



New Product Introduction

January 2021

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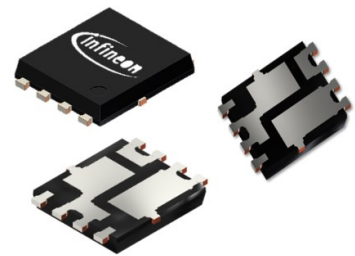
[CoolGaN™ 600V e-mode HEMT half-bridge evalboard](#)

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OptiMOS™6 40 V HB SS08 - optimized layout and higher current rating for H-bridge and 3-phase midpower applications

Infineon introduces its latest OptiMOS™6 40 V power MOS technology in the 5x6mm² HB SS08 leadless package with highest quality level and robustness for automotive applications .

The Half-Bridge HB SS08 product family consists of a portfolio of 6 products ($R_{DS(on)_{max}}$ from 3mΩ to 7mΩ) which enables the best product feet for the mid power motor-drives applications.



Features

- > Higher current ratings
- > Enhanced/Smart routing and optimized layout for H-bridge and 3-phase applications
- > Enables 3 x higher current ratings: HB SS08 (Id=60 A) vs. dual SS08 (Id=20 A)
- > Latest OptiMOS 6 40 V technology: enables optimized switching & power losses

Benefits

- > optimized layout for H-bridge and 3ph app.
- > HB SS08 3x higher current ratings (HB SS08 Id=60 A vs. dual SS08 Id=20 A)
- > Optimized $R_{DS(on)}$ for low conduction losses enabling high efficiency
- > Lower gate charge and Q_{rr} for reduced switching losses
- > Small footprint - 5x6 mm² SSO8 leadless package
- > Extended ATV qualification (beyond AEC-Q101)

Target applications

- > Body: power seats, window-lift, wiper, HVAC, etc
- > Chassis: electric parking break,
- > Power Train: water pump, fuel pump, oil pump

Competitive advantage

- > The Half-Bridge HB SS08 product family consists of a portfolio of 6 products ($R_{DS(on)_{max}}$ from 3mΩ to 7mΩ) which enables the best product feet for the mid power motor-drives applications
- > Cost efficiency solution for mid-power drives applications
- > Enhanced/Smart routing and optimized layout for H-bridge and 3-phase applications
- > Enables 3 x higher current ratings: HB SS08 (Id=60 A) vs. dual SS08 (Id=20 A)

Product overview incl. data sheet link

OPN	SP Number	Package
IAUC60N04S6L030HATMA1	SP004134512	PG-TDSON-8
IAUC60N04S6N031HATMA1	SP003863382	PG-TDSON-8
IAUC60N04S6L045HATMA1	SP004134514	PG-TDSON-8
IAUC60N04S6N050HATMA1	SP003863384	PG-TDSON-8
IAUC45N04S6L063HATMA1	SP004134516	PG-TDSON-8
IAUC45N04S6N070HATMA1	SP003863380	PG-TDSON-8

Product collaterals / Online support

[Product family page](#)

[Product brief](#)

OptiMOS™6 40 V in SS08 - the MOSFET that enables higher power density and compact design

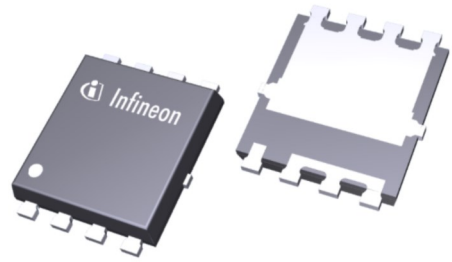
Infineon introduces its latest OptiMOS™6 40 V power MOS technology in the 5x6mm² SS08 leadless package with highest quality level and robustness for automotive applications.

A portfolio of 18 products ($R_{DS(on)}$ _max from 0.5mΩ to 4.4mΩ) which enables the the customer to find the best product feet in the their applications.

All of this enables the Best-in-Class product FOM ($R_{DS(on)} \times Q_g$) and performance on the market.

The new SS08 product offers 120 A continuous current ratings, which is >25% higher than the standard DPAK at almost half of its footprint area.

The footprint area of SS08 is 35mm² and of the DPAK is 65mm².



Features

- > Higher current ratings
- > $R_{DS(on)}$ range from 0.5mΩ to 4.4mΩ able to address the whole applications range from low-power (e.g. Body applications) to high-power (e.g. EPS)
- > Improved switching performances
- > Lower package resistance and inductance

Target applications

- > Electric power steering
- > Engine cooling fan
- > Battery disconnection switch
- > Battery management
- > DC DC converter 48 V / 12 V
- > Body applications (e.g. Wipers, window lift, seat-control...)

Benefits

- > Reduced conduction losses and switching losses
- > Optimized switching performance
- > Reduced FOM factor compared to previous SFET5 40 V SS08 products
- > >25% higher current ratings - compared to previous SFET5 40 V SS08

Competitive advantage

- > A portfolio of 18 products ($R_{DS(on)}$ _max from 0.8mΩ to 4.4mΩ) which enables the best product feet in the applications.
- > Best in class FOM ($R_{DS(on)} \times Q_g$)
- > Lower package resistance and inductance
- > Best in class switching performances
- > Extensive portfolio
- > Best product quality on the market

Product overview incl. data sheet link

OPN	SP Number	Package
IAUC120N04S6L005ATMA1	SP001723538	PG-TDSON-8
IAUC120N04S6N006ATMA1	SP004463660	PG-TDSON-8
IAUC120N04S6L008ATMA1	SP001633598	PG-TDSON-8
IAUC120N04S6N009ATMA1	SP001688678	PG-TDSON-8
IAUC120N04S6L009ATMA1	SP001618638	PG-TDSON-8
IAUC120N04S6N010ATMA1	SP001618640	PG-TDSON-8
IAUC120N04S6L012ATMA1	SP001790492	PG-TDSON-8
IAUC120N04S6N013ATMA1	SP001790490	PG-TDSON-8
IAUC100N04S6L014ATMA1	SP001700120	PG-TDSON-8
IAUC100N04S6N015ATMA1	SP001700154	PG-TDSON-8
IAUC100N04S6L020ATMA1	SP001790494	PG-TDSON-8
IAUC100N04S6N022ATMA1	SP001790496	PG-TDSON-8
IAUC100N04S6L025ATMA1	SP001700164	PG-TDSON-8
IAUC100N04S6N028ATMA1	SP001700166	PG-TDSON-8
IAUC80N04S6L032ATMA1	SP001700160	PG-TDSON-8
IAUC80N04S6N036ATMA1	SP001700162	PG-TDSON-8
IAUC60N04S6L039ATMA1	SP001700156	PG-TDSON-8
IAUC60N04S6N044ATMA1	SP001700158	PG-TDSON-8

Product collaterals / Online support

[Product family page](#)

[Product brief](#)

TRENCHSTOP™ RC-D2 600 V

The 2nd generation of TRENCHSTOP™ RC technology for hard switching low power drive applications, brings price effective plug&play solution for all low power drive applications.



Features

- > Improved humidity ruggedness
- > High collector emitter voltage 600 V and 3 μ S SCWT rating
- > Operation rage up to 20 kHz
- > Superior controllability
- > New price/performance standard

Benefits

- > Low switching losses on competitive price
- > Improved controllability
- > Humidity ruggedness improvement
- > Easy to design in products – drop in SMD replacement in DPAK and SOT package
- > Enable invertization of SMA with SOT

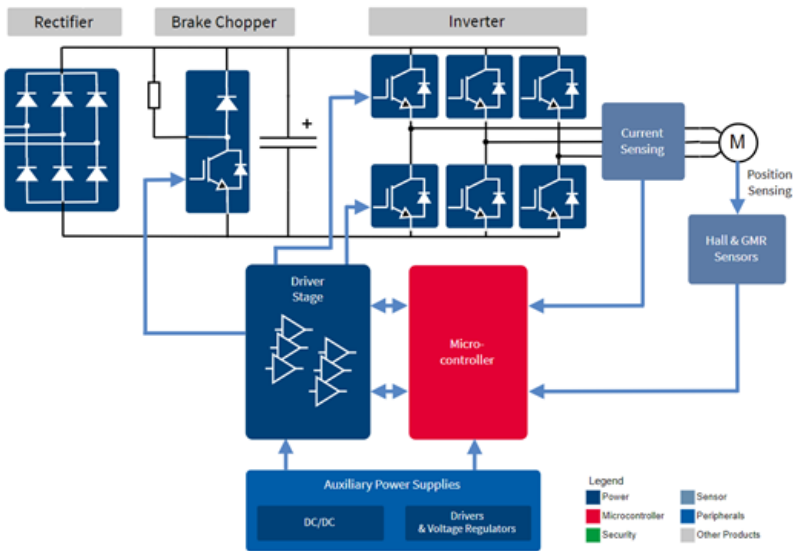
Target applications

- > Low power consumer drives e.g.: blender, mixer and food processor, fridge compressor, pumps& fans, washing residential aircon- motor-, system control and monoitoring, machine-motor-, system control and monoitoring

Competitive advantage

- > Good controllability with competitive price
- > Easy to design products – drop in replacement
- > High system reliability

Block diagram



Product overview incl. data sheet link

Product collaterals / Online support

[Product family page](#)

OPN	SP Number	Package
IKD04N60RC2ATMA1	SP004542900	PG-TO252-3
IKD06N60RC2ATMA1	SP005349953	PG-TO252-3
IKD10N60RC2ATMA1	SP005349955	PG-TO252-3
IKD15N60RC2ATMA1	SP005349957	PG-TO252-3

TRENCHSTOP™ IGBT6 650 V in DPAK

The latest generation of TRENCHSTOP™ IGBT6 650 V in DPAK for hard switching low power drive applications, brings best-in-class price performance for all low power drive applications



Features

- > Best-in-class controllability
- > High collector emitter voltage 650 V and 3 μ S SCWT rating
- > 1,5 V lowest V_{cesat}
- > Great trade-off between controllability and switching losses
- > 3* μ sec short circuit protection

Benefits

- > Optimized for lowest switching losses, but also low conduction losses
- > Best-in-class efficiency in low power motor drives up to 1 kW
- > Reduced EMI noise

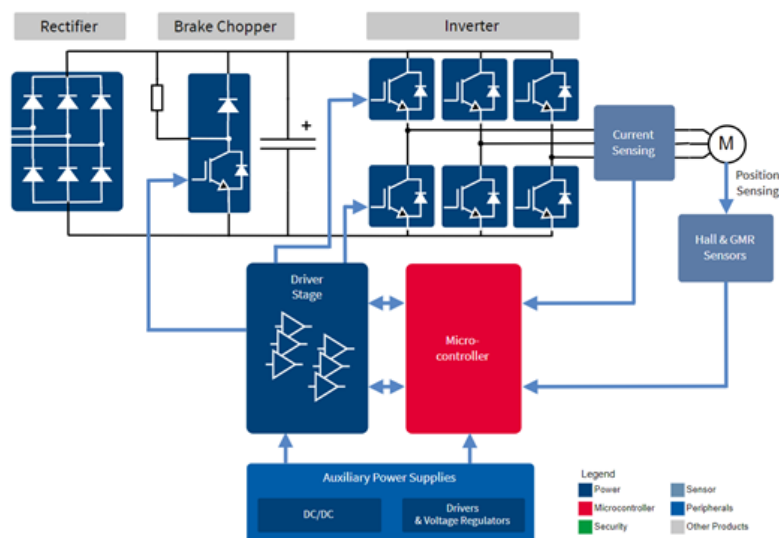
Target applications

- > Low power consumer drives e.g.: fridge compressor, pumps, fans, aircon

Competitive advantage

- > Optimized for lowest switching losses, but also low conduction losses to meet energy efficiency requirements
- > Excellent thermal performance, especially at higher frequencies
- > Offered in isolated TO220FP and SMD DPAK for compact design
- > Lower system cost on EMI filtering

Block diagram



Product overview incl. data sheet link

OPN	SP Number	Package
IKD06N65ET6ARMA1	SP004210258	PG-TO252-3
IKD08N65ET6ARMA1	SP004275470	PG-TO252-3
IGD10N65T6ARMA1	SP004275478	PG-TO252-3
IGD15N65T6ARMA1	SP004275482	PG-TO252-3

Product collaterals / Online support

[Product family page](#)

[Application notes](#)

Automotive PSoC® 4000S / 4100S Plus



Automotive PSoC® 4000S and PSoC® 4100S Plus are programmable embedded system controllers based on an Arm Cortex-M0+ @ 48 MHz with up to 32 KB (4000S) or up to 128 KB (4100S Plus) flash. Both provide programmable analog and digital blocks along with a dedicated capacitive sensing block – CapSense™.



Features

- > 48-MHz Arm Cortex-M0+ CPU
- > Up to 16KB or 128 KB of flash with Read Accelerator
- > CapSense capacitive sensing block
- > 4000S: Single-Slope 10-bit ADC function
- > 4100S Plus: 12-bit 1-Msps SAR ADC
- > Serial Communication Blocks (SCB), re-configurable as I2C, SPI, UART or LIN Slave
- > 4100S Plus: CAN 2.0B
- > 16-bit Timer/Counter/Pulse-Width Modulator blocks (TCPWM)

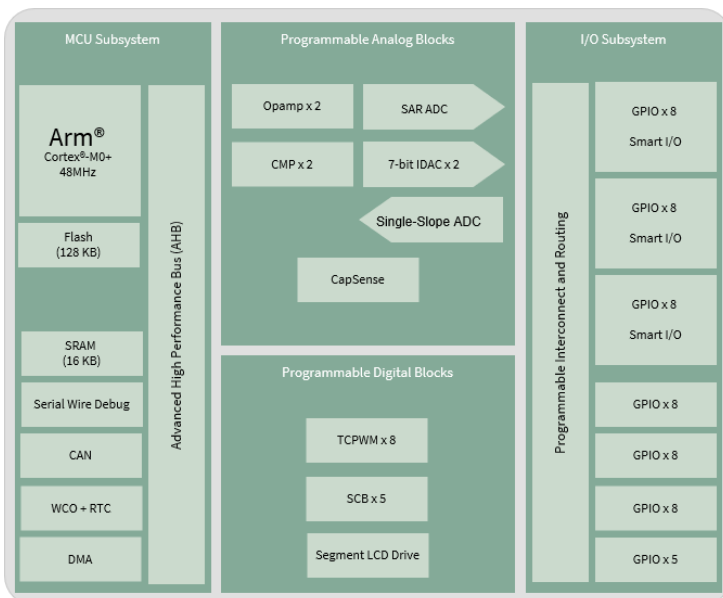
Benefits

- > CapSense Sigma-Delta (CSD) provides best in class signal-to-noise ratio (SNR) and water tolerance
- > Reliable operation in harsh automotive electromagnetic environment

Competitive advantage

Best in class signal-to-noise ratio (SNR) and water tolerance for capacitive sensing applications for interior and exterior human machine interface (HMI) applications

Block diagram PSoC® 4100S



Target applications

- > Automotive
- > HMI
- > Infotainment
- > Liquid level sensing

Product overview incl. data sheet link

OPN	Package
CY8C4025LQA-S411	QFN-24
CY8C4147AZA-S285	TQFP-64
CY8C4147AZA-S475	TQFP-64
CY8C4146AZS-S265	TQFP-64

Product collaterals / Online support

[Product family page PSoC® 4000S](#)

[Product family page PSoC® 4100S](#)

CoolGaN™ 600V e-mode HEMT half-bridge evaluation board
- EVAL_1EDF_G1B_HB_GAN

This 600 V gallium nitride (GaN) half-bridge evaluation board enables easy and rapid setup as well as a test of CoolGaN™ transistors. The generic topology can be configured for boost or buck operation, pulse testing, or continuous full-power operation. Test points provide easy access to connect signals to an oscilloscope to measure the switching performance of CoolGaN™ transistors and gate drivers. This board saves the user from designing their own gate driver and power circuit to evaluate gallium nitride transistors.

The half-bridge circuit board features a single PWM input intended for the connection of a 50Ω pulse generator. The board is powered from a single 5 V supply input, which powers everything, including the isolated gate driver power supplies. Deadtime between the high- and low-side is initially set to 100ns but is trimpot-adjustable. An external inductor can be connected using the supplied pluggable connector. The output and bus voltage can range up to 450 V, limited by the capacitor rating. This half-bridge can switch continuous currents of 12 A and peak currents of 35 A, hard or soft-switching. Operating frequency can be up to several MHz, depending on transistor dissipation (limited to about 15 W per device with appropriate heatsink and airflow).



Features

- > Simple GaN half-bridge with dedicated GaN driver ICs
- > Capable of multi-MHz switching frequencies
- > Zero reverse-recovery – can shift between hard- or soft-switching
- > GaN transistors feature top-side cooling for high power dissipation

Benefits

- > Easy setup and use
- > Multiple configurations possible
- > Evaluate high-frequency capabilities of GaN
- > Evaluate waveforms with low ringing, overshoot, EMI
- > Enables easy evaluation at multi-kilowatt power levels

Target applications

- > Power Supply

Product overview incl. product page link

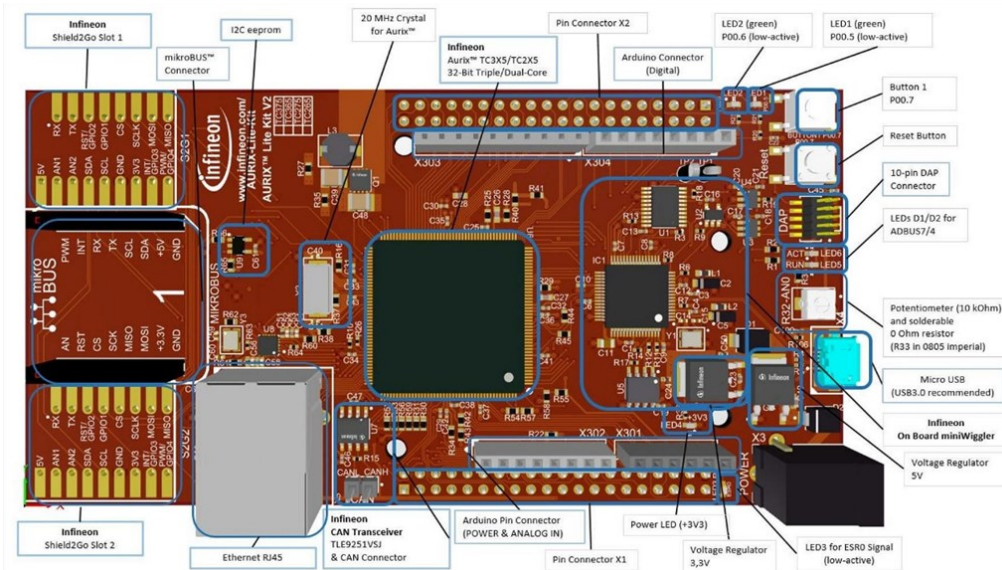
OPN	SP Number	Package
EVAL1EDFG1BHBGANTOBO1	SP005545252	Board

Product collaterals / Online support

- [Product page](#)
- [Application note](#)

AURIX™ TC375 Lite Kit 32-bit Microcontroller

AURIX™ TC375 lite kit is equipped with a 32-Bit Single-Chip AURIX™ TriCore™ based-microcontroller Aurix™ TC375. It can be used with a range of development tools including AURIX™ Development Studio, Infineon's free of charge Eclipse based IDE, or the Eclipse based "FreeEntryToolchain" from Hightec/PLS/Infineon.



Target applications

- > Motor control
- > CAV
- > Lighting
- > Safety
- > Drones
- > Elevators
- > Industrial

Features

- > Arduino Connector/Arduino ICSP Connector
- > 2 x Shield2GO Connector for Infineon Maker Shields
- > Voltage Regulator 5 V to 3.3 V
- > Low Power 10/100 Mbps Ethernet
- > CAN connector
- > CAN transceiver TLE9251VSJ

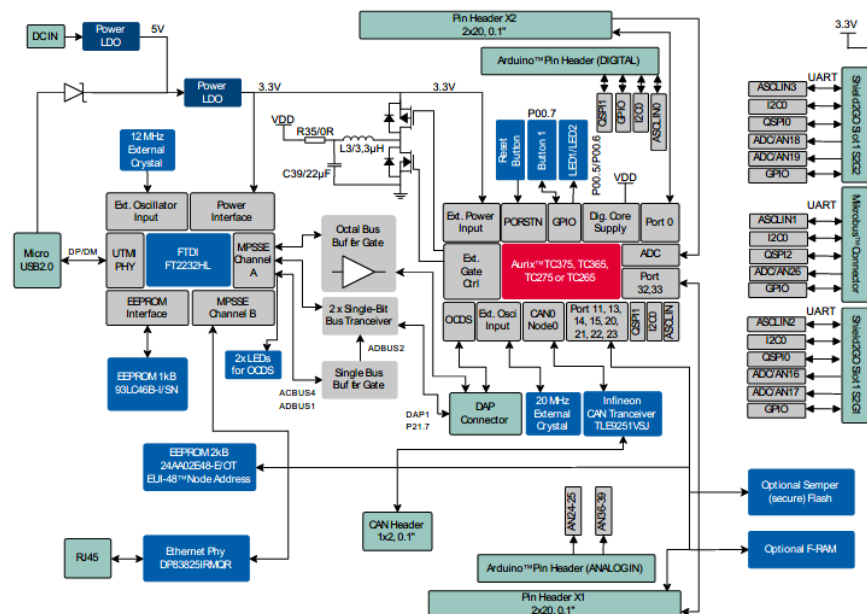
Benefits

- > DAP Debug connector
- > Enabling ASIL-D systems
- > 20 MHz Crystal for AURIX™ and 12 MHz Crystal for OCDS

Competitive advantage

Low cost TriCore™ kit with high performance supported by our new IDE (AURIX™ Development Studio) including codes examples and trainings

Block diagram



Product overview incl. user manual link

OPN	SP Number	Package
KITA2GTC375LITETOB01	SP005551747	Board

Product collaterals / Online support

[Product page](#)

[User manual](#)

AURIX™ Development Studio