

Infineon Technologies New Products Introduction

Best of 2017



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Designed to evaluate the capabilities of the XMC4800 Microcontroller especially in EtherCAT® slave applications

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Improved efficiency and price performance

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Latest generation of quasi-resonant flyback controller and 700 V/ 800 V integrated MOSFET in both DIP and SMD package

EasyDUAL™ Halfbridge Topology with CoolSiC™ MOSFET

Enables higher frequency operation for reduction in system cost and shrink

DF11MR12W1M1_B11 & DF23MR12W1M1_B11

Easy 1B Booster Topology with CoolSiC™ MOSFET

OPTIGA™ Trust B SLE 95250

Best things come in small packages

BFP 196WN

Low noise silicon bipolar RF transistor

TLE9250SJ, TLE9250LE, TLE9250VSJ, TLE9250VLE, TLE9250XSJ, TLE9250XLE, TLE9251VSJ, TLE9251VLE

Automotive CAN Transceivers



Infineon offers the first 8-pin CAN FD 5Mbit/s transceiver family being fully compatible and tested according the new ISO 11898-2:2016 standard. Four different pinout variants do support an easy drop in transition of existing designs to the new and faster CAN FD. Additionally the four variants are also offered in tiny TSON-8 packages for applications, where a tight packaging envelope mandates the usage of the smallest package possible. The bus wake up capable TLE9251V is not only designed for the newly introduced ISO wake up behavior, but also fulfills both the NAFTA region and the European TxD filter time.

Status

- > The TLE925x 8-pin CAN FD 5Mbit/s transceiver family in DSO-8 package is in mass production. The TSON-8 package variants will ramp up by end of 2017. The TLE925x 8-pin transceiver family has passed the IBEE, UL and C&S conformance tests and is already approved by many OEMs

Features

- > First CAN FD transceiver fully compliant to ISO 11898-2:2016
- > Four different pinout variants being pin compatible to existing transceivers
- > Vio reference input on three variants for 3.3V / 5V μ C interfacing
- > CMOS level switching thresholds instead of TTL
- > Fulfills 1.8 μ s and 5 μ s wake filter time requirements
- > Lowest possible quiescent current in low power modes
- > Offered in standard DSO-8 and tiny TSON-8 package

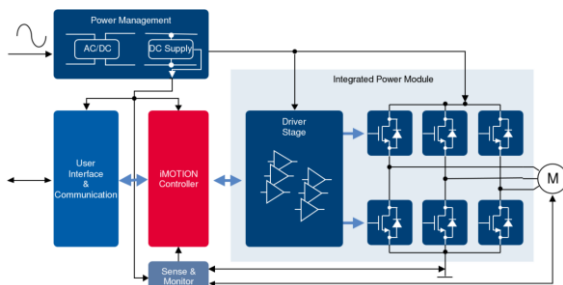
Target applications

- > Power Steering, Vehicle Stability Control, Braking, Chassis/Safety Domain Control, Airbag, Suspension, Radar, Lidar, Sensor Fusion Box, eCall, Telematics, Advanced Lighting, OTA (Over the air) Update Module, Body Control Module, Gateway, OTA Gateway, Seat Control Module, Door Control Module, HVAC Module, Light Control Module, Engine Management, Transmission Control, Battery Management, Starter-Generator, Transfer Case, H/E Vehicle Inverter, DC/DC Converter, ...

Competitive advantage

- > First fully compliant to ISO 11898-2:2016
- > Four different pinout variants
- > Vio pin
- > CMOS level switching thresholds
- > Fulfills both NAFTA region and the European TxD filter times
- > Lowest possible quiescent current in low power modes
- > Offered in standard DSO-8 and tiny TSON-8 package
- > Best in class EMC behavior

Block diagram



Product overview incl. datasheet link

OPN	SP Number	Package
TLE9250SJXUMA1	SP001358154	PG-DSO-8
TLE9250VSJXUMA1	SP001358156	PG-DSO-8
TLE9250XSJXUMA1	SP001358158	PG-DSO-8
TLE9251VSJXUMA1	SP001358162	PG-DSO-8

Available samples

- > Samples are available for all DSO-8 and TSON-8 variants

Benefits

- > Mandatory for future OEM approval
- > Easy drop in transition of existing designs towards CAN FD
- > Enables usage of either a 5V or 3.3V microcontroller interface
- > Resulting in best signal symmetry and therefore in best EMC behavior
- > Meeting the European and NAFTA OEM requirements
- > Meeting the tough ECU level quiescent current requirements
- > Tiny variants are the perfect fit for applications with small package envelope.

Application examples

- > The bus wake up functionality of the TLE9251VSJ and the TLE9251VLE fits perfect to the requirements of Body Domain Controller applications.
- > Safety relevant applications like Braking, EPS and Chassis Domain Controller require more than one switch off capabilities. The TLE9250SJ and the TLE9250LE supports that application by providing two independent switch off capabilities

Complementary products

- > AURIX™, AURIX™ 2G

NEW Value propositions

- > CAN FD and classical CAN compliant Transceiver
- > CAN FD data-rates up to 5Mbit/s
- > Fulfills latest robust ISO standard wake up pattern
- > Narrow T-Filter wake-up timing for worldwide OEM compliance

Product collaterals / online support

- > Product family [page](#)

IR3883MTRPBF

800 kHz 3 A integrated POL voltage regulator



The IR3883 IR MOSFET IPOL is an easy-to-use, fully integrated and highly efficient monolithic DC-DC regulator. The on-chip PWM controller and MOSFETs make IR3883 a space-efficient solution, providing accurate power delivery. The IR3883 employs an enhanced stability engine that makes it stable with ceramic capacitors without compensation.

Features and Benefits

- > Enhanced stability constant-on-time engine does not require compensation for easy design
- > Small 3 x 3 mm footprint for density
- > DCM mode for light-load efficiency
- > T compensated 3 settings current limit to minimize inductor size and cost

Target applications

- > Server and Computing
- > Storage Applications
- > Communications Infrastructure
- > General DC-DC Converters
- > Distributed Point of Load Power Architectures

Application examples

- > Auxiliary & stand-by rails and 5 V, 3.3 V, 1.8 V, 1.2 V, 1 V suppliers for netcom, telecom, server and storage application

Competitive advantage

- > Less components (About 5 components saving) because competitor COT requires extra components for stability and for ripple injection
- > Smaller and cheaper inductor than COT competition than usually does not offer precise programmable current limit and therefore require to over-design the inductor

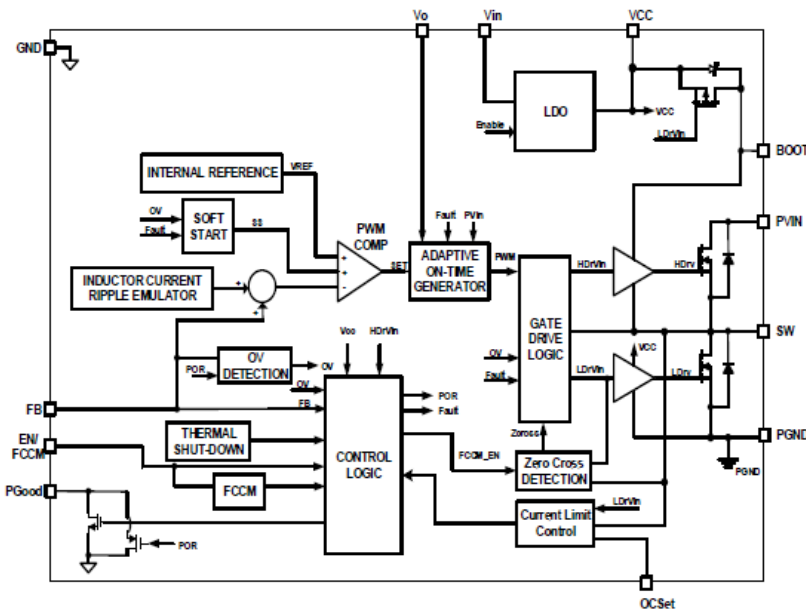
Benefits

- > Wide input voltage range (2.5V-14V) with an external Vcc
- > Single input voltage range (4.5V to 14V)
- > Continuous 3A load capability
- > 800kHz switching frequency
- > 10uA supply current at shutdown
- > Enhanced stability engine with ceramic capacitors and no external compensation
- > Enhanced light load efficiency with reduced switching frequency and diode emulation
- > Forced continuous conduction mode option
- > Thermally compensated peak over-current protection with three selectable levels
- > Internal soft-start
- > Enable input
- > Pre-bias start up
- > Thermal shut down
- > Power good output
- > Precision reference voltage (0.5V+/-0.6%)
- > Small size 3mmx3mm QFN
- > Lead-free, halogen-free and RoHS6 compliant

Product collaterals / online support

- > Product landing [page](#)
- > Product family [page](#)
- > Product [brief](#)
- > Automotive Power Supply IC's (linear) video [here](#)

Block diagram



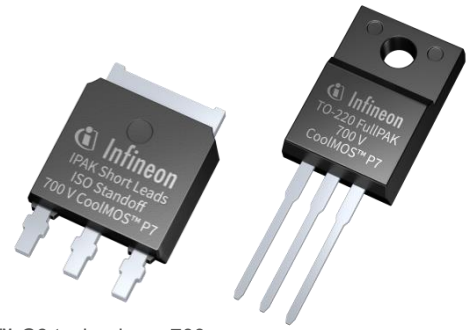
Product overview incl. datasheet link

OPN	SP Number	Package
IR3883MTRPBF	SP001595642	3x3 PQFN

700 V CoolMOS™ P7 - High voltage SJ MOSFETs

Developed to serve today's and tomorrow's trends in flyback topologies

The 700 V CoolMOS™ P7 series has been developed to serve today's and, especially, tomorrow's trends in flyback topologies. The technology addresses the low power SMPS market, mainly focusing on mobile phone chargers and notebook adapters, but suitable for power supplies, used within lighting applications, home entertainment (TV, game consoles or audio), as well as auxiliary power supplies. 700 V CoolMOS™ P7 achieves outstanding efficiency gains of up to 4 percent and a decrease in device temperature of up to 16 percent compared to competition. In contrast with the previous 650 V CoolMOS™ C6 technology, 700 V P7 offers 2.4 percent gain in efficiency and 12 K lower device temperature, measured at a flyback based charger application, operated at 140 kHz switching speed.



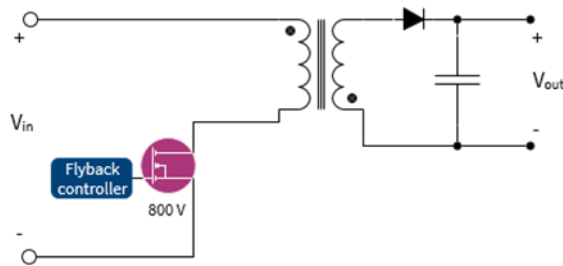
Features

- > Extremely low FOM $R_{DS(on)} \times E_{oss}$; lower Q_g , E_{on} , and E_{off}
- > Highly performant technology
 - Low switching losses (E_{oss})
 - Highly efficient
 - Excellent thermal behavior
- > Allowing high speed switching
- > Integrated ESD protection Zener diode
- > Optimized $V_{(GS)th}$ of 3 V with very narrow tolerance of ± 0.5 V
- > Finely graduated portfolio
- > Fulfilling EMI requirements

Target applications

- > **Charger** (focus)
- > **Adapter** (focus)
- > TV adapter
- > Lighting
- > AUX power
- > Audio

Block diagram



Evaluation boards

> EVAL_15W_5V_FLYB_P7

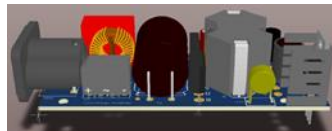
This 15W 5.0V/3.0A USB adapter reference design features QR PWM IC ICE2QS03G, CoolMOS™ IPS70R1K4P7S (IPAK), OptiMOS™ BSC067N06LS3G and high Speed Switching Diode BAS21-03W in a slim plug form factor with various mode of protections.



- OPN: EVAL15W5VFLYBP7TOBO1
- Price: 35€/1pcs

> EVAL_40W_19V_FLYB_P7

This 40 W adapter demo board is designed around a quasi-resonant flyback topology for improved switching losses that allows higher power density designs and lower radiated and conducted emissions.



- OPN: EVAL40W19VFLYBP7TOBO2
- Price: 40€/1pcs

Benefits

- > Cost competitive technology
- > Up to 2.4% efficiency gain and 12K lower device temperature compared to C6 technology
- > Further efficiency gain at higher switching speed
- > Supporting less magnetic size with lower BOM costs
- > High ESD ruggedness up to HBM Class 2 level
- > Easy to drive and design in
- > Enabler for smaller form factors and high power density designs
- > Excellent choice in selecting the best fitting product

Complementary products

- > QR flyback controller: [ICE5QSAG](#), [ICE2QSxxx](#)
- > FF flyback controller: [ICE3xS03LJG](#)

Competitive advantage

- > Best fit for target applications in terms of efficiency and thermals. Improved ESD ruggedness due to integrated Zener diode, lower switching losses compared to competition, fulfilling state of the art EMI requirements.

NEW Value propositions

Performance:

- > 0.1% to 1.5% better efficiency
- > Up to 16K better thermal performance
- > On average up to 50% lower E_{oss} losses
- > Lower $R_{DS(on)}$ dependency over T_j

Ease-of-use:

- > Easy to drive
- > Enabling lower gate source voltage
- > Less risk of linear mode operation

Price/performance:

- > Competitive compared to C6 and similar competitor technologies
- > Technology with potential for further productivity over lifetime

Product collaterals / online support

- > Product family [page](#)
- > Discover Infineon's SJ MOSFET families: [CoolMOS™ selection guide](#)
- > 700V CoolMOS™ P7 [product brief](#)
- > 700V CoolMOS™ P7 in IPAK SL with ISO standoff package [product brief](#)
- > CoolMOS™ P7 in SOT-223 package [product brief](#)
- > 700V CoolMOS™ P7 [application note](#)
- > EVAL_15W_5V_FLYB_P7 with 700V CoolMOS™ P7 [engineering report](#)
- > Evaluation board EVAL_40W_19V_FLYB_P7 with 700V CoolMOS™ P7 [page](#)
- > [Simulation models](#)
- > Infineon's answer for flyback topologies 700 V CoolMOS™ P7: additional features and portfolio [video](#)
- > CoolMOS™ P7 in SOT-223 - Combining performance and ease of use [video](#)
- > 700V CoolMOS™ P7 [eLearning](#)
- > CoolMOS™ P7 in SOT-223 package [eLearning](#)
- > 700V CoolMOS™ P7 [cross reference list](#)

Product overview incl. data sheets links

OPN	SP Number	Package
IPA70R900P7SXKSA1	SP001600942	TO-220 FullIPAK
IPA70R750P7SXKSA1	SP001664858	TO-220 FullIPAK
IPA70R360P7SXKSA1	SP001499698	TO-220 FullIPAK
IPA70R600P7SXKSA1	SP001499700	TO-220 FullIPAK
IPA70R450P7SXKSA1	SP001664868	TO-220 FullIPAK
IPAN70R360P7SXKSA1	SP001682066	TO-220 FullIPAK Narrow Lead
IPAN70R600P7SXKSA1	SP001682068	TO-220 FullIPAK Narrow Lead
IPD70R360P7SAUMA1	SP001491634	DPAK (TO-252)
IPD70R600P7SAUMA1	SP001491636	DPAK (TO-252)
IPD70R900P7SAUMA1	SP001491638	DPAK (TO-252)
IPD70R1K4P7SAUMA1	SP001491632	DPAK (TO-252)
IPN70R600P7SATMA1	SP001657476	SOT-223
IPN70R1K4P7SATMA1	SP001657492	SOT-223
IPN70R360P7SATMA1	SP001657468	SOT-223
IPN70R2K0P7SATMA1	SP001664884	SOT-223
IPN70R750P7SATMA1	SP001664912	SOT-223
IPN70R450P7SATMA1	SP001664926	SOT-223
IPN70R900P7SATMA1	SP001657482	SOT-223
IPN70R1K2P7SATMA1	SP001664900	SOT-223
IPS70R900P7SAKMA1	SP001499716	IPAK SL
IPS70R600P7SAKMA1	SP001499714	IPAK SL
IPS70R360P7SAKMA1	SP001499712	IPAK SL
IPS70R1K4P7SAKMA1	SP001499706	IPAK SL
IPSA70R360P7SAKMA1	SP001664832	IPAK SL ISO-Standoff
IPSA70R600P7SAKMA1	SP001664806	IPAK SL ISO-Standoff
IPSA70R900P7SAKMA1	SP001664790	IPAK SL ISO-Standoff
IPSA70R750P7SAKMA1	SP001664796	IPAK SL ISO-Standoff
IPSA70R2K0P7SAKMA1	SP001664770	IPAK SL ISO-Standoff
IPSA70R450P7SAKMA1	SP001664824	IPAK SL ISO-Standoff
IPSA70R360P7SAKMA1	SP001664832	IPAK SL ISO-Standoff
IPSA70R1K4P7SAKMA1	SP001664778	IPAK SL ISO-Standoff
IPSA70R1K2P7SAKMA1	SP001664784	IPAK SL ISO-Standoff

TRENCHSTOP™ IGBT6

IKA08N65ET6, IKA10N65ET6, IKA15N65ET6

Low loss discrete IGBTs in trench and field-stop technology with soft, fast recovery anti-parallel rapid diode. 8 – 15 A in TO-220 FullPAK

The TRENCHSTOP™ IGBT6 family of discrete devices has been designed to meet specific market requirements of motor drives applications, such as longer lifetimes, higher reliability and higher efficiency. It has been optimized for the lowest switching losses by co-packing with soft, fast recovery rapid 1 anti-parallel diodes, especially important in systems with higher switching frequencies of up to 30 kHz.



With a higher blocking voltage at 650 V, and a short circuit rating, the new TRENCHSTOP™ IGBT6 is a key contributor to robust motor designs.

Features

- > Very low $V_{CE(sat)}$ and V_f
- > 650 V blocking voltage
- > 3 μ sec short-circuit protection capability
- > Optimized for switching frequencies from 8–30 kHz

Benefits

- > Good thermal performance, especially at higher frequencies
- > Low losses to meet energy efficiency requirements
- > Increased design margin and reliability
- > Leading price/performance

Application examples

- > Fans, Pumps, and other BDLC motors

Target application

- > Major home appliances
- > Small home appliances
- > Industrial sewing machines
- > General Purpose Drives

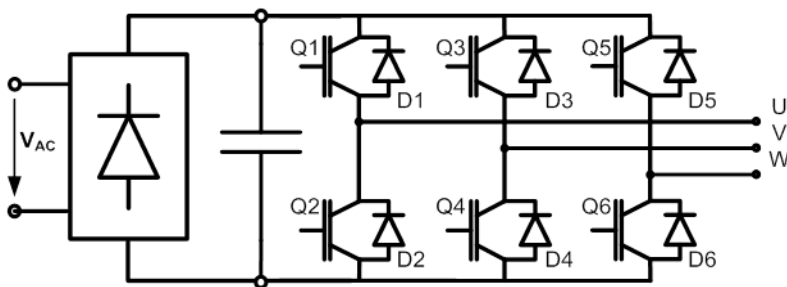
Competitive advantage

- > Lower losses and lower pricing than previous IGBT families, TRENCHSTOP™ and Gen 5

Complementary products

- > 1, 2, and 6 channel driver ICs, similar to IRS2890DS

Block diagram



Product collaterals / online support

- > Product family [page](#)
- > IKA08N65ET6 product [page](#)
- > IKA10N65ET6 product [page](#)
- > IKA15N65ET6 product [page](#)

Product overview incl. data sheets links

OPN	SP Number	Package
IKA08N65ET6XKSA1	SP001701332	PG-TO220-3 FP
IKA10N65ET6XKSA2	SP001701334	PG-TO220-3 FP

TLE4922-XAN-F

An active mono cell hall sensor ideally suited for detecting the motion and position

Highly robust, easy-to-use mono-Hall speed sensor with Twist Independent Mounting (TIM) mounting for 2-wheeler, automotive vehicle speed and industrial application.



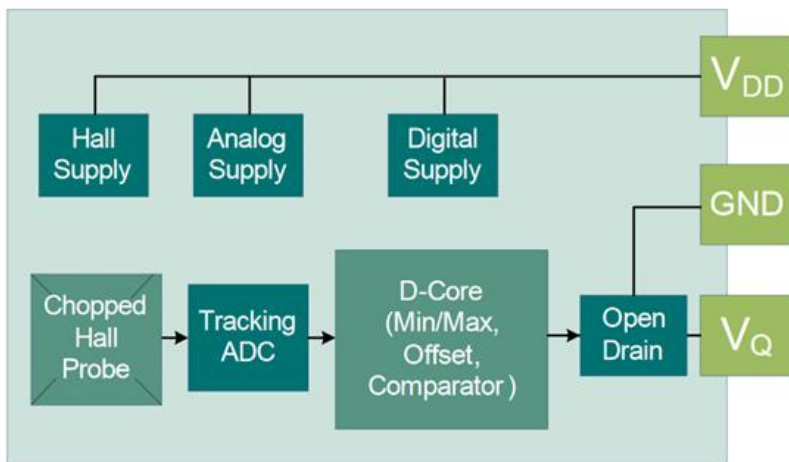
Features

- > Low cost speed sensor
- > Low jitter (<math><0,08^\circ</math> jitter) over 0.5 – 3.2mm airgap
- > True zero speed up to 8kHz signal frequency
- > Protection against harsh environment due to
 - Short-circuit current limitation at output
 - Over temperature shutdown at output
 - Reverse voltage protection
- > Fits all kinds of magnets and both magnet polarities for Twist independent mounting (TIM)
- > Workaround for 2-wire current I/F
- > Infineon proven quality
- > Enabling low power applications with $I_{dd} = 5\text{mA}$ at $V_{dd} = 9\text{V}$
- > Large operating voltage from 4.5V to 18V
- > EMC&ESD robustness up to 3kV HBM
- > Wide operating temperature range from -40 to 155°C
- > Small thin PG-SSO-4-1 package

Target applications

- > Small engines (2- and 3 wheeler) applications
- > Crankshaft speed and position sensing
- > Transmission speed on output shaft
- > Speedometer applications

Block diagram



Product overview incl. datasheet link

OPN	SP Number	Package
TLE4922XANFHALA1	SP001106758	PG-SSO-4

Benefits

- > Easy mounting and low total cost of ownership due to
 - Large operating air gap capability
 - Twist independent mounting (TIM) "enables one sensor fits all"
 - Fits all kinds of magnets and both magnet polarities
- > Replacement of VR solutions with better performance at same cost
 - Future proof - Better sensing accuracy enable upcoming emission and efficiency standards
 - Eased manufacturing tolerances by better airgap performance

Product collaterals / online support

- > Product landing [page](#)

Support / Tools / Software

- > Speed-To-GO-KIT - Software download [here](#)

TLS115xx Sensor Supply IC family

A monolithic integrated low-dropout voltage tracking regulator



Robust and high accuracy power supply IC dedicated to supply automotive sensors. The TLS115xx is a monolithic integrated low-dropout voltage tracking regulator with high accuracy in small DSO-8 exposed pad and TSON-10 packages. The IC is designed to supply off-board systems, for example sensors in powertrain management systems under the severe conditions of automotive applications.

Features

- > Designed to supply off-board sensors automotive at 150°C
- > Various protection features : short to GND and Vbatt protected, current limitation , reverse polarity protection
- > High accuracy tracking
- > Overvoltage and undervoltage monitor

Benefits

- > Reliable protection for ECU/sensor
- > Easy and accurate voltage replication
- > High flexibility/scalability
- > Lower design effort → design cost saving

Target applications

- > Automotive sensor supply
- > Protected sensor supply for off-board sensors
- > Electrical Power Steering (EPS)
- > Transmission, Stability Control ECU's
- > Secondary Supply for μ Controller

Competitive advantage

- > High speed regulation loop and general performance

Complementary products

- > Pressure sensors KPxxx

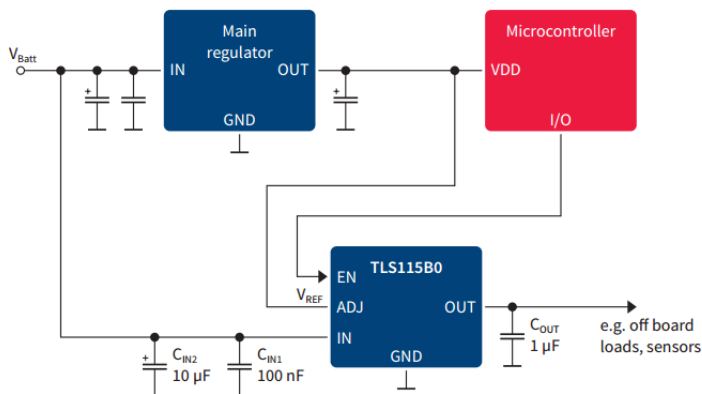
Application examples

- > Generic Sensor Supply Application Example

Product collaterals / online support

- > Product family [page](#)
- > Product landing pages
[TLS115B0EJ](#)
[TLS115D0EJ](#)
[TLS115B0LD](#)
[TLS115D0LD](#)
- > Sensor supply IC's eLearning [here](#)

Block diagram



Product overview

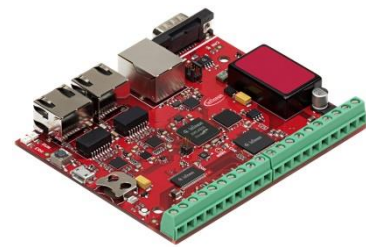
OPN	SP Number	Package
TLS115B0EJXUMA1	SP001474714	PG-DSO-8
TLS115D0EJXUMA1	SP001474716	PG-DSO-8
TLS115B0LDXUMA1	SP001474718	PG-TSON-10
TLS115D0LDXUMA1	SP001474720	PG-TSON-10

Boards' overview

OPN	SP Number	Package
TLS115B0EJDEMOBOARDTOBO1	SP001677680	PG-DSO-8
TLS115B0LDDEMOBOARDTOBO1	SP001677686	PG-TSON-10
TLS115D0EJDEMOBOARDTOBO1	SP001677690	PG-DSO-8
TLS115D0LDDEMOBOARDTOBO1	SP001677694	PG-TSON-10

XMC4800 Automation Board-V2

Designed to evaluate the capabilities of the XMC4800 Microcontroller especially in EtherCAT® slave applications



The XMC4800 Automation Board V2 utilizes Infineon's industry leading XMC ARM® Cortex®-M4 microcontroller in combination with Infineon supply, interface, and communication and safety products. The XMC4800 Automation Board V2 is designed to evaluate the capabilities of the XMC4800 Microcontroller especially in EtherCAT® slave applications and can be used with a wide range of development tools including Infineon's free of charge Eclipse based IDE, DAVE™.

Features

- > XMC4800-E196 microcontroller based on ARM® Cortex®-M4@144MHZ - EtherCAT® slave controller, 2MB Flash and 352KB RAM
- > Serial Wire Debug interface (to connect external debugger)
- > ESD and reverse current protection Isoface
- > OPTIGA™ Trust E
- > User RGB LED
- > Real Time Clock crystal
- > SPI FRAM (64kB non-volatile memory)
- > EtherCAT® slave node (2 EtherCAT® PHY and RJ45 Jacks)
- > 24V ISOFACE™ 8xIN and 8xOUT
- > CAN transceiver
- > Ethernet PHY and RJ45 Jack
- > Micro-AB USB plug

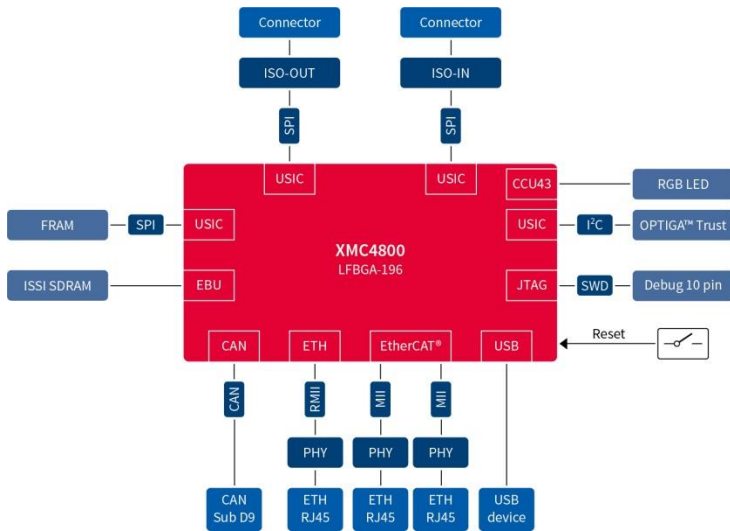
Benefits

- > Complete automation kit gateway
- > Combine powerful microcontroller with EtherCAT® slave application
- > Isolated interfaces for automation and industrial control
- > Ethernet connectivity with software examples available
- > 24V supply
- > CAN connectivity
- > Full software DAVE™ examples

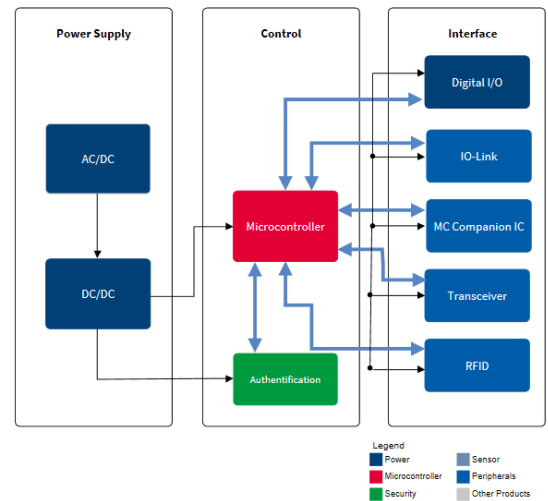
Product collaterals / online support

- > www.infineon.com/automationkit

Block diagram



Application example - micro programmable logic controller (micro PLC) system diagram



Product overview

OPN	SP Number	Package
KITXMC48AUTBASEV2TOBO1	SP001632038	N/A

BSZ0909ND OptiMOS™ half-bridge

Infinion optimized solution for wireless power, drives and wearables



The used OptiMOS™ technology combined with the PQFN 3x3 package offers an optimized solution for DC-DC applications with space critical requirements. The BSZ0909ND fits perfectly in wireless charging or drives (e.g. multicopter) architectures where designers target to simplify the layout and significantly save space without compromising on efficiency.

Features

- > Ultra-low Q_g
- > Half-bridge in a small 3.0x3.0 mm² package outline
- > Exposed pads
- > Logic level (4.5 V rated)
- > RoHS compliant 6/6 (full lead free)

Target applications

- > Wireless charging
- > Drives (e.g. multicopter)

Product collaterals / online support

- > Product landing [page](#)
- > Wireless charging application [page](#)
- > Product [brief](#)
- > Wireless charging application [brief](#)

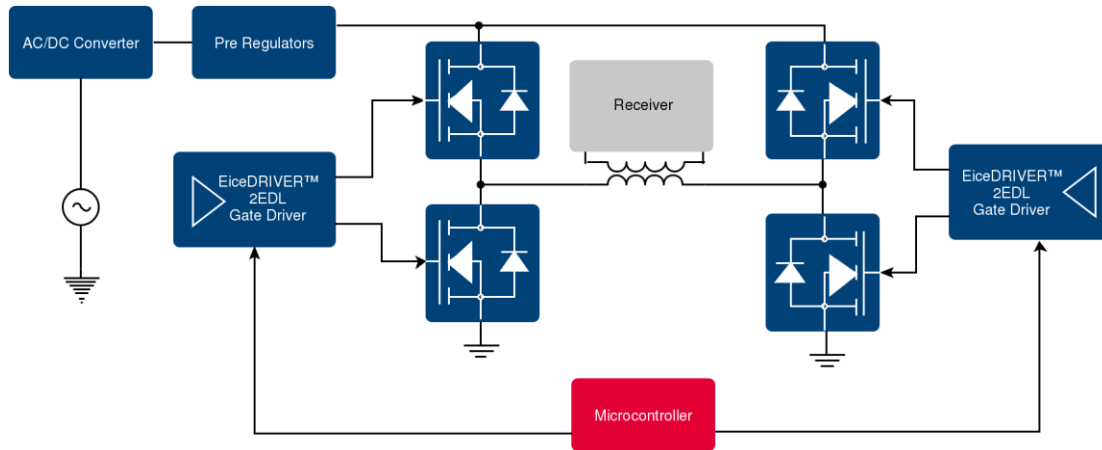
Benefits

- > Low switching losses
- > High switching frequency operation
- > Lowest parasitics
- > Low operating temperature
- > Low gate drive losses
- > RoHS 6/6 lead free product

Competitive advantage

- > BOM reduction (component/system): BSZ0909ND can replace available GaN solution in the market, reduces need for voltage clamping circuitry
- > Highly efficient solution, ease-of-design: benchmark for lowest switching and conduction losses
- > Optimized packages: Low parasitic packages for MOSFET in 3x3 HB configuration

Block diagram



Product overview incl. datasheet link

OPN	SP Number	Package
BSZ0909NDXTMA1	SP001637282	WISON-8

CoolSiC™ Schottky diode 650 V G6

Improved efficiency and price performance



The CoolSiC™ generation 6 is the leading edge technology in SiC Schottky Barrier diodes, fully leveraging all advantages of SiC over silicon. The Infineon proprietary diffusion soldering process is combined with a more compact design, thin-wafer technology and a novel Schottky metal system. The result is a family of products with improved efficiency over all load conditions, resulting from a best-in-class figure of merit ($Q_c \times V_F$). The CoolSiC™ generation 6 diodes complement Infineon's 600 V and 650 V CoolMOS™ 7 families, meeting the most stringent application requirements in this voltage range.

Features

- > The lowest V_F : 1.25 V
- > Best-in-class figure of merit ($Q_c \times V_F$)
- > No reverse recovery charge
- > Temperature independent switching behavior
- > High dv/dt ruggedness
- > Optimize thermal behavior

Benefits

- > Improved system efficiency over all load conditions
- > Increased system power density
- > Reduced cooling requirements and increased system reliability
- > Enables extremely fast switching
- > Easy and effective match with CoolMOS™ 7 families
- > Optimal price performance

Target applications

- > PC and telecom power
- > Solar PV inverters

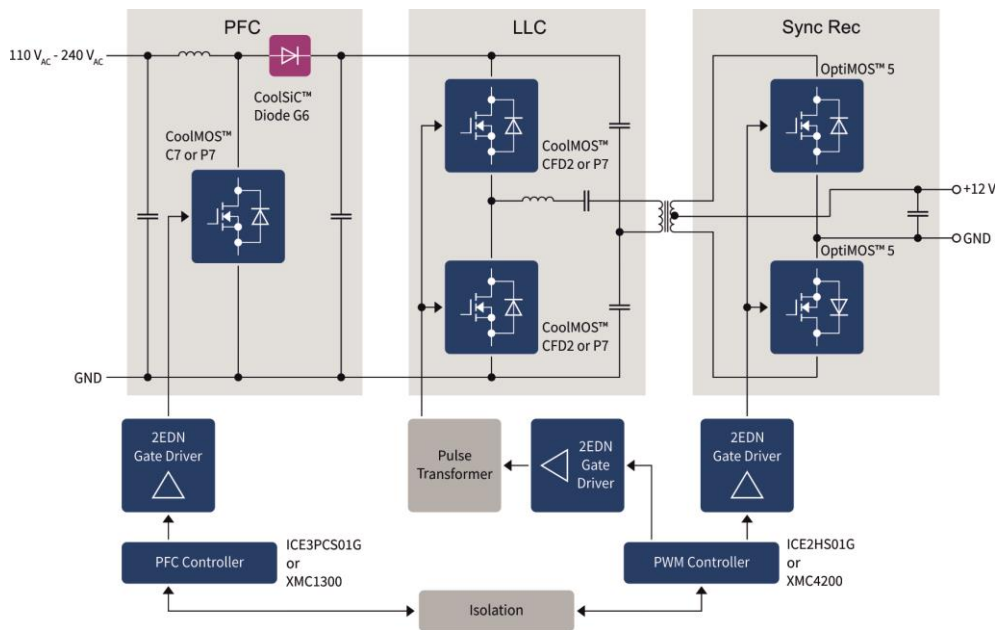
Product collaterals / online support

- > Product family [page](#)

Competitive advantage

- > Best price/performance
- > Lowest V_f
- > Best in class $Q_c \times V_f$
- > Proven high quality
- > High efficiency
- > Low losses to decrease working temperature

Block diagram - application overview 800 W 130 kHz switched mode power supply



Product overview incl. datasheet links

OPN	SP Number	Package
IDH04G65C6XKSA1	SP001600960	PG-TO220-2
IDH06G65C6XKSA1	SP001620586	PG-TO220-2
IDH08G65C6XKSA1	SP001620588	PG-TO220-2
IDH10G65C6XKSA1	SP001620590	PG-TO220-2
IDH12G65C6XKSA1	SP001595596	PG-TO220-2
IDH16G65C6XKSA1	SP001620592	PG-TO220-2
IDH20G65C6XKSA1	SP001600962	PG-TO220-2

5th generation quasi-resonant PWM flyback controller with integrated MOSFET

Latest generation of quasi-resonant flyback controller and 700 V / 800 V integrated MOSFET in both DIP and SMD package



In tandem with Infineon's leadership in the area of high voltage superjunction MOSFETs, the latest 700 V and 800 V CoolMOS™ P7 families will be integrated together with the 5th generation controller in a single package. CoolSET™ is available in both through-hole and SMD packages and thereby eliminates the need of heatsink and reduces BOM count with a small footprint.

Features

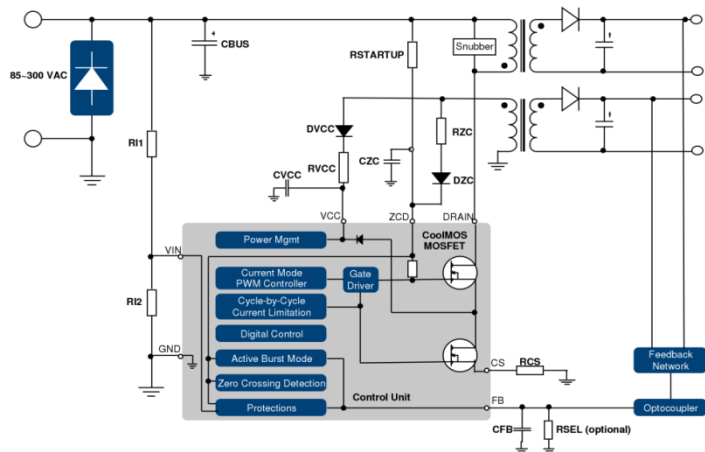
- > Cascode configuration
- > Adjustable line input over and under voltage protection
- > V_{CC} and current sense pin short to ground protection
- > Novel quasi-resonant switching scheme
- > Selectable active burst mode entry/exit profile
- > Protection mode implemented with auto-restart scheme

Target applications

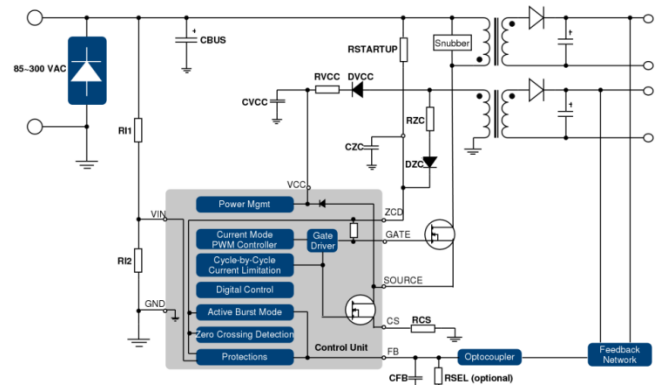
- > Auxiliary SMPS for major home appliances, industrial SMPS and server power
- > Main SMPS for set-top-box, water purifier and AC-DC adapter

Block diagram

ICE5QRxxxxAx



ICE5QSAG



Product collaterals / online support

- > Product family [page](#)
- > Product landing pages
 - ICE5QR2270AZ [page](#)
 - ICE5QSAG [page](#)
 - ICE5QR2280AZ [page](#)
 - ICE5QR4780AZ [page](#)
 - ICE5QR4770AZ [page](#)
 - ICE5QR0680AZ [page](#)

Competitive advantage

- > Comprehensive protection
- > Enhanced quasi-resonant switching

Product overview

OPN	SP Number	Package
ICE5QR0680AZXKLA1	SP001459970	PG-DIP-7-6
ICE5QR4780AZXKLA1	SP001459954	PG-DIP-7-6
ICE5QR2280AZXKLA1	SP001459960	PG-DIP-7-6
ICE5QR4770AZXKLA1	SP001459972	PG-DIP-7-6
ICE5QR2270AZXKLA1	SP001459978	PG-DIP-7-6
ICE5QSAGXUMA1	SP001459918	PG-DSO-8-47

EasyDUAL™ Halfbridge Topology with CoolSiC™ MOSFET

Enables higher frequency operation for reduction in system cost and shrink



The new EasyDUAL™ Halfbridge Topology with CoolSiC™ MOSFET is the lead type of our CoolSiC™ portfolio that enables radically new product designs. Thus, optimized inverter efficiency and performance can be achieved.

Features

- > Low device capacitances
- > Temperature independent switching losses
- > Intrinsic diode with low reverse recovery charge
- > Threshold-free on-state characteristics

Benefits

- > Highest efficiency for reduced cooling effort
- > Longer lifetime and higher reliability
- > Higher frequency operation
- > Reduction in system cost
- > Increased power density
- > Reduced system complexity
- > Ease of design and implementation

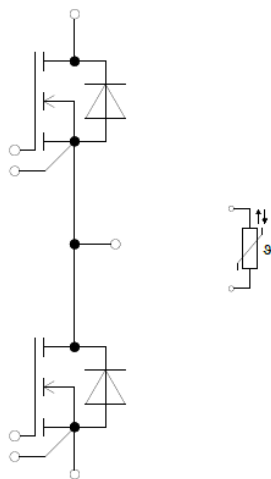
Target applications

- > Photovoltaic Inverter
- > UPS
- > EV Charger
- > Energy Storage / Battery Charging

Competitive advantage

- > Superior gate oxide reliability
- > Threshold voltage, $V_{th} > 4\text{ V}$
- > Short-circuit robustness, $3\ \mu\text{s}$
- > IGBT-compatible gate driving, +15V for turn-on

Block diagram



Product collaterals / online support

- > Product promo [page](#)
- > Product landing [page](#)
- > Product datasheet [page](#)
- > Product brief [page](#)
- > CoolSiC™ Technology [brochure](#)
- > Bodos Power – The Future of Power Semiconductor [article](#)

Complementary products

- > 1EDI EiceDRIVER™ Compact
- > Module: DF11MR12W1M1_B11, DF23MR12W1M1_B11
- > Discrete: IMW120R045M1, IMZ120R045M1

Product overview

OPN	SP Number	Package
FF11MR12W1M1B11BOMA1	SP001602204	AG-EASY1B-2
FF23MR12W1M1B11BOMA1	SP001602224	AG-EASY1B-2

DF11MR12W1M1_B11 & DF23MR12W1M1_B11

Easy 1B Booster Topology with CoolSiC™ MOSFET



Features

- > Low device capacitances
- > Temperature independent switching losses
- > Intrinsic diode with low reverse recovery charge
- > Threshold-free on-state characteristics

Target applications

- > Photovoltaic inverter, UPS, EV charger, energy storage / battery charging

Complementary products

- > Recommended gate driver: 1EDI EiceDRIVER™ Compact family, eg. 1EDI60H12AH
- > Halfbridge FF11MR12W1M1_B11, FF23MR12W1M1_B11
- > Upcoming in 2017: Discrete: IMW120R045M1, IMZ120R045M1

Product collaterals / online support

- > Product family [page](#)
- > DF11MR12W1M1_B11
 - [Product page](#)
- > DF23MR12W1M1_B11
 - [Product page](#)
- > [SiC brochure](#)

Product overview incl. datasheets links

OPN	SP Number	Package
DF11MR12W1M1B11BOMA1	SP001602238	AG-EASY1B-2
DF23MR12W1M1B11BOMA1	SP001602244	AG-EASY1B-2

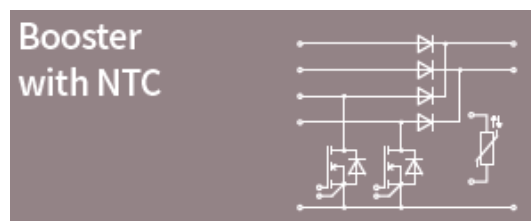
Benefits

- > Highest efficiency for reduced cooling effort
- > Longer lifetime and higher reliability
- > Higher frequency operation
- > Reduction in system cost
- > Increased power density
- > Reduced system complexity
- > Ease of design and implementation

Competitive advantage

- > Superior gate oxide reliability
- > Threshold voltage, $V_{th} > 4\text{ V}$
- > Short-circuit robustness, $3\ \mu\text{s}$
- > IGBT-compatible gate driving, +15V for turn-on

Block diagram



OPTIGA™ Trust B SLE 95250

Best things come in small packages



The new OPTIGA™ Trust B is the smallest pin and package solution, whilst keeping the powerful features of the OPTIGA™ Trust family. OPTIGA™ Trust B is a robust cryptographic solution for embedded systems requiring easy-to-integrate, reliable authentication features. This security solution is designed to help system and device manufacturers safeguard the authenticity, integrity and safety of their original products. As a turnkey solution, it provides enhanced protection against aftermarket counterfeit replacements, thus helping to maintain OEM authenticity and safeguard the user experience.

Features

- > Strong cost efficient asymmetric cryptography with ECC 131-bit key length
- > OPTIGA™ Digital Certificate (ODC) with device personalization (unique key pair per chip)
- > Turnkey solution including host-side software for easy integration
- > 512 bit user NVM
- > Easy-to-implement single-wire host interface
- > Size-optimized TSNP-6-9 package (1.1 x 1.5 mm)

Target applications

- > Battery authentication
- > IoT edge devices
- > Consumer accessories
- > IP & PCB design protection
- > Original replacement parts
- > Medical & diagnostic equipment

Application examples

- > Battery authentication e.g. drones, cameras, smartphones, power tools
- > Accessory authentication e.g. power banks, docking stations
- > Disposals authentication e.g. water filter cartridges, medical consumables

Benefits

- > Lower system costs due to single- chip solution
- > Increased security with asymmetric cryptography and chip-individual keys
- > Easy integration thanks to full turnkey design

Competitive advantage

- > Excellent cost to performance (security) ratio
- > Easy implementation (only 14 KB host side code)
- > Small security controller form factor with PG-TSNP-6 package (1.5 x 1.0 mm)
- > Enhanced product life-cycle management with kill command option

Product collaterals / online support

- > Product family [page](#)
- > Product landing [page](#)
- > Product brief [page](#)
- > Product datasheet [page](#)

Evaluation board

- > OPTIGA™ Trust B SLE95250 Evaluation Kit [page](#)
- > SP Number: SP001675878

Product overview

OPN	SP Number	Package
SLE95250000XTSA1	SP001601016	PG-TSNP-6-9

BFP 196WN

Low noise silicon bipolar RF transistor



NPN silicon planar epitaxial transistor in 4pin dual-emitter SOT-343 package for low noise and low distortion wideband amplifiers. This RF transistor benefits from Infineon's long-term experience in RF components and combines ease-of-use to stable volumes production, at benchmark quality and reliability.

Features

- > For high voltage applications $V_{CE} < 12\text{ V}$
- > Maximal power $P_{tot} = 700\text{ mW}$
- > Transition frequency $f_T = 7.5\text{ GHz}$
- > Noise figure $NF_{min} = 1.3\text{ dB}$ at 900 MHz
- > Easy to use Pb-free (RoHS compliant) and halogen-free industry standard SOT-343 package with visible leads

Target applications

- > GNSS active antenna
- > Amplifiers in antenna and telecommunications systems
- > CA TV
- > Power amplifier for DECT and PCN systems

Benefits

Technical benefits:

- > Signal improvement in transmitting and receiving paths
- > Energy savings and extended battery life

Customer benefits:

- > Optimized system sensitivity performance at low frequencies
- > Efficiency performance
- > Ease of use and design in and reduced time-to-market
- > Competitive lead-times
- > Industry quality and reliability benchmarks

Product collaterals / online support

- > Product landing [page](#)

Product overview incl. datasheet link

OPN	SP Number	Package
BFP196WNH6327XTSA1	SP001643166	PG-SOT343-4