD7_QD

CoolSiC™ MOSFET 400 V Generation 2



The CoolSiC™ MOSFET 400 V G2 combines high robustness with ultra-low switching losses and on-state resistance, whilst offering system cost improvements. The 400 V SiC MOSFET delivers an outstanding level of power density and system efficiency in 2- and 3-level hard- and soft-switching topologies and targets power conversion in AI Server PSU, SMPS, motor control, renewables and energy storage, and Class-D amplifiers.

Features

- Better FOMs compared to 650 V SiC MOSFETs
- Fast commutation robust diode with low Q_{fr}
- Low $R_{DS(on)}$ temperature dependency
- Gate threshold voltage, $V_{GS(th)}$ = 4.5 V
- Support for unipolar driving (V_{GSoff}=0)
- 100% avalanche tested
- High controllability of switching speed
- Low overshoot during high dV / dt operation
- .XT interconnection technology
- Best-in-class thermal performance

Competitive advantage

- Enabling the adoption of innovative topologies (e.g. 3L PFC, ANPC)
- Ron x A reduction and FoM improvement compared to HV SiC MOSFETs, flat $R_{DS(on)}$ vs T_j curve with minimal increase at 100°C
- Low Q_{gd}, $Q_{o,ss}$ Q_{fr}, E_{oss}
- High slew rate control, C_{oss} linearity and low Q_{fr}
- 0 V - 18 V gate-driving voltage enabled by a high $V_{th,}$typ = 4.5 V, and a low Miller ratio to mitigate C_{gd} / V_{ds} / dt induced parasitic turn-on

Benefits

- High system efficiency
- High power density designs
- High design robustness
- Reduced EMI filtering
- Use in hard-switching topologies

Target applications

- AI Server PSU
- SMPS
- Motor control
- Light electric vehicles
- Forklift
- eAviation
- Solid-state circuit breaker
- Solar
- Energy storage
- Class-D amplifiers.

Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IMBG40R011M2HXTMA1	SP005976260	PG-TO263-7
IMBG40R015M2HXTMA1	SP006064660	PG-TO263-7
IMBG40R025M2HXTMA1	SP006064661	PG-TO263-7
IMBG40R036M2HXTMA1	SP006064679	PG-TO263-7
IMBG40R045M2HXTMA1	SP006064680	PG-TO263-7
IMT40R011M2HXTMA1	SP005915790	PG-HSOF-8
IMT40R015M2HXTMA1	SP005915784	PG-HSOF-8
IMT40R025M2HXTMA1	SP005976266	PG-HSOF-8
IMT40R036M2HXTMA1	SP005976275	PG-HSOF-8
IMT40R045M2HXTMA1	SP005915787	PG-HSOF-8

CoolSiC™ Schottky diode 2000 V G5 IDYHxxG200C5

The CoolSiC™ Schottky diode 2000 V G5 family enables higher efficiency and design simplification in high DC link systems up to 1500 V_{DC}. The diode offers first-class thermal performance thanks to the .XT interconnection technology and is highly resistant to humidity. It is 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

Competitive advantage

- First discrete SiC diode in the market with blocking voltage up to 2000 V
- Sufficient over-voltage margin for 1500 V_{DC} system compared to 1700 V SiC diodes
- Innovative TO-247 package with high creepage and clearance

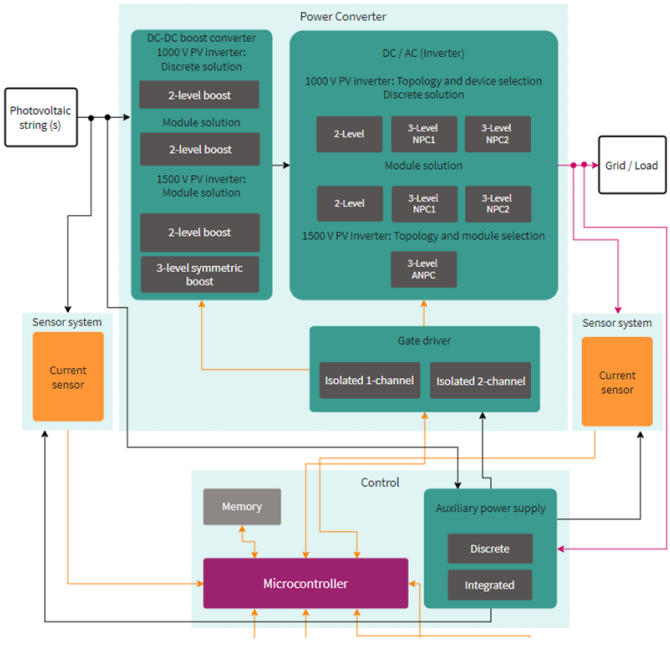
Benefits

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

Target applications

- String inverter
- EV-charging

Block diagram: 3-phase string inverter solutions



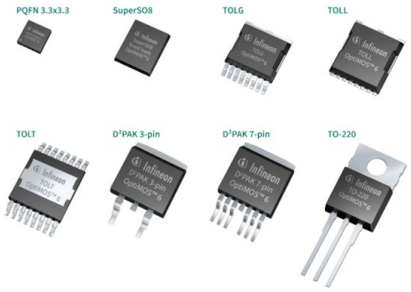
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IDYH10G200C5XKSA1	SP005716863	PG-TO247-4
IDYH25G200C5XKSA1	SP005716865	PG-TO247-4
IDYH40G200C5XKSA1	SP005716867	PG-TO247-4
IDYH50G200C5XKSA1	SP005716869	PG-TO247-4
IDYH80G200C5XKSA1	SP005716872	PG-TO247-4

OptiMOS™ 6 power MOSFET 150 V



The new OptiMOS™ 6 150 V technology was designed to fulfill the requirements of various applications, from telecom and server SMPS to eForklifts and LEVs, as well as solar optimizers and high-power USB chargers.

With industry's lowest $R_{DS(on)}$ improved switching performance and excellent EMI behavior, OptiMOS™ 6 150 V enables unparalleled efficiency, power density and reliability with significant improvements versus its predecessor OptiMOS™ 5.

Features

- $R_{DS(on)}$ up to 41% lower than OptiMOS™ 5
- FOM_g 20% lower than OptiMOS™ 5
- FOM_{dg} 17% lower than OptiMOS™ 5
- Industry's lowest Q_{rr} in 150 V
- Improved diode softness vs OptiMOS™ 5
- Tight $V_{gs(th)}$ spread of +/-500 mV
- High avalanche ruggedness
- Max T_j of 175°C and MSL1

Benefits

- Low conduction and switching losses, in hard and soft switching
- Stable operation with improved EMI, less overshoot
- Improved current sharing when paralleling
- Enhanced robustness
- Longer lifetime and improved system reliability

Competitive advantage

- Price-performance leader, targeting both drives and SMPS applications
- Unmatched performance, with best-in-class $R_{DS(on)}$ and FOMQ
- Integrated fast body diode for industry's lowest Q_{rr} and improved diode softness
- Tight $V_{gs(th)}$ spread of +/- 500 mV for improved paralleling capability

Target applications

- Light electric vehicles (LEV)
- eForklifts
- Telecom SMPS
- Server SMPS
- Industrial SMPS
- Solar
- USB-PD adapters and chargers
- Power and gardening tools

Product collaterals / Online support

Pruduct family page

Product overview incl. datasheet link

OPN	SP Number	Package
ISC044N15NM6ATMA1	SP005918376	PG-TSON-8
ISC055N15NM6ATMA1	SP005918373	PG-TDSON-8
ISC079N15NM6ATMA1	SP005966197	PG-TDSON-8
ISZ173N15NM6ATMA1	SP005918361	PG-TSDSON-8
IPB029N15NM6ATMA1	SP005924362	PG-TO263-3
IPF026N15NM6ATMA1	SP005918345	PG-TO263-7
IPP029N15NM6AKSA1	SP005924358	PG-TO220-3
IPP089N15NM6AKSA1	SP005918351	PG-TO220-3
IPT025N15NM6ATMA1	SP005918381	PG-HSOF-8
IPTG025N15NM6ATMA1	SP005918355	PG-HSOG-8
IPTC025N15NM6ATMA1	SP005918358	PG-HDSOP-16

StrongIRFET™ 2 30 V in TO-220

Unveiling the newest portfolio of StrongIRFET™ 2 products in 30 V, tailored to fit a wide range of applications such as power management (SMPS), adapters, motor drives, battery management, power tools & gardening tools as well as all other consumer applications which are using 30 V MOSFETs.

This new portfolio offers excellent robustness and price/performance ratio, providing up to 40% $R_{DS(on)}$ improvement and up to 60% lower FOM_{Qg} compared to the previous StrongIRFET™ 30 V technology.

The broad availability of this standard TO-220 package portfolio at distribution partners, enables an easy design-in and convenient selection and purchasing.

The StrongIRFET™ 2 is following a multi-source strategy, ensuring the highest manufacturing and supply standards in the core and mass market.

Features

- General purpose products
- Excellent robustness and price/performance ratio
- Broad availability at distribution partners
- Standard packages and pin-out
- Highest manufacturing and supply standards

Benefits

- Addressing a broad range of applications
- High quality and competitive price
- Convenient selection and purchasing
- Ease of design-in
- Simplified product services

Competitive advantage

- Right-fit products, flexible use
- High reliability and reduced system costs
- Multiple sources, short lead time
- Drop-in replacement for multiple design
- Reliable delivery and supply security

Target applications

- Drives
- Power tools
- Gardening tools
- BMS
- Adapter
- Multicopter
- Industrial SMPS
- Consumer

Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IPP011N03LF2SAKSA1	SP005749228	PG-TO220-3
IPP018N03LF2SAKSA1	SP005860603	PG-TO220-3
IPP020N03LF2SAKSA1	SP005859379	PG-TO220-3
IPP023N03LF2SAKSA1	SP005901735	PG-TO220-3
IPP033N03LF2SAKSA1	SP005881792	PG-TO220-3
IPP044N03LF2SAKSA1	SP005860583	PG-TO220-3
IPP050N03LF2SAKSA1	SP005859627	PG-TO220-3

AQG324 qualified EasyPACK™ with CoolMOS™ for on-board chargers

AQG324 qualified EasyPACK™ incorporates the latest features of CoolMOS™ CFD7A 650 V and an integrated DC-snubber which is a perfect fit for a cost-performance combination for on-board chargers and EV-Aux applications.

Features

- Highly reliable press-fit pins
- Pre-applied thermal interface material (optional)
- Enables compact design
- Integration of SMD possible

Benefits

- Very good pin-PCB connection
- Better thermal performance
- Reduced assembly efforts
- Higher degree of freedom in terms of design
- Less device paralleling

Target applications

- On-board charger

Competitive advantage

- Flexible pinout design possible
- Enables system cost reduction
- Enables compact design

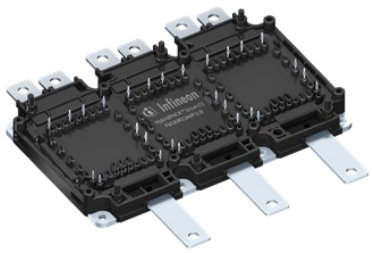
Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
F435MR07W1D7S8B11ABPSA1	SP005537983	AG-EASY1B-9021

HybridPACK™ Drive G2 FS520R12A8P1LB



The FS520R12A8P1LB is a very compact six-pack power module (1200 V / 520 A) with enhanced package optimized for hybrid and electric vehicles.

The power module implements Infineon's next generation IGBT chip technology 1200 V, optimized for electric drive train applications, from mid- to high-range automotive power classes.

Features

- > V_{CES} = 1200 V, I_{CN} = 520 A
- > Low $V_{CE(sat)}$ and switching losses
- > Low Q_g and C_{rss}
- > Low inductive design
- > T_{vj},op = 175°C
- > On-chip temperature sensor
- > 4.2 kV DC insulation
- > High creepage and clearance
- > Compact and high power density
- > Direct-cooled PinFin
- > PressFIT contact technology
- > RoHS compliant and UL 94 V0

Benefits

- > Higher temperature cycling capability
- > Integrated diode temperature sensors
- > New plastic material
- > Better temperature capability
- > New frame design for lower system BOM
- > Lower AC contact resistance and tab temp

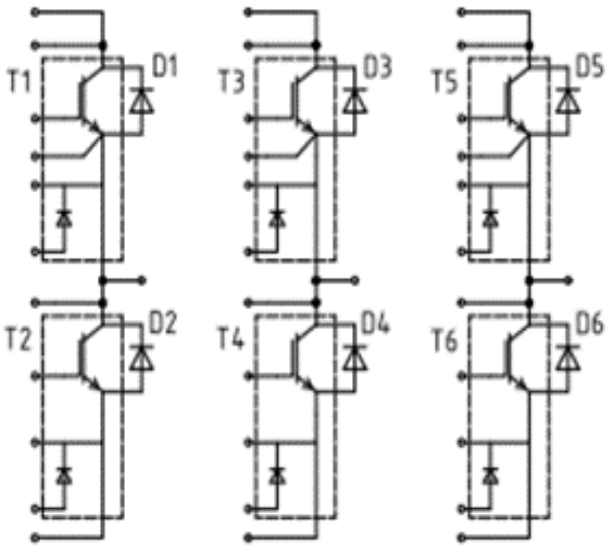
Competitive advantage

- > Enable scalable inverter platform development
- > Superior gate oxide and cosmic ray reliability
- > Improved thermal conductivity
- > High robustness over entire temperature range
- > Increased durability especially in harsh environment

Target applications

- > Automotive applications
- > (Hybrid) electrical vehicles (H)EV

Block diagram:



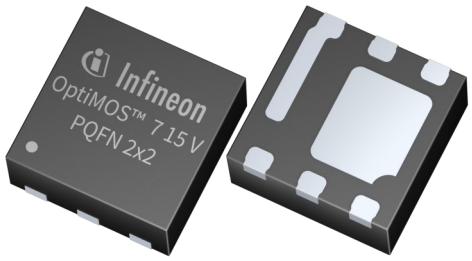
Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
FS520R12A8P1LBHPSA1	SP005850366	AG-HDG2XT-7611

OptiMOS™ 7 power MOSFETs 15 V in PQFN 2x2



Infineon introduces the first 15 V trench power MOSFETs in the industry utilizing the brand-new OptiMOS™ 7 technology. Compared to the proven OptiMOS™ 5 25 V, the lowered breakdown voltage leads to an impressive reduction in $R_{DS(on)}$ and FOM_{Qg} (Figure of Merit) by ~30%, and ~40% for FOM_{QOSS}. The reduced conduction- and switching losses in combination with cutting-edge packaging technology make thermal management easy, pushing power density and efficiency to the next level.

ISK018NE1LM7 in PQFN 2x2 package is part of the first 15 V rated trench power MOSFETs portfolio in the industry, featuring very low $R_{DS(on)}$ of 2.15 m Ω while offering a pulsed current capability of more than 500 A, with a typical thermal resistance junction to case-bottom (R_{thJC}) of 1.6 K/W. The small 4 mm² footprint package enables significant space saving with PCB layout flexibility while having form factor improvement.

Features

- New 15 V trench power MOSFET technology
- $R_{DS(on)}$ of 2.15 mΩ
- Q_g of 9 nC, Q_{OSS} of 8,9 nC
- Ultra-low package parasitics
- Small package outline

Benefits

- Top fit in high-ratio DC-DC conversion
- Reduced conduction losses
- High efficiency
- Best switching performance
- Enables significant space saving

Competitive advantage

- First 15 V trench power MOSFETs on the market
- System form factor reduction for highest power density
- Best fit solution in next generation power distribution architecture in data centers
- Easy thermal management. Reduced system temperature
- Different footprints for highest PCB design flexibility
- Outstanding $R_{DS(on)}$ and FOM_{Qg} / FOM_{QOSS}
- Easy design-in. Supports fast time to market
- Higher system efficiency and performance

Target applications

- SMPS
- Server
- Datacom
- Artificial Intelligence

Product collaterals / Online support

Product page ISK018NE1LM7

Product overview incl. datasheet link

OPN	SP Number	Package
ISK018NE1LM7ATSA1	SP006063889	PG-VSON-6

Introducing five new additions to the TRENCHSTOP™ IGBT7 family

These new 1200 V rated IGBT7 S7 devices in D2PAK and DPAK packages (TO263-3 and TO252-3) offer current rating products from 3 A to 5 A. Ideal for replacing Siemens SG*N120 series in older designs, providing a compatible upgrade.**

Features

- V_{CE} = 1200 V
- I_C = 3 A
- Low saturation voltage V_{CEsat} = 2 V at T_{vj} = 150°C
- Short circuit ruggedness 8 µs
- Wide range of dv/dt controllability

Benefits

- Compact design: ideal for high-voltage auxiliary supplies due to 1200 V rating in D²PAK / DPAK packages
- Ease of use: modern trench technology simplifies implementation
- Reduced EMI: enables smoother operation and minimizes electromagnetic interference

Competitive advantage

- Unique performance: fills a gap in the market, offering 1200 V, 3 A - 5 A in D²PAK / DPAK packages
- Reliable supply: one virtual fab concept across two locations ensures consistent production from our newest 300 mm chip factory

Target applications

- Industrial drives
- Auxiliary industrial drives
- Industrial SMPS

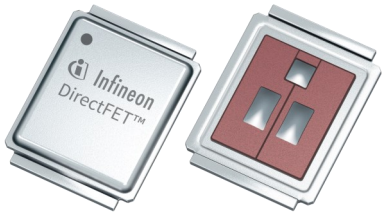
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IGB03N120S7ATMA1	SP005753189	PG-TO263-3
IGB08N120S7ATMA1	SP005403471	PG-TO263-3
IGB15N120S7ATMA1	SP005753191	PG-TO263-3
IGD03N120S7ATMA1	SP005851336	PG-TO252-3
IGD08N120S7ATMA1	SP005351169	PG-TO252-3

150 V single N-channel OptiMOS™ 5 MOSFET in DirectFET™ package



The IRF150DM115 is available in a DirectFET™ package with OptiMOS™ 5. The double-side-cooled package with low parasitic inductance and profile design enables high power density designs.

Developed for customers looking to optimise their thermal design to get the highest power density and efficiency. Targeting power conversion in photovoltiac optimisers, cordless power tools and motor control.

Features

- Double-side-cooled package
- Low parasitic inductance
- Low profile design
- High current capability
- 100% lead-free (no RoHS exemption)

Benefits

- Enables designs with high power density
- High efficiency
- Minimized EMI
- Optimized thermals
- Board space reduction.
- Less device paralleling

Target applications

- Solar micro inverter
- Synchronous rectification
- DC-DC converter

Competitive advantage

- Developed for customers looking to optimize their thermal design to get the highest power density and efficiency

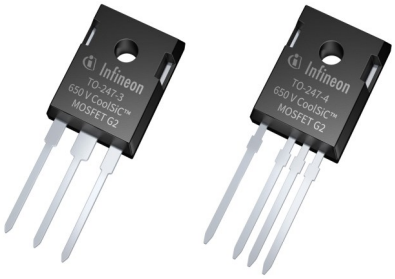
Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
IRF150DM115XTMA1	SP001511080	DIRECTFET

CoolSiC™ MOSFET 650 V G2, 7 mΩ in TO247 and TO247-4 pin



The CoolSiC™ MOSFET 650 V G2, 7 mΩ in TO-247 and TO-247-4 pin package builds on the strengths of Generation 1 technology and enables the accelerated system design of more cost optimized, efficient, compact, and reliable solutions. The CoolSiC™ MOSFET Generation 2 comes with significant improvements in key figures-of-merit for both, hard-switching operation and soft-switching topologies, suitable for all common combinations of AC-DC, DC-DC, and DC-AC stages.

Features

- Excellent figures of merit (FOMs)
- Single-digit $R_{DS(on)}$
- High robustness and overall quality
- Flexible driving voltage range
- Support for unipolar driving, $V_{GS(off)} = 0$
- Best immunity against turn-on effects
- Improved package interconnect with .XT

Benefits

- Enables BOM savings
- Maximizes the system performance per $
- Highest reliability
- Enables top efficiency and power density
- Ease-of-use
- Full compatibility with existing vendors
- Allows designs without fan or heatsink

Target applications

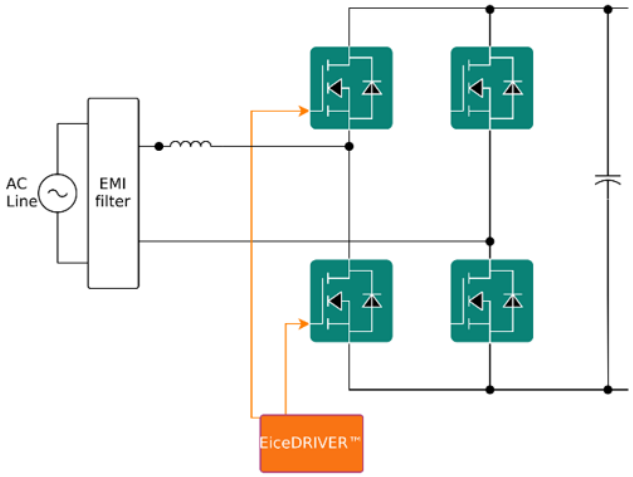
- Switched mode power supplies (SMPS)
- Solar PV inverters
- Energy storage systems
- UPS
- EV charging
- Motor drives

Competitive advantage

- Very low switching losses
- Benchmark gate threshold voltage, $V_{GS(th)} = 4.5$ V
- Robust against parasitic turn-on, 0 V turn-off gate voltage can be applied
- Flexible driving voltage and compatibility with bipolar driving
- Robust body diode for hard commutation
- .XT interconnection technology for best-in-class thermal performance

Block diagram:

CCM Totem Pole PFC



Product collaterals / Online support

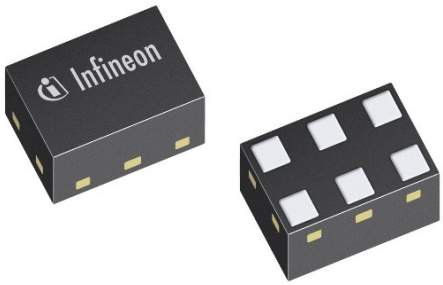
Product page IMW65R007M2H

Product page IMZA65R007M2H

Product overview incl. datasheet link

OPN	SP Number	Package
IMW65R007M2HXKSA1	SP005917209	PG-TO247-3
IMZA65R007M2HXKSA1	SP005917214	PG-TO247-4

Dualband GPS LNA BGA535N6



BGA535N6 enhances GNSS signal sensitivity for band L1 / L2 / L5 especially in wearables and industrial applications. It offers 2 different operating modes: low power mode or standard mode.

The broadband design provides best sensitivity for GNSS signals within 1164 MHz to 1615 MHz with the same matching. Simplified dual-band GNSS system designs with one RF-path are enabled by BGA535N6.

It operates in extended temperature range of -40°C to 105 °C.

Features

- Operation frequencies 1164 MHz to 1615 MHz
- Multiple-operating modes for different applications
- Current consumption down to 1.5 mA
- Wide supply voltage range 1.1 V to 3.3 V
- High insertion power Gain up to 21 dB
- Low noise figure down to 0.7 dB
- 2 kV HBM ESD protection (including AI pin)
- Broadband design allows simultaneous operation of L1, L2, L5

Benefits

- Dual-band improves GPS accuracy into cm range (~30 cm)
- Improves GPS for indoor navigation
- 1.2 V support

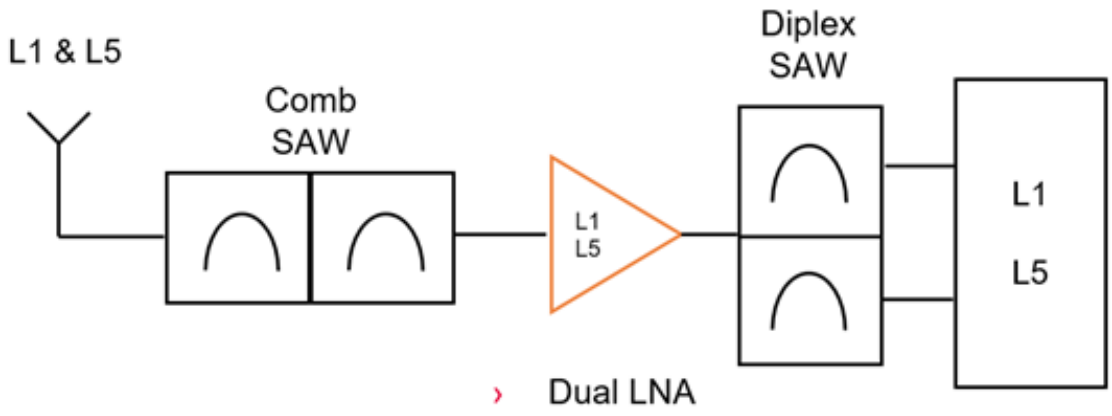
Target applications

- Automotive
- IoT applications
- Mobile cellular TRx path (4G, 5G)
- Wearables

Product collaterals / Online support

Product page

Block diagram:



Product overview incl. datasheet link

OPN	SP Number	Package
BGA535N6E6327XTSA1	SP006038300	PG-TSNP-6

XENSIV™ PAS CO2 5 V sensor

Infineon has leveraged its know-how and state-of-the-art capabilities in sensors and MEMS technology to develop a 5 V disruptive carbon dioxide (CO2) sensor based on the photoacoustic spectroscopy (PAS) principle. The XENSIV™ PAS CO2 5 V sensor overcomes size, performance and assembly limitations of conventional CO2 sensors. Its compact design and high-quality data support demand-controlled ventilation and higher operating efficiency of HVAC devices, meeting the WELL™ Building Standard's performance requirements.

Features

- Miniaturized form factor (14 x 13.8 x 7.5 mm³)
- 5 V power supply (IR emitter)
- ±50 ppm ±5% accuracy between 400 and 3000 ppm
- UART, I²C, PWM interfaces
- Dust-proof design in compliance with ISO 20653:2013-02
- RoHs compliant and halogen-free
- Maintenance-free when using ABOC feature (Automatic Baseline Offset Correction)

Benefits

- Space savings into a wide range of applications
- Compatible with standard power sources ensuring simplified integration
- High quality data, robust performance and long-term stability
- Increased HVAC operating efficiency
- Fulfilment of WELL™ Building Standard
- Seamless integration with various systems and devices
- Enhanced durability and maintenance-free operation

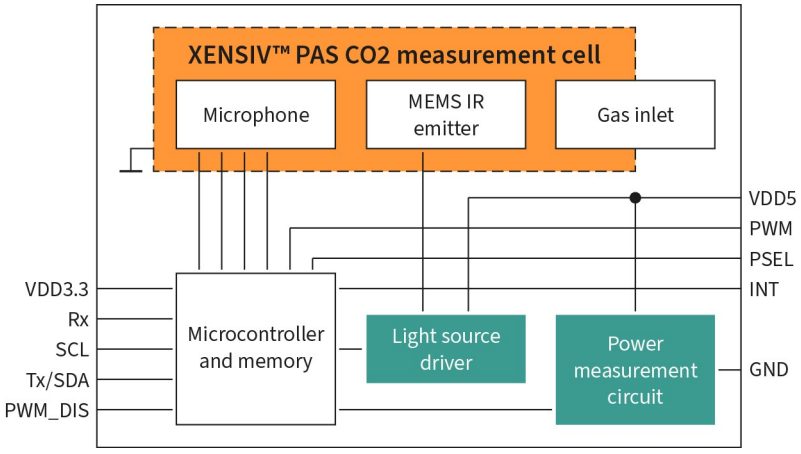
Target applications

- Heating, Ventilation and Air Conditioning (HVAC)
- Air quality monitoring devices
- Air exchangers
- Smart thermostats
- Smart lighting
- Smart fridge
- Smart horticulture

Competitive advantage

- Highly selective and real CO2 measurements
- Fulfilment of WELL™ Building Standard
- Compact size and cost effectiveness
- Robust performance in diverse applications
- Easy integration with IoT platforms and advanced data analytics systems

Block diagram:



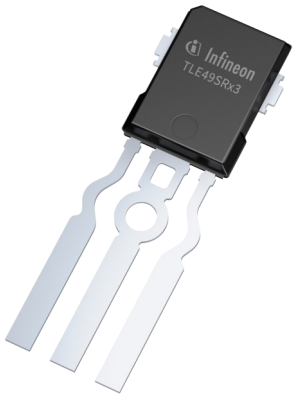
Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
PASCO2V15AUMA1	SP005862398	LG-MLGA-14

XENSIV™ – TLE49SRx3 magnetic angle sensors



The stray field robust magnetic angle sensor family from Infineon shows intrinsically an excellent stray field immunity. It provides the answer to EMI (electro-magnetic immunity) requirements of safety-critical automotive systems. The new family features high angle accuracy at very little error.

The second wave of the new XENSIV™ TLE49SR angle sensor family is coming in the SSO3-41 package featuring long leads and integrated capacitors. The XENSIV™ TLE49SR angle sensor variants are available with PWM, SENT, SPC and PSI 5 interfaces. The SSO3 package option is well suited for remote sensor applications such as chassis position sensor.

Features

- High stray field immunity
- Exceeding requirements EMC standards ISO11452-1:2015
- Magnetic field range of 20-90 mT offers highest flexibility
- Excellent angle performance, very low jitter, fast response time
- Developed in compliance with ISO 26262 as safety element out of context
- Fulfills ASIL C metric (Automotive Safety Integrity Level) on component level
- Available communication interfaces
- Pulse width modulation (PMW)
- Single edge nibble transmission (SENT)
- Short PWM code (SPC)
- Peripheral Sensor Interface 5 (PSI5)

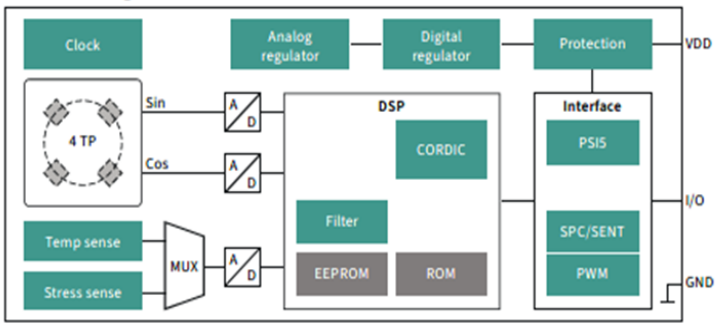
Benefits

- Exceeding ISO 11452-8, stray field robust up to 8 mT
- Look-up table for correction of systematic angle errors
- Very low jitter delay ±1 µs, very fast response time 9.8 µs ~ 26 ms (configurable)
- ISO 26262 development compliant process enable functional safe design
- EEPROM for storage of configuration (e.g. zero angle) and customer specific ID
- Frame holder mechanism of SPC-interface enables synchronous data acquisition with other sensors

Competitive advantage

- Exceeds ISO 11452-8, stray field robust up to 8 mT
- Accuracy of less than 0.5° angle error
- Look up table helps compensate angle errors
- Complies to ISO 26262 as SEooC (ASIL C)
- 3-pin-package includes buffer capacitors

Block diagram:



Target applications

- Torque angle sensor (TAS) for electric power steering
- Steering angle sensor (SAS) for electric power steering
- Pedal position sensor
- Chassis height leveling sensor
- Throttle position sensor

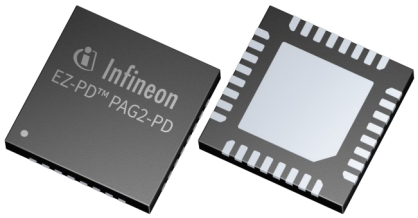
Product overview incl. datasheet link

OPN	SP Number	Package
TLE49SRC3XTMA1	SP005398941	PG-SSO-3
TLE49SRI3XTMA1	SP005398935	PG-SSO-3
TLE49SRP3XTMA1	SP005398937	PG-SSO-3
TLE49SRS3XTMA1	SP005398939	PG-SSO-3

Product collaterals / Online support

Product family page

EZ-PD™ PAG2-PD USB-C PD controller



EZ-PD™ PAG2-PD is a highly integrated USB-C PD controller that complies with the latest USB type-C and PD standards and is designed for power adapters and chargers. It offers a significant BOM advantage by integrating all type-C port termination resistors, 34 V - tolerant regulators, a high voltage VBUS NFET gate driver, VBUS fault protections, VBUS to CC short protection, and an integrated feedback circuitry for voltage (VBUS) regulation.

Features

- Supports USB-C PD3.2 SPR and 28V EPR
- Supports QC5.0, Apple 2.4A, AFC, BC 1.2
- Support optocoupler feedback
- Independent CC/CV compensation
- Integrated NFET VBUS gate driver
- Integrated 34 V LDO
- Integrated low-side CSA
- Integrate VC_{ONN} switch
- OVP, UVP, OCP, SCP, and OTP protections
- CC-VBUS short protection
- Support firmware upgrade over CC lines
- 32-QFN package, tray

Benefits

- Meet the latest USB-C PD specification
- Highly integrated PD controller
- Support field firmware upgrade
- Software development kit supported

Target applications

- Chargers and adapters
- Wall outlet
- PD chargers
- Infotainment chargers

Product collaterals / Online support

Product page

Product overview incl. datasheet link

OPN	SP Number	Package
CYPAS2174A132LQXQXQLA1	SP006059035	PG-VQFN-32
CYPAS2174A132LQXQTXUMA1	SP006059037	PG-VQFN-32

OPTIGA™ Authenticate NBT Dev Kit and Dev Shield

The OPTIGA™ Authenticate NBT Dev Kit and OPTIGA™ Authenticate NBT Dev Shield are both available for a quick and easy evaluation of OPTIGA™ Authenticate NBT.

The kit simplifies the development of custom applications using PSoC™ host MCUs based on the reference applications. After detaching the adapter board, the shield may also be used separately for evaluation and application development using MCU boards other than PSoC™. The shield's default adapter enables easy attachment to Arduino UNO-compatible MCU boards.

Features

- Detachable shield sections
- Default pre-tuned Class 5 antenna
- Bundled pre-tuned Class 6 antenna
- Antenna matching guide
- Adopt, build and execute use cases
- Fully supported NFC Type 4 tag

Benefits

- Accelerated application development
- Class 5 and Class 6 PCB antenna
- Highly customizable shield design
- Easy integration with different MCU
- Host libraries in C, Java and Swift

Competitive advantage

- Better hardware security
- Powerful combination of NFC contactless speed and I²C interface with 3 different speed modes
- Bridge tags come in a tiny package, saving space and offers BOM optimization
- Long term trustworthy sourcing

Target applications

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

Product collaterals / Online support

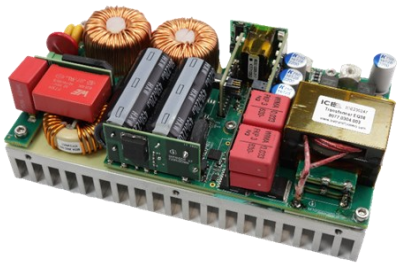
Board page OPTIGA™ AUTH NBT KIT

Board page OPTIGA™ AUTH NBT SHIELD

Product overview incl. user manual link

OPN	SP Number
NBT2000A8K0T4KITV1TOBO1	SP006048607
NBT2000A8K0T4SHLDV1TOBO1	SP006048609

Reference board REF_1KW_PSU_5G_GAN



The PSU comprises a front-end AC-DC bridgeless totem-pole PFC converter followed by a back-end DC-DC isolated half-bridge (HB) LLC converter. The front-end converter provides power factor correction (PFC) and control of the total harmonic distortion (THD). The LLC converter provides safety isolation and a tightly regulated output voltage at 12 V_{DC}.

Features

- CCM totem-pole PFC
- HB LLC
- Full digital control in both PFC & LLC
- Fan-less cooling

Benefits

- Ideal for outdoor edge computing SMPS
- Low profile
- High efficiency

Target applications

- AC-DC power conversion for telecom infrastructure
- Telecommunication infrastructure

Product collaterals / Online support

Board page

Product overview incl. application note link

OPN	SP Number
REF1KWPSU5GGANTOBO1	SP006020646

Reference board REF_SSCB_AC_DC_1PH_16A

The REF_SSCB_AC_DC_1PH_16A solid-state circuit breaker (SSCB) kit helps to quickly evaluate AC and DC-type circuit breakers with an interactive GUI. Fully featured with two boards, this kit supports 230 V_{AC} or 350 V_{DC} operation and 16 A nominal current. It can support different SSCB topologies like 1 P - N, 3 P - N (stacked, cascaded), L+ - L-. It supports passive cooling with non-isolated integrated coolers mounted over top-side cooling (TSC) MOSFET packages.

Features

- Bidirectional MOSFET switch
  - Actuation: ZVS, ZCS for AC version
- Mechanical series switch
  - Provides physical air gap
  - Zero current switching only
- Programmable protection schemes:
  - Overload
  - Overcurrent
- Measurements
  - DC version: I, U, P
  - AC version: I, U, P, Q, S, THDi, PF
- CoolMOS™ S7T SJ MOSFET with integrated temperature sensor / NTC interface
- Shunt based overcurrent detection
- Communication interfaces
  - CAN (isolated, frontside)
  - UART (isolated, backplane)
  - Inhibit IO

Target applications

- Industrial automation
- Solid-state circuit breaker

Benefits

- Supports 230 V_{AC} or 350 V_{DC} operation, 16 A
- Enables to evaluate AC and DC type circuit breakers
- Interactive GUI
- Supports various SSCB topologies like
- 1 P - N
- 3 P - N (stacked, cascaded)
- L+ - L-
- Non-isolated integrated coolers mounted over Q-DPAK top side cooled MOSFET packages to support passive cooling

Competitive advantage

- Rapid evaluation and prototyping with interactive GUI and versatile topologies
- Comprehensive measurement capabilities for AC and DC parameters
- Built-in protection mechanisms, including overload and overcurrent detection
- Efficient cooling solution with non-isolated integrated coolers and top-side cooling
- Cost-effective development with reduced time-to-market and design risk

Product collaterals / Online support

Board page

Product overview incl. application note link

OPN	SP Number
REFSSCBACDC1PH16ATOBO1	SP005982382

Evaluation boards EVAL_TDA38806_1.8VOUT, EVAL_TDA38806_3.3VOUT, EVAL_TDA38806_5VOUT and EVAL_TDA38807_1.8VOUT

EVAL_TDA38806_xxVOUT and EVAL_TDA38807_1.8VOUT demonstrate the capability of the compact, versatile, high performance, and easy-to-use TDA38806/7 point of load regulator, using a proprietary COT that delivers fast transient response required for demanding applications in server, AI, datacom, telecom and storage markets.

Features

- Wide input voltage
- No external compensation
- Support both FCCM and DEM mode
- Programmable F_{sw}
- Soft start
- Enhanced protection features

Benefits

- Support diverse end-applications
- Compact design
- No external components
- Efficiency at light / full load
- Robust design and reliability

Target applications

- Server
- Storage
- Telecom and datacom
- Distributed point of load power
- Data centers

Product collaterals / Online support

Board page EVAL_TDA38806_1.8VOUT

Board page EVAL_TDA38806_3.3VOUT

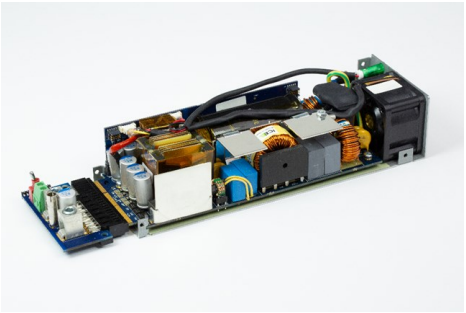
Board page EVAL_TDA38806_5VOUT

Board page EVAL_TDA38807_1.8VOUT

Product overview incl. user manual link

OPN	SP Number
EVALTDA3880618VOUTTOBO1	SP006007973
EVALTDA3880633VOUTTOBO1	SP006081476
EVALTDA388065VOUTTOBO1	SP006081477
EVALTDA3880718VOUTTOBO1	SP006007974

Evaluation board EVAL_1K6W_PSU_CFD7_QD



This Infineon evaluation board represents a complete system solution for a 1600 W server power supply (PSU) which achieves the 80Plus® Titanium® standard.

The power supply is composed of a continuous conduction mode (CCM) bridgeless power factor corrector (PFC) using a bi-directional switch and a half-bridge LLC DC-DC resonant converter.

Features

- Full system solution for 1600 W server PSU
- 80Plus® Titanium® standard
- High efficiency bridgeless PFC
- Digitally controlled by XMC™ µC
- Featuring top-side cooling Q-DPAK package

Benefits

- High power density of 44 W/in³
- High efficiency of >96% at 50% load
- Reduced heat dissipation

Target applications

- Industrial power supplies
- Server power supplies
- Switched mode power supplies (SMPS)

Product collaterals / Online support

Board page

Product overview incl. application note link

OPN	SP Number
EVAL1K6WPSUCFD7QDTOBO1	SP006056152