



New Product Introduction

April 2023

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Automotive PSoC™ 4100S Plus

PSoC™ 4100S Plus is a member of the PSoC™ 4 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.



Features

- > 48-MHz Arm® Cortex®-M0 CPU
- > Up to 128 KB of flash with read accelerator and up to 16 KB of SRAM
- > Programmable analog blocks
- > Programmable digital

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

- > Infotainment / HVAC systems
- > Interior HMI
- > Automotive exterior HMI
- > Steering wheel HMI
- > Liquid level sensing
- > Passenger occupant and hands-on-detection

Product collaterals / Online support

[Product family page](#)

[Product page CY8C4147AZS-S285](#)

[Product page CY8C4147LQE-S283](#)

Product overview incl. data sheet link

OPN	SP Number	Package
CY8C4147AZS-S285	SP005643209	PG-TQFP-64
CY8C4147LQE-S283	SP005645813	PG-VQFN-40

NFC tag-side controller NGC1081 for smart sensing applications

The NGC1081 is a microcontroller with integrated NFC connectivity, sensing capabilities, and energy harvesting functions. It allows for the development of miniaturized smart devices that can be controlled and powered by a personal mobile phone. It can operate in passive mode, where it communicates wirelessly and harvests energy from the NFC field as well as in battery mode as a self-contained sensing node.



Features

- > Contactless communication interface NFC
- > Integrated microcontroller
- > Digital peripherals
- > Sensing interface
- > Actuation interface

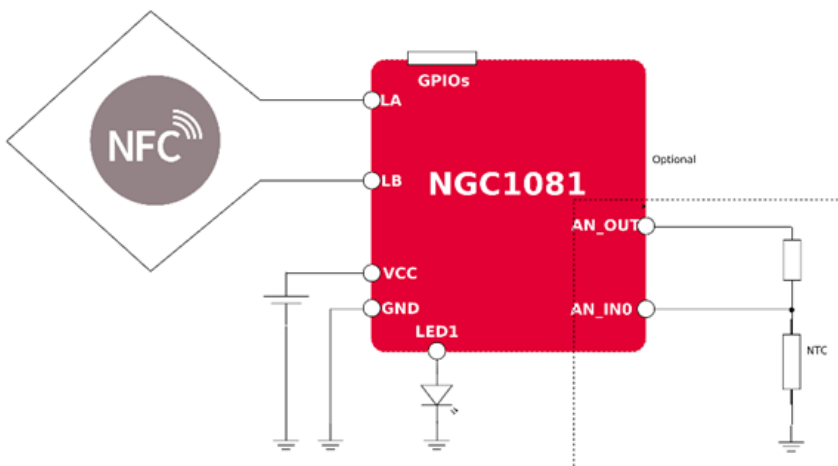
Benefits

- > Single-chip solution to build battery-free smart sensors for miniaturized designs
- > Intuitive connection with mobile phone enabling a cloud-based business model
- > Natural galvanically isolated sensing interface for applications with direct human body contact

Target applications

- > Battery-free sensing nodes, sensor inlays
- > NFC data, temperature loggers
- > Vital NFC sensing (e.g. health care / medical patches)
- > Smart NFC thermostats

Block diagram



Product collaterals / Online support

[Product page](#)

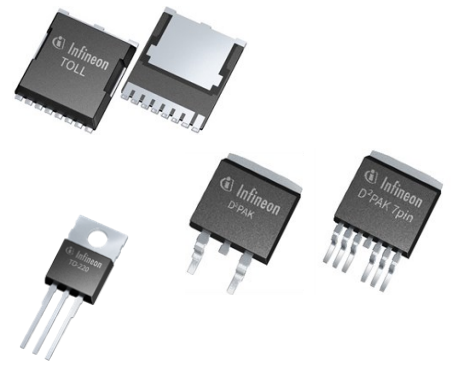
Product overview incl. data sheet link

OPN	SP Number	Package
NGC1081XTMA1	SP005566274	PG-VQFN-32

OptiMOS™ 5 power MOSFETs 100 V in TOLL, D²PAK 7-pin, D²PAK and TO-220

The new OptiMOS™ 5 power MOSFETs 100 V in TOLL, D²PAK 7-pin, D²PAK and TO-220 offer even lower $R_{DS(on)}$ than existing devices, with up to 21.7% reduction compared to our previous best-in-class OptiMOS™ 5.

They are available in industry standard surface-mount and through-hole packages and are suitable for applications demanding high power and very low $R_{DS(on)}$.



Features

- > High current capability, up to > 360 A
- > Output capacitance reduction of up to 44%
- > Industry standard surface-mount and through-hole packages

Benefits

- > Less paralleling and cooling required
- > Higher system reliability
- > Low voltage overshoot
- > System cost reduction
- > Enables very compact design

Target applications

- > Power tools
- > Low voltage drives
- > Light electric vehicles
- > Battery management systems

Competitive advantage

- > Even lower $R_{DS(on)}$ than existing devices, with up to 21.7% reduction compared to our previous best-in-class OptiMOS™ 5

Product collaterals / Online support

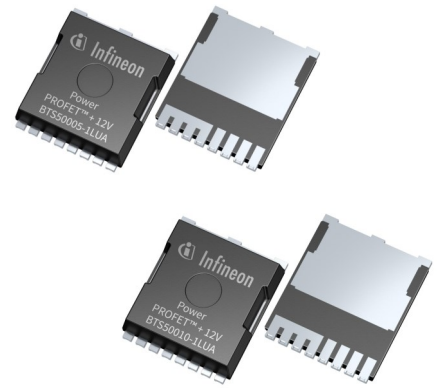
[Product family page](#)

Product overview incl. data sheet link

OPN	SP Number	Package
IPB018N10N5ATMA1	SP005736734	PG-TO263-3
IPF015N10N5ATMA1	SP005736730	PG-TO263-7
IPP018N10N5XKSA1	SP005736885	PG-TO220-3
IPP018N10N5AKSA1	SP005736721	PG-TO220-3
IPT014N10N5ATMA1	SP005736726	PG-HSOF-8

Power PROFET™ + 12 V lowest ohmic high-side smart power switches designed to drive high current loads up to 60 A

The new Power PROFET™ + 12 V smart high-side switch family provides a very low $R_{DS(on)}$ – one variant down to 0.6 m Ω – in a small 8-pin leadless power package. The ability to drive high current loads up to 60 A and its state of the art integrated protections and diagnosis features makes Power PROFET™ + 12 V ideally suited to replace electromechanical relays, fuses and discrete circuits in power distribution and other high current applications in a 12 V board net.



Features

- > Lowest ohmic switch
- > Integrated protection functions (Over-current, over-load, over-temperature, over-power)
- > Integrated diagnostic functions
- > Compatible to cranking pulses
- > Low stand-by current
- > Reverse ON for low power dissipation in reverse battery condition
- > Ground loss protection

Competitive advantage

- > Lowest ohmic switch available on the market able to drive high current up to 60 A
- > Integrated solution for driving high current loads for easy design in
- > ISO 26262-ready providing Safety Application Note

Benefits

- > PRO-SIL™ ISO 26262-ready for supporting the integrator in evaluation of hardware element acc. to ISO 26262
- > Accurate current sensing
- > Developed to support dependable power supply and distribution

Target applications

- > Suitable for resistive, inductive and capacitive loads
- > Replaces electromechanical relays, fuses and discrete circuits in power distribution and other applications in a 12 V board net
- > Most suitable for application with high current loads, such as heating system, fan and pump
- > PWM applications with low frequency

Product collaterals / Online support

[Product family page](#)

[Product page BTS50005-1LUA](#)

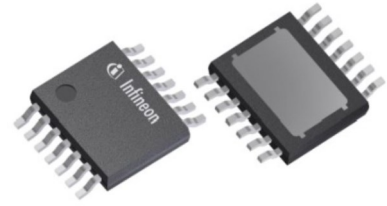
[Product page BTS50010-1LUA](#)

Product overview incl. data sheet link

OPN	SP Number	Package
BTS500051LUAUMA1	SP002055032	PG-HSOF-8
BTS500101LUAUMA1	SP004854722	PG-HSOF-8

PROFET™ +2 12 V: BTS7050-2EPL and BTS7090-2EPL

PROFET™ +2 12 V family has two additional members, BTS70x0-2EPL, providing protection functions and diagnosis. The products have a capacitive load switching mode implemented to charge capacitive loads and to reduce current peaks during switch on of capacitors. These products use current limitation as protection feature. Further, - ISO 26262-ready documentation supports the use in safety-related applications.



Features

- > Overcurrent limitation
- > Capacitive load switching mode
- > Best-in-class current sense accuracy

Benefits

- > Current capability up to 3 A
- > Capacitive Load Switching Mode
- > Pin to pin compatibility between family members with the TSDSO14 exposed pad packages

Target applications

- > Power distribution
- > Body control module
- > ADAS

Competitive advantage

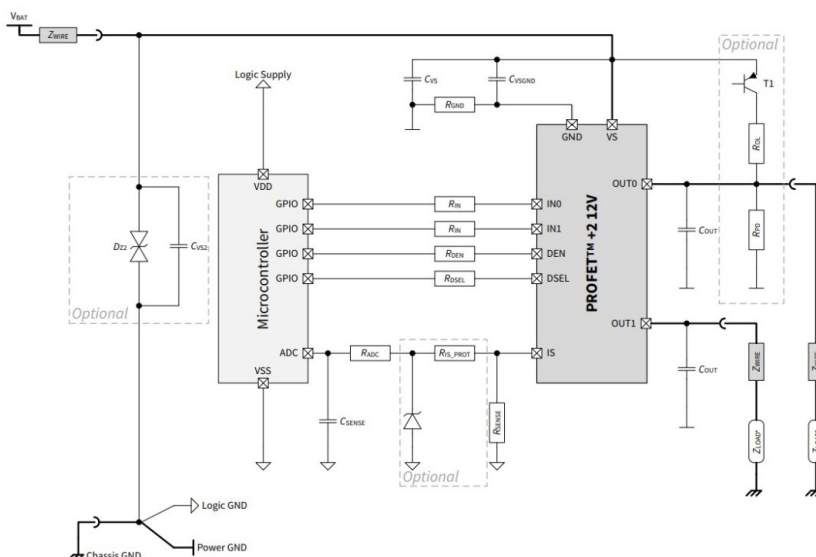
- > Capacitive load switching mode

Product collaterals / Online support

[Product page BTS7050-2EPL](#)

[Product page BTS7090-2EPL](#)

Block diagram



Product overview incl. data sheet link

OPN	SP Number	Package
BTS70502EPLXUMA1	SP005631593	PG-TSDSO-14
BTS70902EPLXUMA1	SP005629751	PG-TSDSO-14

WLC1150, 50 W wireless charging transmitter IC

The WLC1150 IC is a highly integrated wireless power transmitter and integrated USB-PD sink solution that supports 50 W wireless charging using Infineon’s high-power proprietary protocol. It complies with the latest Qi specification (1.3.x) and supports both extended power profile and basic power profile modes.



The WLC1150 integrates a 32-bit Arm® Cortex®-M0 processor, 128 KB flash, 16 KB RAM, 32 KB ROM and various analog and digital peripherals that enable scalable wireless charging solutions.

REFWLCTX50WC1 is the evaluation board of WLC1150.

Features

- > Qi v1.3.x compliant transmitter
- > 32-bit Arm® Cortex®-M0 processor, 128 KB flash, 16 KB RAM, 32 KB ROM
- > USB-C USB-PD controller supporting USB-PD 3.1 version, PPS mode and legacy charging protocols
- > Wide input voltage range: 4.5 V - 24 V
- > Buck converter controller for fan’s thermal management
- > OPTIGA™ Trust charge authentication for on-chip security

Benefits

- > 50 W transmitter with software included
- > Adaptive foreign object detection (FOD)
- > Adjustable protection – OVP, OCP, OTP
- > Graphical utility tool for ease of configuration, debug without code
- > ModusToolbox™ software library for Infineon proprietary, Qi Stack

Competitive advantage

- > Direct PPS control for better efficiency
- > Complete solution that complies with EMC requirements
- > Integrated fan-based thermal management
- > Proprietary protocol and software
- > Infineon one-stop-shop for wireless charging solutions up to 50 W

Target applications

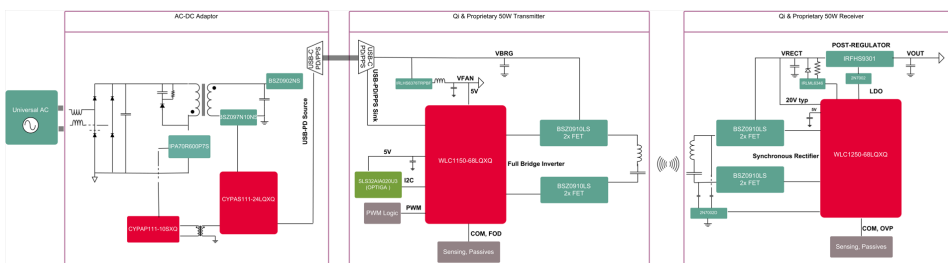
- > Wireless charging pads for Infineon’s high-power proprietary protocol (50 W) and extended power profile (15 W)
- > Industrial wireless charging applications
- > Portable accessories
- > Furniture and home goods
- > Docking stations
- > Smart phones

Product collaterals / Online support

[Product page](#)

[Board page](#)

Block diagram



Product overview incl. data sheet link

OPN	SP Number	Package
WLC1150-68LQXQ	SP005742475	PG-VQFN-68
WLC1150-68LQXQT	SP005742477	PG-VQFN-68

CAN FD SIC - TLE9371VSJ

CAN signal enhancement transceivers actively improve signal integrity in a network, reduce signal ringing effects and help to operate in larger topologies with significantly faster bit rates than before. The CAN FD SIC parts can replace existing CAN (FD) transceivers, making the adoption of this technology straight-forward and without significant changes in the application. Even more, they are backward compatible to existing CAN transceiver solutions.



Features

- > Highly accurate transmitter allowing precise control of CANH and CANL signals, active drive of recessive edge and active signal improvement
- > Ringing in CAN networks significantly reduced, star-based topologies with higher data rates possible
- > Increases maximum achievable CAN speed to 8 MB/s
- > Increased EMC performance
- > Guaranteed CAN FD protocol operations under all conditions incl. error handling and arbitration scenarios
- > Fully interoperable with CAN XL protocol

Benefits

- > Connection of more nodes with more functions possible
- > Entry for more complex applications e.g. autonomous driving with security requirements, new comfort features in-body applications
- > Less cable with decreased weight and costs; more positive CO2 balance, no cable variants for optional nodes, decreased number of connectors

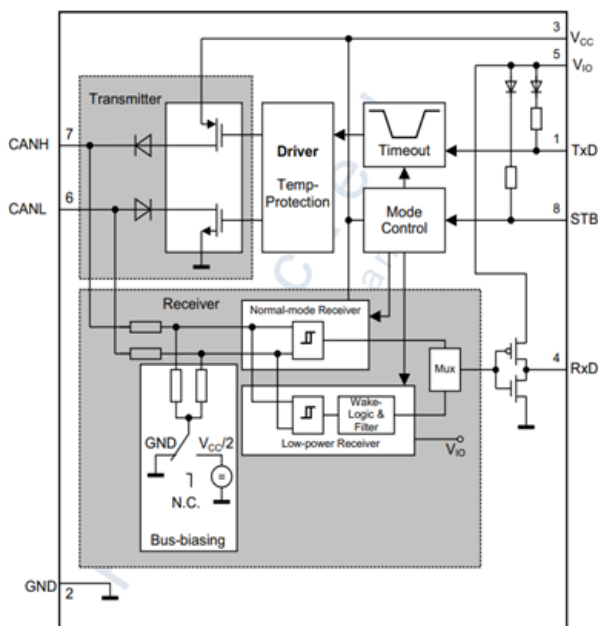
Target applications

- > ADAS
- > xEV / HEV
- > Body & chassis

Product collaterals / Online support

[Product page](#)

Block diagram

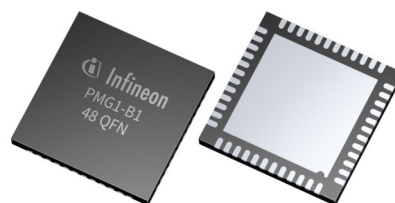


Product overview incl. data sheet link

OPN	SP Number	Package
TLE9371VSJXTMA1	SP005350818	PG-DSO-8

EZ-PD™ PMG1-B1 - industry's first high-voltage USB-C power delivery microcontroller with integrated buck-boost battery charger

EZ-PD™ PMG1-B1 is a highly integrated single-port USB type-C Power Delivery (PD) microcontroller with integrated buck-boost battery charge controller. While complying with USB PD 3.1 specifications, EZ-PD™ PMG1-B1 integrates a programmable MCU with Arm® Cortex®-M0/M0+, 128 KB Flash and 16 KB SRAM for custom features implementation, gate drivers, and hardware-controlled protection features. EZ-PD™ PMG1-B1 supports a wide input voltage range (4 to 24 V with 40 V tolerance) and programmable switching frequency (150 to 600 kHz) in an integrated PD solution.



Features

- > USB-C support and USB PD support
- > Programmable MCU with Arm® Cortex® M0, 128 KB Flash and 16 KB SRAM
- > Integrated buck-boost controller with 5.5 V to 24 V input and 3.3 V to 21.5 V output voltage range
- > 21 GPIOs that can operate from 1.71 V to 5.5 V
- > Termination resistors: R_p and R_d for CYPM1115, and R_p , R_d and R_{d-db} for CYPM1116
- > High-voltage protection features such as OVP UVP OCP

Benefits

- > Optimized area and BOM thanks to the integrated single-chip solution
- > Simple customization via ModusToolbox™ and EZ-PD™ PMG1 SDK
- > Easy integration into your application

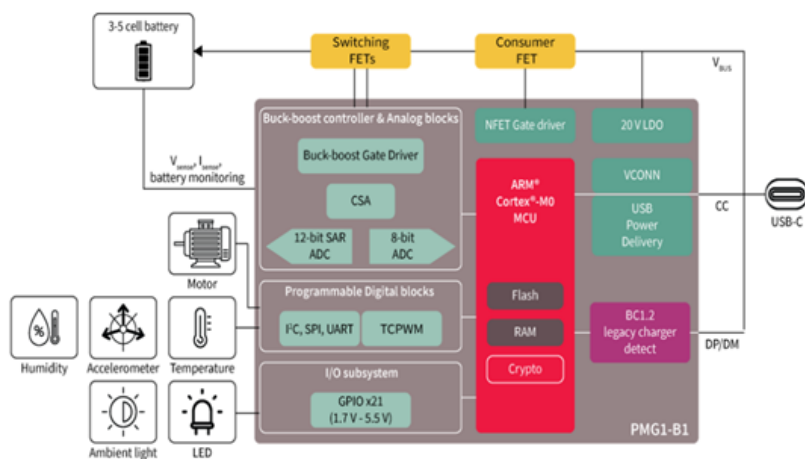
Competitive advantage

- > High level of system integration
- > USB PD + MCU + buck-boost battery charger on a single chip
- > ModusToolbox™ and EZ-PD™ PMG1 SDK for an easy customization

Target applications

- > Power tools
- > Portable / cordless battery-powered electronics
- > Smart home appliances

Block diagram



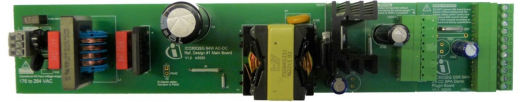
Product collaterals / Online support

- [Product family page](#)
- [Product page CYPM1115-48LQXI](#)
- [Product page CYPM1116-48LQXI](#)

Product overview incl. data sheet link

OPN	SP Number	Package
CYPM1115-48LQXI	SP005831485	PG-VQFN-48
CYPM1116-48LQXI	SP005831489	PG-VQFN-48

REF_ICC80QSG_84W2_BPA - 84 W AC-DC reference design for battery chargers



The REF_ICC80QSG_BPA2_84W is an 84 W flyback-based reference design tailor-made for battery chargers for e-bikes. It is based on the quasi-resonant flyback controller ICC80QSG and the renowned 700 V CoolMOS™ P7 technology in the small footprint and wave solderable SOT-223 package.

Features

- > Secondary-side regulation with adjustable CC output set-point from 0.2 A to 2 A
- > Supports wide output load range from 6 V to 42 V
- > Full-power efficiency more than 91 percent at 230 V_{RMS,AC} input
- > Four-point average efficiency more than 91 percent at 42 V output load
- > System standby power less than 200 mW at 230 V_{RMS,AC} input

Benefits

- > High efficiency and low EMI with quasi-resonant (QR) valley switching
- > Cost-effective flyback MOSFET with high performance, using CoolMOS™ P7 in SOT-223 package
- > Configurable hysteresis of brown-in and brown-out
- > Adaptive brown-out level triggering based on bus voltage ripple, to better protect primary components from overheating and saturation with higher brown-out level at higher power transfer
- > Comprehensive set of protections: internal overtemperature protection (OTP), output overvoltage protection (OVP), VCC OVP, overcurrent protection (OCP), brown-in and brown-out protection, input OVP and open-loop protection

Target applications

- > Battery chargers
- > Light electric vehicles such as e-bikes

Product collaterals / Online support

[Board page](#)

Product overview incl. user manual link

OPN	SP Number
REFICC80QSG84W2BPATOBO1	SP005916684

REF-MHA50WIMI111T

REF-MHA50WIMI111T is a reference design for a fan control board. In addition to the motor connector it provides the control interfaces found in typical fan drive applications like the indoor fan of an RAC. The featured IMI111T-026H device is part of the iMOTION™ IMI111T series, offering full 3-phase inverter functionality including motor controller, 3-phase gate driver and IGBT-based power stage in a compact DSO package.



Features

- > Field-proven Motion Control Engine (MCE)
- > Single shunt sensorless field oriented control (FOC)
- > Scripting engine for additional flexibility
- > 600 V / 2A IGBT power stage
- > Typical fan driver 5-pin connector

Competitive advantage

- > Easy-to-copy reference board for any customer that wants to implement a speed control for the indoor fan of an RAC or any other fan or pump up to 50W

Product collaterals / Online support

[Product page](#)

[Board page](#)

Benefits

- > Easy to use reference for fan and small motor drives
- > Simple motor parametrization and tuning using iMOTION™ Solution Designer
- > Fast time to market with no coding required for motor control functions
- > Online simulation tools available

Target applications

- > Indoor fan in residential aircon
- > Ventilation fans
- > Small pumps up to 50 W

Product overview incl. data sheet / user manual link

OPN	SP Number	Package
IMI111T026HXUMA1	SP005410748	PG-DSO-22
REFMHA50WIMI111TTOBO1	SP005876832	