

infineon

New Product Introduction

January 2024

ISOFACE[™] quad-channel digital isolators for industrial and automotive applications

TRAVEO™ T2G CYT4DN

CoolSiC[™] 2000 V SiC MOSFET family IMYH200RxxxM1H

<u>OptiMOS™ 6 40 V SSO10T – Infineon's Top Side Cooling (TSC) Automotive</u> <u>MOSFET Package</u>

650V CoolSiC[™] Hybrid in TO263-7 package AIKBE50N65RF5

<u>CoolSiC™ MOSFET Easy Module Portfolio extension - EV Charging, UPS, Solar,</u> <u>ESS</u>

EiceDRIVER™ 1EDI3050AS and 1EDI3051AS

650 V EC7 Discrete Diode

BGSA149M2N10: SP4T antenna tuning switch with ultra-low OFF capacitance

OPTIGA ™ Authenticate On

Security controller OPTIGA ™ TPM SLB 9672 FW 15

XENSIV[™] - TLI5590 stray field robust linear TMR sensor for high resolution position detection in industrial and consumer applications

EZ-PD[™] PAG2 two-chip ZVS flyback converter for USB-C PD adapter and charger designs

Pulse edge transformer for EZ-PD™ PAG1 CYPET131

CYW20822 Bluetooth® LE Module - low power and long-range Bluetooth® LE 5.0

EVAL-COOLSIC-2KVHCC

ISOFACE[™] quad-channel digital isolators for industrial and automotive applications

The ISOFACE[™] quad-channel digital isolator family supports data rates up to 40 Mbps and ensures robust data communication over a wide ambient operating temperature range (-40°C to +125°C) and across production spread.

Four data channels in a wide-body DSO-16 package allow for simplified and high power density designs and improve system efficiency with low current consumption. Now also available in 4+0 channel configurations.

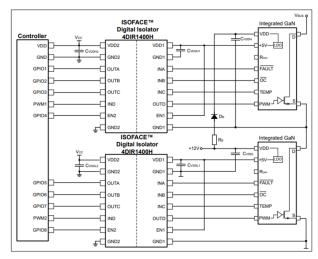
Features

- > Data rates up to 40 Mbps
- > Supply voltage: 2.7 V 6.5 V
- > VISO of 5700 VRMS
- > Low current consumption 6.4 mA @ 1 Mbps
- > CMTI: 100 kV / µs (min)
- > Operating temperature: -40°C to 125°C
- > AEC-Q100 qualified
- > Channel configurations:
 - > 3+1
 - > 2+2
 - > 4+0 now available

Competitive advantage

- > High CMTI > 100 kV / µs (min)
- > Low current consumption: 6.4 mA @ 1 Mbps
- > Pin-to-pin compatibility with market portfolios
- Simplified system safety approval (IEC 6236-1, EC60747-17, UL 1577, VDE 0884-17, AEC-Q100 qualification)

Block diagram



Product overview incl. data sheet link

OPN	SP Number	Package
4DIR0400HXUMA1	SP005432627	PG-DSO-16
4DIR0400HAXUMA1	SP005850917	PG-DSO-16
4DIR0401HXUMA1	SP005547299	PG-DSO-16
4DIR0401HAXUMA1	SP005850923	PG-DSO-16



Benefits

- > High immunity against system noise
- > Higher system efficiency
- > Reliable high default output state
- > Simplified system certification
- > Easy device replacement
- > Alternative sourcing

Target applications

- > Industrial automation
- > Server
- > Telecom
- > Industrial SMPS
- > Solar
- > Isolated serial peripheral interface
- > Hybrid, electric and powertrain systems
 - > Battery management system
 - > On-board charger
 - > Traction inverter
 - > DC/DC converter
 - > Inverter and motor control

Product collaterals / Online support

Product family page

TRAVEO™ T2G CYT4DN

The TRAVEO[™] CYT4DN is a family of TRAVEO[™] T2G microcontrollers dedicated to automotive systems such as instrument clusters and Head-Up Displays (HUD). The family features a 2D graphics engine, sound processing, two Arm® Cortex®-M7 CPUs for primary processing running up to 320 MHz and an Arm® Cortex®-M0+ CPU for peripheral and security processing. Moreover, it includes a 720 p GFX and an unique package: 327-ball BGA.

Features

- > Arm® Cortex®-M7 single/dual CPU
- > Up to 320 MHz operation
- > Up to 6 MB flash, 128 KB work flash, 640 KB SRAM
- > Dual-bank flash to support true
- > FOTA
- > Audio interface: I2S, TDM
- > Supports 2D and 2.5D (perspective warping, 3D effect graphics rendering
- > Up to 30-bit color resolution (RGB)
- > 4096 KB of embedded video RAM memory (VRAM)
- > Display warping on-the-fly for HUD applications
- > ASIL B support (FMEDA)

Target applications

- > TRAVEO[™] T2G microcontroller targeted at automotive systems such as instrument clusters and head-up displays (HUD)
 - > Cockpit
 - > Automotive Head Unit
 - > Automotive instrument cluster
 - > Matrix LED headlights
 - > HVAC system
 - > Digital mirrors

Block diagram

System Control		Core	Block	
Regulators	SWD/ JTAG / Trace	SRAM	Program Flash	Arm®
LVD / BOD	Arm®	I-Cache	Work Flash	Cortex®M0+
RC Oscillators	Cortex [®] - M7 (Dual) FPU	D-Cache	Boot ROM	Crypto
PLL / FLL	MPU	PPU	DMA	eFuse
Reset	Peripheral			
WDT / CSV	16-bit Motor TCPWM	GPIO Smart I/O	16-bit TCPWM	32-bit TCPWM
Real Time Clock	4-ch CAN FD	12-ch SCB I ² C / UART /SPI	2- ch LIN / UART	48-ch 12- bit ADC (1× SAR ADC)
Wakeup Timer	IRQ / NMI	2-ch CXPI		
Power Mode Management	SMIF	Ethernet	Sound I ² S, PCM-PWM, TDM	Audio-DAC
Graphics				
	2.5D engine	Vector Drawing	TCON	Video in 1-ch
Command Sequencer	VRAM	Signature Unit	TCON	Video out 2-ch

Product overview incl. data sheet link

OPN	SP Number	Package
CYT4DNJBRCQ1BZSGS	SP005749927	PG-LFBGA-327



Benefits

- Single-chip solution offering automotive function thanks to Arm® Cortex®-M7
- > Optimized memory footprint for reduced BOM
- > State-of-the-art security with secure boot support from a dedicated M0+ core and security hardware to accelerate cryptographic functions
- > Real FOTA support based on security and dual-bank flash
- > Safety (ASIL B) features and analysis report

Competitive advantage

- Single chip solution from single M4 to dual M7 host CPU up to 720P with M0+ as security cores
- > Superior and more scalable connectivity
- > Common, separate Crypto CPU for all lineup, security engine for Evita-light only
- > Scalable resource management for Crypto Core
- > Audio DAC & mixer support
- > Line buffer and warping by OTF*4 for VRAM reduction

Product collaterals / Online support

Product page

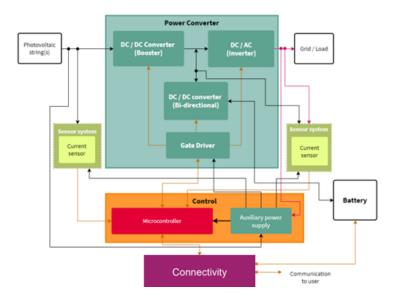
CoolSiC[™] 2000 V SiC MOSFET family IMYH200RxxxM1H

The CoolSiC[™] 2000 V SiC MOSFET family, available in TO-247PLUS-4-HCC package and ranging between 12 - 100 mΩ along with the matching diode portfolio ranging between 10 - 80 A, have been designed to offer increased power density without compromising the system's reliability even under demanding high voltage and switching frequency conditions. The low power losses of CoolSiC[™] technology provide increased reliability thanks to the .XT interconnection technology in a 2000 V optimized package, enabling top efficiency for green and efficient energy applications.

Features

- $>~V_{\text{DSS}}$ = 2000 V for DC-link systems up to 1500 V_{DC}
- > Very low switching losses
- > Innovative HCC package
- > 14 mm pin to pin creepage
- > 5.4 mm clearance distances
- > Benchmark gate threshold voltage, V_{GS(th)} = 4.5 V
- > Robust body diode for hard commutation
- > .XT interconnection technology for best-in-class thermal performance
- > High humidity robustness

Block diagram



Product overview incl. data sheet link

OPN	SP Number	Package
IMYH200R012M1HXKSA1	SP005427368	PG-TO247-4
IMYH200R024M1HXKSA1	SP005745284	PG-TO247-4
IMYH200R050M1HXKSA1	SP005427372	PG-TO247-4
IMYH200R075M1HXKSA1	SP005427374	PG-TO247-4
IMYH200R100M1HXKSA1	SP005427376	PG-TO247-4

Benefits

- >~ 2-level simple topology for up to 1500 $V_{\text{DC}}\,\text{system}$
- > High power density
- > Excellent reliability
- > Highest efficiency
- > Ease of design

Competitive advantage

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

Target applications

- > Photovoltaic
- > Energy storage systems
- > EV charging

Product collaterals / Online support

Product family page

OptiMOS[™] 6 40 V SSO10T – Infineon's Top Side Cooling (TSC) Automotive MOSFET Package

SSO10T - Top Side Cooling is offering best cooling performance and compact design resulting in high power efficiency and low system cost.

Features

- > Direct cooling path to ECU housing
- > Improves Zth by -20% up to -50%
- > Improves Rth by -20% up to -50%
- > Enables double sided PCB design
- > Provides higher application currents
- SSO10T TSC is JEDEC listed for open market and 2nd source compatibility

Target applications

- > Electric power steering
- > Power disconnect switches
- > Zone control units
- > E-fuse box
- > DC/DC
- > ABS Braking, e-Booster
- > All automotive applications
- > BLDC drives in a wide variety

Benefits

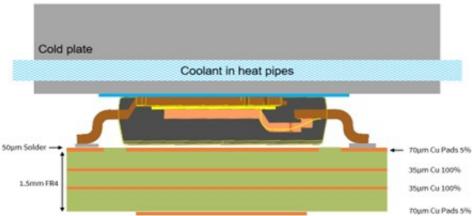
- > Best cooling performance
- > Not heat transfer into PCB
- > Very compact PCB design
- > Reduces system area
- > Reduces cooling efforts and costs (no more vias)
- > Reduces system costs and design efforts
- > High power density and efficiency

Competitive advantage

> IFX new SSO10 TSC 5 mm x 7 mm package offers more than 20% up to 50% higher power capability than standard IFX SSO8 5 mm x 6 mm combined with IFX best OptiMOS™ Power MOS technology resulting in highest power efficiency at IFX high automotive quality standard

Product collaterals / Online support

Product page



Product overview incl. data sheet link

OPN	SP Number	Package
IAUCN04S6N007TATMA1	SP005446255	PG-LHDSO-10
IAUCN04S6N009TATMA1	SP005562109	PG-LHDSO-10
IAUCN04S6N013TATMA1	SP005616773	PG-LHDSO-10
IAUCN04S6N017TATMA1	SP005935458	PG-LHDSO-10



Block diagram

650V CoolSiC™ Hybrid in TO263-7 package AIKBE50N65RF5

New 650 V CoolSiC[™] Hybrid Discrete in TO263-7 package for Automotive enables performance boost with best cost ratio for fast switching on-board charger applications.



Features

- > TRENCHSTOP™ technology as best in class fast switching IGBT technology on the market
- > Generation 5 CoolSiC[™] Schottky diode with improved die attach method for better thermal performance
- > Kelvin emitter connection for optimized switching performance
- > Creepage distance to fulfill automotive application requirements

Target applications

- > On-board charger
- > PFC
- > DC/DC

Benefits

- > Ideal cost-performance ratio through IGBT with SiC Diode
- > Highest reliability against environmental conditions
- > Increased system efficiency
- > Supporting bidirectional OBC designs
- > Improved thermal performance and reduced cooling efforts
- Easier assembly & reduced system cost through high creepage distance

Competitive advantage

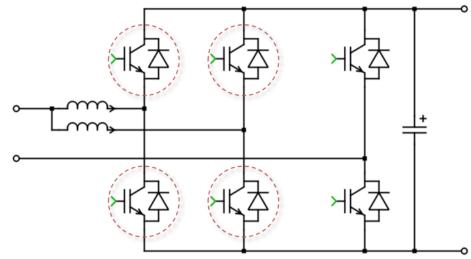
> The combination of Infineon's innovative Silicon and Siliconcarbide technology allows to produce IGBTs with the best switching performance and cost efficiency, giving a competitive advantage

Product collaterals / Online support

Product page

Block diagram

The example shows an interleaved Totem Pole PFC topology. The CoolSiC™ Hybrid Discrete for Automotive can be used for the 4 IGBTs on the left side, whereas the remaining two IGBTs are slow switching at 50 / 60 Hz



OPN	SP Number	Package
AIKBE50N65RF5ATMA1	SP005589441	PG-TO263-7

CoolSiC[™] MOSFET Easy Module Portfolio extension - EV Charging, UPS, Solar, ESS

The EasyPACK[™] and EasyDUAL[™] 1B and 2B in various topologies with CoolSiC[™] MOSFET enhanced generation 1 are suitable for 1200 V applications and come with PressFIT contact technology and NTC. They are also available with AIN/AI2O3 substrates and thermal interface material (TIM).

Features

- > Leading edge WBG material
- Very low stray inductance >
- > Enlarged gate drive voltage window
- PressFIT pins >

Target applications

- > EV Charging
- Energy Storage Systems
- >
- UPS >

- >
- Solar

Product collaterals / Online support

Product family page

Benefits

- > Extended maximum gate-source voltage of +23 V and -10 V
- T_{Viop} under overload condition with up to 175°C >
- Best cost-performance ration which leads to reduced system >costs
- > Enabling high frequency operation and improvement for reduced cooling requirements

Competitive advantage

- > Full and complete portfolio with standard and high-performance ceramic
- > Expand power rating in existing footprint

OPN	SP Number	Package
F48MR12W2M1HB70BPSA1	SP005634655	AG-EASY2B-3111
F48MR12W2M1HPB76BPSA1	SP005634763	AG-EASY2B-3111
F411MR12W2M1HB70BPSA1	SP005634630	AG-EASY2B-3111
F411MR12W2M1HPB76BPSA1	SP005634740	AG-EASY2B-3111
F433MR12W1M1HB76BPSA1	SP005634730	AG-EASY1B-3111
F417MR12W1M1HB76BPSA1	SP005597942	AG-EASY1B-3111
F417MR12W1M1HPB76BPSA1	SP005634561	AG-EASY1B-3111
F3L11MR12W2M1HPB19BPSA1	SP005726911	AG-EASY2B-3111
FF11MR12W2M1HB70BPSA1	SP005751849	AG-EASY2B-3111
FF11MR12W2M1HPB11BPSA1	SP005568397	AG-EASY2B-3111
FS13MR12W2M1HC55BPSA1	SP005879018	AG-EASY2B-3111
FS13MR12W2M1HPB11BPSA1	SP005562247	AG-EASY2B-3111



EiceDRIVER™ 1EDI3050AS and 1EDI3051AS

The galvanically isolated EiceDRIVER[™] 1EDI305xAS products are automotive qualified, single-channel high-voltage gate driver ICs optimized for IGBT and SiC power technologies up to 1200 V.

EiceDRIVER™ 1EDI305xAS products are ISO 26262-compliant and allow for ASIL D classification on a system level. The integrated SPI functionality enables platform development while the integrated high accuracy flyback controller can optimize the supply architecture and reduce conduction losses in power devices.

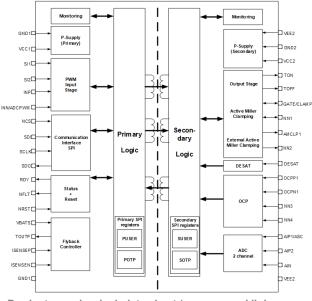
Features

- > Integrated flyback controller (2% acc.)
- Integrated SPI functionality, booster (up to 20 A peak) and 12-bit ADC
- > 6.8 kV reinforced insulation (DIN VDE)
- Redundant DESAT and OCP protection, gate and output stage monitoring
- > ISO 26262 SEooC for safety up to ASIL B
- > 1EDI3051: Dual monitoring / clamping

Target applications

- > Traction inverter
- > eFuse (solid state HV auxiliaries disconnection)
- > eDisconnect (solid state battery main disconnection)

Block diagram



Product overview incl. data sheet / user manual link

OPN	SP Number	Package
1EDI3050ASXUMA1	SP005550804	PG-DSO-36
1EDI3051ASXUMA1	SP005423684	PG-DSO-36
1EDI3050EVALBOARDTOBO1	SP005577621	
1EDI3051EVALBOARDTOBO2	SP005573214	



Benefits

- > High configurability and easy platform development
- > Supports highest system efficiency
- > Saving the external isolated power supply
- > Easy system safety architecture and FMEDA analysis
- > Compact DSO-36 fine pitch package
- > AEC-Q100 qualified and supports ASIL D on system level

Competitive advantage

- > Integrated flyback controller enables cost and space savings by eliminating the need for a separate IC to control flyback power supply
- > Configurable SPI gate driver
- Strong output stage capable of driving power modules and devices very efficiently
- > ASIL B compliant, ASIL D on system level

Product collaterals / Online support

Product page 1EDI3050AS Product page 1EDI3051AS Board page 1EDI3050 Eval board Board page 1EDI3051 Eval board

650 V EC7 Discrete Diode

Soft 650 V Emitter Controlled Si Diode 7 in TO247-2 2 pin package offering improved reliability for applications like string and micro inverter, datacenter UPS, offline UPS/residential UPS, online UPS/industrial UPS, residential aircon and welding.

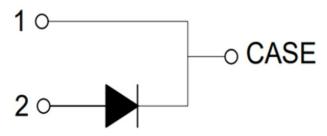
Features

- > Higher current rating devices up to 150 A
- > Very soft and fast recovery behavior
- > HV-H3TRB pass by JEDEC standard

Target applications

- > String and micro inverter
- > Datacenter UPS
- > Offline UPS/residential UPS
- > Online UPS/industrial UPS
- > Residential aircon
- > Welding

Block diagram



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Benefits

- > Highest power density
- > Low reverse recovery current
- > Low and temperature stable forward voltage (VF)
- > Less device paralleling
- > Humidity robustness under harsh environment
- > Maximum junction temperature T_{Vjmax}= 175°C

Competitive advantage

- > 650 V EC7 Diode technology was developed to improve softness, humidity ruggedness compares to previous discrete diode generations as EC3, Rapid 1 and Rapid 2
- > The Soft 650 V Emitter Controlled Si Diode 7 offers improved reliability for both industrial and home appliance applications. Additionally, using the TO247-2 package reduces the discharge related failure modes where unique high (up to 150 A) current ratings increases power density in discrete package allowing smaller size and weight designs

Product collaterals / Online support

Product family page

OPN	SP Number	Package
IDWD20E65E7XKSA1	SP005727581	PG-T0247-2
IDWD30E65E7XKSA1	SP005727583	PG-T0247-2
IDWD40E65E7XKSA1	SP005727585	PG-TO247-2
IDWD50E65E7XKSA1	SP005727587	PG-T0247-2
IDWD60E65E7XKSA1	SP005727590	PG-TO247-2
IDWD75E65E7XKSA1	SP005727592	PG-TO247-2
IDWD100E65E7XKSA1	SP005727595	PG-TO247-2
IDWD120E65E7XKSA1	SP005727597	PG-T0247-2
IDWD150E65E7XKSA1	SP005727599	PG-T0247-2

BGSA149M2N10: SP4T antenna tuning switch with ultra-low OFF capacitance

BGSA149M2N10 is a single-pole four throws (SP4T) antenna tuning switch optimized for RF applications up to 7.125 GHz. With its ultra-low $R_{ON} \times C_{OFF}$ figure-of-merit and very high linearity, BGSA149M2N10 enables highest antenna efficiency. Due to the small footprint of 0.95 x 1.3 mm², it allows space saving and is suitable for space-constrained applications. BGSA149M2N10 has MIPI RFFE 2.1 control interface and targets cellular systems in various applications, ranging from smartphones and wearables to various cellular IoT applications.

Features

- > Low R_{ON} resistance of 1.6 Ω in ON state
- > Low C_{\rm OFF} capacitance of 78 fF in OFF state
- > RF operating voltage handling 50 V in OFF state
- > MIPI RFFE 2.1 control interface
- > Low current consumption of 19 μ A

Target applications

- > Smartphone
- > Notebook/tablet
- > Wearables (smartwatch, VR headset)
- > Cellular CPE/mobile router
- > Various cellular IoT

Benefits

- > Supporting sub-7.2GHz NR / NR-U (5G) applications
- > Ultra-low R_{ON} x C_{OFF} along with very high linearity
- > 1.8 V and 1.2 V VIO operation
- > USID_SEL pin enabling 4 default USID addresses
- > Very small form factor (0.95 mm x 1.3 mm)

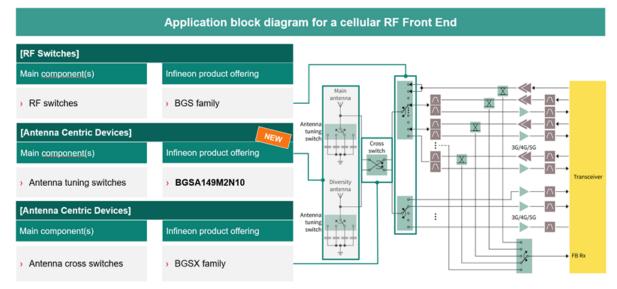
Competitive advantage

- > Lowest C_{OFF} of 78 fF enabling best high-frequency behavior
- > Usable on platforms with 1.2V VIO supply voltage
- > Space saving due to ultra-small package, suitable for spaceconstrained applications

Product collaterals / Online support

Product page

Block diagram



OPN	SP Number	Package
BGSA149M2N10E6327XTSA1	SP005852767	PG-TSNP-10



OPTIGA™ Authenticate On

OPTIGA[™] Authenticate On is optimized for the authentication of mobile device batteries and to protect against counterfeits. Its small dimensions make it easy to integrate into even the smallest phone or tablet batteries without compromising performance or reliability. This one-package solution is bus powered to reduce Bill of Material costs. In addition, it follows the MIPI (Mobile Industry Processor Interface) specifications to allow for easy implementation.



Additional Information: NDA is required.

Features

- > 2 authentication modes
- > Message authentication code
- > SWI interface (MIPI specification)
- > Secured unique ID for each chip
- > Pre-integrated diode
- > 1.24 V 3.63 V

Target applications

> Authentication for mobile device batteries

Product collaterals / Online support

Product page

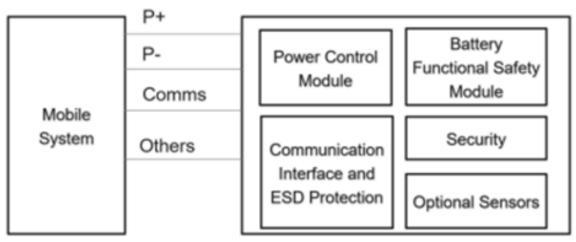
Benefits

- > Tailored to mobile device batteries
- > Easy to implement
- > Security to rely on
- > Robust authentication
- > Incredibly small dimensions

Competitive advantage

- > PRE (Protection to everse engineering)
- > Secured multiple lifecycle counters
- > Host authentication
- > Secured deactivation feature
- > Secured auto deactivation
- > TSNP SMD package (1.5 mm x 1.2 mm x 0.4 mm)

Block diagram



Battery Protection Circuit Module

OPN	SP Number	Package
SLE956680002TSNP6XTSA1	SP005588552	PG-TSNP-6
SLE9566810003TSNP6XTSA1	SP005588556	PG-TSNP-6
EVALKITOPTIGAAUTHONTOBO1	SP006010129	

Security controller OPTIGA™ TPM SLB 9672 FW 15

OPTIGA[™] TPM SLB 9672 is a standardized, ready-to-use computing security solution that serves as a robust foundation to identify and authenticate PCs, servers, and connected devices, and to protect data integrity and confidentiality. It is future-proof thanks to an extended memory, stronger algorithms and, last but not least, a PQC-protected firmware update mechanism. In addition, Integrated resiliency features allow the TPM firmware to be recovered. Infineon is committed to the long-term availability and support of OPTIGA[™] TPM SLB 9672.



Features

- > PQC-protected firmware update mechanism using XMSS signatures
- > SPI interface
- Support for latest cryptographic algorithms: up to RSA-4096, ECC NIST P384, SHA2-384
- > Windows HLK certification
- > TCG, CC, and FIPS certifications
- > Support for TCG TPM 2.0 standard (revision 1.59)

Target applications

- > Laptops/desktops/tablets
- > Servers
- > Enterprise printers

Benefits

- > Future-proof
- > Robust security
- > Long-term availability & support
- > Easy integration with Windows and Linux OS platforms

Competitive advantage

- > Low integration costs
- > Strong protection against sophisticated attacks
- > Compliancy with demanding industrial needs
- > System high reliability

Product collaterals / Online support

Product page

OPN	SP Number	Package
SLB9672XU20FW1523XTMA1	SP005919742	PG-UQFN-32
SLB9672VU20FW1523XTMA1	SP005919740	PG-UQFN-32

XENSIV[™] - TLI5590 stray field robust linear TMR sensor for high resolution position detection in industrial and consumer applications

TLI5590-A6W is a magnetic 2-channel linear gradiometer for high resolution position detection. This sensor is designed for linear and angular incremental position sensing in industrial and consumer applications, with the highest accuracy requirements. It's using Infineon's well established linearized TMR technology and a super small halogen free package.

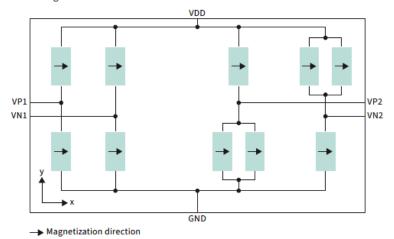
Features

- > Two channeled ratiometric gradiometer, linearized TMR technology
- > Magnetic field range is 5 mT
- > Low current consumption with 1 mA @ 3.3 V
- > Sensitivity is 9 / 18 mV / V / mT
- > Angle error is less than 2% per magnetic period
- > JEDEC JESD47K classified

Target applications

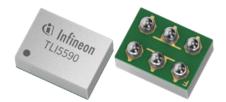
- > Angular applications
 - > Optical encoder replacement
 - > Industrial manufacturing line monitoring
 - > Resolver replacements
- > Linear applications
 - > Optical image stabilization
 - > Linear conveyor robotic movements
 - > Slider positioning/HMI/medical equipment

Block diagram



Product overview incl. data sheet link

OPN	SP Number	Package
TLI5590A6WXTMA1	SP005631773	SG-WFWLB-6



Benefits

- High signal-to-noise ratio allows small and cost-effective magnet designs e.g., Ferrite- based magnets
- > Low power consumption is beneficial for battery supplied applications e.g., mobile cameras
- > High temperature-stable measurements make it perfect choice for use in harsh environments
- > Hysteresis-free transfer characteristic allows accurate sensing where fast changing direction changes occur e.g. robotics
- > Higher integration density reduces the sensor size to support miniaturization and position sensing in microsystems

Competitive advantage

- > Greater sensitivity, with 10 30 mV / V / mT @ 20 mT range
- > Lower power consumption ,< 1 mA (1 k Ω ...10 k Ω)
- > Lower hysteresis, 5 mV 10 mV

Product collaterals / Online support

Product page

EZ-PD[™] PAG2 two-chip ZVS flyback converter for USB-C PD adapter and charger designs

EZ-PD[™] PAG2S supports secondary-side controlled flyback converters by pairing with EZ-PD[™] PAG2P. PAG2S-AC is a secondary-side ACF controller enabling leakage energy recycling and ZVS operation; while PAG2S-QZ is a secondary-side QR-ZVS controller achieving ZVS using an SR control scheme. EZ-PD[™] PAG2S-PS standalone acts as a USB PD and SR-integrated secondary-side controller by pairing with third-party primary-side PWM controllers via an optocoupler.

Features

- > Secondary-side control ZVS flyback converter supporting QR-ZVS and ACF
- > Highly integrated solution with PWM + SR + USB-PD function
- > Compliant with PD 3.1 SPR with PPS and 28 V EPR specification, supporting adapters and chargers designs up to 140 W
- > Support 20 300 kHz switching frequency
- > ARM® Cortex®-M0 with 64 KB of flash
- Programmable SMPS parameters such as digital valley table, ZVS/ACF pulse width, burst/skip frequency, SR turn-on/off delay, and dead-time

Product collaterals / Online support

Product family page



Benefits

- Highly integrated 2-chip solution for PD adapters and chargers
- > Highly efficient converters for high-power-density design
- > High-frequency operation for smaller magnetic components
- > Compliant to the latest USB PD specification
- > One solution covers wide wattage output

Target applications

> Chargers and adapters

Competitive advantage

- Secondary-side control for better voltage regulation and reliability
- Highly-efficiency USB-PD adapters and chargers for highpower-density design
- > Highly integration solution for BOM and PCBA saving
- > Programmable SMPS for USB-PD adapters and chargers

OPN	SP Number	Package
CYPAS211A132LQXQXQLA1	SP005957292	PG-VQFN-32
CYPAS211A132LQXQTXUMA1	SP005957294	PG-VQFN-32
CYPAS212A132LQXQXQLA1	SP005957296	PG-VQFN-32
CYPAS212A132LQXQTXUMA1	SP005957298	PG-VQFN-32
CYPAS213A132LQXQXQLA1	SP005957300	PG-VQFN-32
CYPAS213A132LQXQTXUMA1	SP005957302	PG-VQFN-32
CYPAS213A124SXQXLXA1	SP005957336	PG-DSO-24
CYPAS213A124SXQTXUMA1	SP005957342	PG-DSO-24
CYPAP211A1-14SXI	SP005857465	PG-DSO-14
CYPAP211A1-14SXIT	SP005857469	PG-DSO-14
CYPAP212A1-14SXI	SP005857473	PG-DSO-14
CYPAP212A1-14SXIT	SP005857477	PG-DSO-14
CYPET121XQMA1	SP005935411	PG-TRDIP-4

Pulse edge transformer for EZ-PD[™] PAG1 CYPET131

CYPET131 is a pulse edge transformer that works with EZ-PD[™] PAG1S and EZ-PD[™] PAG1P chipset secondary-side controlled flyback converter. It provides both communication and isolation function.



Features

Benefits

- > Secondary to primary communication
- > Galvanic isolation

Target applications

- > Battery chargers
- > E-bike chargers
- > Cordless power tools chargers

Product collaterals / Online support

Product page

Product overview incl. data sheet link

OPN	SP Number	Package
CYPET131XQMA1	SP005935413	PG-TRDIP-4

> Passive component

CYW20822 Bluetooth® LE Module - Low-Energy and Long-Range Bluetooth® LE 5.0 module

Infineon's CYW20822–P4TAI040 module offers seamless integration, enhanced performance with Bluetooth® Low-Energy Long-Range (LE-LR) support, and exceptional reliability for a wide range of applications.

With the right combination of low power and high performance, CYW20822–P4TAI040 is designed to support the entire spectrum of Bluetooth® LE-LR use cases including industrial IoT applications, smart home, asset tracking, beacons and sensors, and medical devices.

Features

- > Qualification and certification
 - > Bluetooth® SIG QDID, FCC, CE, MIC, and ISED
- > High performance with rich MCU peripherals
 - > Integrated 1 MB Flash, 128 KB RAM, 256KB ROM
 - > 2 UART, 2 SPI, 2 I2C, 8 PWM, 12 GPIO
- > High reliability, low power BLE
 - > -101 dBm LE sensitivity
 - > Active RX @ -95 dBm: 1.3 mA, active TX @ 0 dBm: 3 mA
 - > Low energy/long range (LE-LR)
 - > 2 uA retention
 - > 0.8 uA hibernate

Target applications

- > Industrial: beacons and sensors, asset tracking, 2 way IoT sensors
- > Smart home: home automation, sensors, nodes
- > Healthcare: medical devices
- > Asset tracking tags

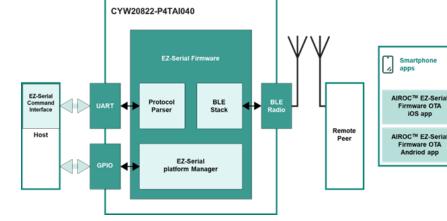
Block diagram

Benefits

- > Superior Bluetooth® connectivity
 - > Reliable, long-range Bluetooth® 5.0
 - > Fine-tuned RF performance
 - > Ultralow current consumption
- > Easy interfacing with host MCU
 - > Integrated flash, analog and digital components
- > Reduce time-to-market
 - > Qualification and certification
 - > Preprogrammed with EZ-Serial firmware
 - > Limited development needed

Competitive advantage

- > Higher flash and RAM density
- > More security features
- > Optimized performance as a hosted module
- > Two module versions available: trace and pad antenna, certification ready
- > Overall better radio performance with lower current consumption
- > Long range tested, up to 250 meters



Product collaterals / Online support

Product page

Board page

Product overview incl. data sheet / user manual link

OPN	SP Number	Package
CYW20822P4TAI040XUMA1	SP005963587	LG-MLGA-42
CYW920822M2P4TAI040-EVK	SP005981458	Dev kit



EVAL-COOLSIC-2KVHCC

The EVAL-COOLSIC-2kVHCC evaluation board has been developed to display the unique features of the CoolSiC[™] 2000 V 24 mΩ in TO-247 PLUS-4-HCC package and can be used as an accurate universal test platform to evaluate any CoolSiC[™] 2000 V SiC MOSFET Discrete device and EiceDRIVER[™] compact single channel isolated gate driver 1ED31xx family through double pulse or continuous PWM operation. The board's flexible design enables a variety of measurements at different testing conditions focusing on applications such as photovoltaic, energy storage systems and EV charging.

Features

- > Double pulse or continuous PWM operation
- > Withstands up to 1500 V_{DC}
- > Compatible with TO-247PLUS-4-HCC and TO-247-2 packages
- > Adjustable gate voltage level
- > Supports external XMC4400 controller, KIT_XMC4400_DC_V1
- > Space reservation for DC-link snubber evaluation
- > EiceDRIVER™ Compact single channel isolated gate driver 1ED3124MU12H

Target applications

- > Energy Storage Systems
- > EV charging
- > Photovoltaic

Benefits

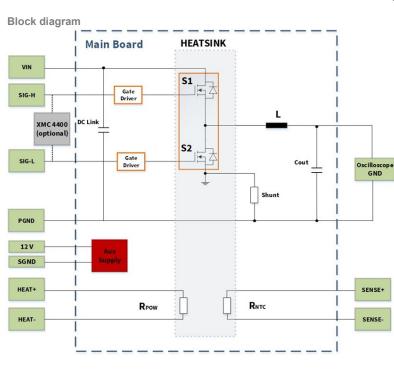
- > Flexible universal design
- > Accurate test platform for high voltage discretes
- > High power density
- > Supports different operation modes

Competitive advantage

- First evaluation board including 2000 V CoolSiC[™] MOSFETs in the market
- > Unique combination of Infineon's high voltage CoolSiC[™] MOSFETs and compact single channel EiceDRIVER[™] isolated gate driver
- Easy to operate while meeting high voltage safety requirements

Product collaterals / Online support

Board page



Product overview incl. user manual link

OPN	SP Number
EVALCOOLSIC2KVHCCTOBO1	SP005914295

