New Product Introduction

December 2024

CoolSiC™ Automotive MOSFET 1200 V in Q-DPAK

CoolSiC™ MOSFET discrete 1200 V Generation 2 in TO-247 4pin with high creepage package

StrongIRFET™ 2 30 V in DPAK and PQFN 3.3 x 3.3

670 V TRENCHSTOP™ IGBT7 PR7 in TO-247-3 pin high creepage and clearance package with anti-parallel diode

CoolSiC™ MOSFET 650 V Generation 2, 26 / 30 mΩ in TOLT package

CoolSiC™ MOSFET 650 V Generation 2, 10 / 26 / 33 / 60 mΩ in TO247 and TO247 4pin

CoolMOS™ S7T and S7TA SJ MOSFET with integrated temperature sensor, 10 mΩ in Q-DPAK TSC and BSC package

OptiMOS™ dual MOSFETs 30 V and 40 V in SO-8 package

76 mm thyristor / thyristor module with 1600 V and 1800 V in pressure contact technology

XENSIV™ MEMS microphone IM72D128V

XMC1400 kit with support for shields and CAN interface: evaluation board KIT_XMC14_2GO

Evaluation board EVAL_XDP710_FET_BD allows evaluation of FETs

Reference board REF_60100EDPS

Evaluation board EVAL_1EDL8011_84V_50A for battery-powered applications

EVAL-2ED3146MC12L - evaluation board for 2ED314xMC12L 6.5 A, 5.7 kV (rms) dual-channel isolated gate driver with deadtime control

CoolSiC™ MOSFET motor drives evaluation board for 7.5 kW EVAL-FS33MR12W1M1HM5

Low cost Pmod-compatible memory module EVAL-S26HL512T

Low cost Pmod-compatible memory module EVAL-S28HL512T

EconoDUAL™ 3 Power Kit (REF-CAV250KMT7INV) - 250kW eCAV Traction Inverter Power Block

XMC7200 complete system motor control kit (KIT_XMC7200_MC1)

ModusToolbox™ Motor Suite

CoolSiC™ Automotive MOSFET 1200 V in Q-DPAK

The CoolSiC™ Automotive MOSFET 1200 V in Q-DPAK package is tailored to address OBC / DC-DC applications for 800 V Automotive architecture. leveraging top-side-cooling (TSC) technology, it can provide customers with an outstanding thermal performance, easier assembly and reduced system cost. Compared to back-side cooling, TSC provides an optimized PCB assembly, thus eliminating parasitic effects and providing much lower stray inductances.

Features

- 0 V turn-off
- Creepage 4.8 mm
- Symmetrical lead layout
- .XT technology

Benefits

- Lower package parasitics
- Lower switching losses
- Simplified design
- Optimized PCB assembly

Competitive advantage

- Unipolar gate driving
- No additional coating
- Higher thermal dissipation

Target applications

- OBC
- DC-DC converter

Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
AIMCQ120R060M1TXTMA1	SP005730177	PG-HDSOP-22
AIMCQ120R080M1TXTMA1	SP005730179	PG-HDSOP-22

CoolSiC™ MOSFET discrete 1200 V Generation 2 in TO-247 4pin with high creepage package

The CoolSiC™ MOSFET discrete 1200 V, 12 mΩ to 78 mΩ G2 in a TO-247 4pin with high creepage package builds on the strengths of Generation 1 technology with significant improvement that provides an advanced solution for more cost-optimized, efficient, compact, easy-to-design and reliable system. It enhanced better performance in both hard-switching operation and soft-switching topologies for all common combinations of AC -DC, DC-DC and DC-AC stages.

Features

- > $R_{DS(on)}$ = 78 mΩ at V_{GS} = 18 V, T_{vj} = 25°C
- > Very low switching losses
- > Wider max. VGS range from -10 V to +25 V
- > Overload operation up to T_{vj} = 200°C
- > Short circuit withstand time max. 2 µs
- > Benchmark gate threshold voltage 4.2 V

Benefits

- > Better energy efficiency
- > Cooling optimization
- > Higher power density
- > New robustness features
- > Highly reliable
- > Easy paralleling

Competitive advantage

- > Enhanced performance: lower switching losses with higher efficiency
- > .XT interconnection technology: better thermal resistance with lower MOSFET temperature
- > Best-in-class $R_{DS(on)}$ offered in the market
- > Short circuit max. withstand time guaranteed in datasheet
- > Unique robustness features

Target applications

- > EV charging
- > Industrial motor drives and controls
- > Photovoltaic
- > Uninterruptible power supplies (UPS)
- > 3-phase string inverter

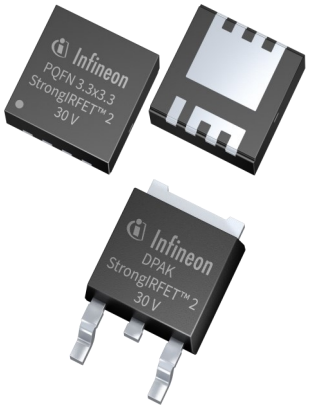
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IMZC120R012M2HXKSA1	SP006031758	PG-TO247-4
IMZC120R017M2HXKSA1	SP006031760	PG-TO247-4
IMZC120R022M2HXKSA1	SP006031762	PG-TO247-4
IMZC120R026M2HXKSA1	SP006031764	PG-TO247-4
IMZC120R034M2HXKSA1	SP006015182	PG-TO247-4
IMZC120R040M2HXKSA1	SP006031766	PG-TO247-4
IMZC120R053M2HXKSA1	SP006031768	PG-TO247-4
IMZC120R078M2HXKSA1	SP006031773	PG-TO247-4

StrongIRFET™ 2 30 V in DPAK and PQFN 3.3 x 3.3



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

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

In addition to the already existing TO-220 package, the portfolio is now being expanded with devices in DPAK and PQFN 3.3 x 3.3, enabling an easy design-in and convenient selection and purchasing at distribution partners. A further portfolio extension to SSO8 and D²PAK is planned for beginning of CY 2025.

Features

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

Benefits

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

Competitive advantage

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

Target applications

- Drives
- Power and gardening tools
- BMS
- Adapter
- Multicopter
- Industrial SMPS
- Consumer

Product collaterals / Online support

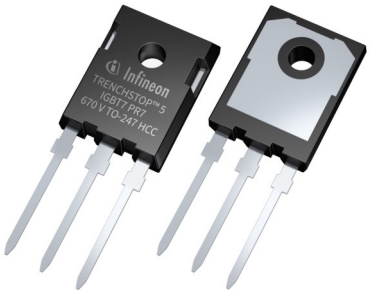
Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IPD020N03LF2SATMA1	SP005873557	PG.TO252-3
IPD023N03LF2SATMA1	SP005918676	PG.TO252-3
IPD030N03LF2SATMA1	SP005881803	PG.TO252-3
IPD040N03LF2SATMA1	SP005873577	PG.TO252-3
IPD047N03LF2SATMA1	SP005873565	PG.TO252-3
ISZ028N03LF2SATMA1	SP005873583	PG-TSDSON-8
ISZ033N03LF2SATMA1	SP005873573	PG-TSDSON-8
ISZ056N03LF2SATMA1	SP005905057	PG-TSDSON-8

670 V TRENCHSTOP™ IGBT7 PR7 in TO-247-3 pin high creepage and clearance package with anti-parallel diode

This product is specifically optimized for boost PFC stage like RAC / CAC and HVAC application. It's the successor of TRENCHSTOP™ IGBT 5 with improved EMI characteristics, best-in-class reliability and robustness, offering the advanced performance and even better price-performance for high power and high switching frequency applications.



Features

- Improved EMI behavior with lower dv/dt
- Very low V_{CEsat} = 1.4 V (typ.) at 25°C
- Higher V_{CE} = 670 V
- High creepage and clearance distance
- Positive temperature coefficient of V_{CEsat}

Benefits

- Better EMI performance
- Advanced performance in high switching
- More design flexibility
- Improved isolation for high reliability
- Easy paralleling

Competitive advantage

- Improved dv/dt and di/dt controllability for better EMI performance
- Broad portfolio from with higher breakdown voltage of 670 V enable more design flexibility
- Advanced performance in high-switching frequency applications
- Better price-performance compared to previous generation

Target applications

- Residential aircon / commercial aircon
- Residential HVAC / commercial HVAC

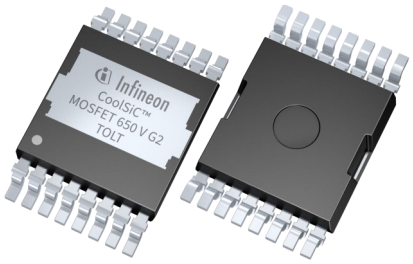
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IKWH30N67PR7XKSA1	SP005980599	PG-TO247-3
IKWH40N67PR7XKSA1	SP005980601	PG-TO247-3
IKWH50N67PR7XKSA1	SP005980603	PG-TO247-3
IKWH60N67PR7XKSA1	SP005980605	PG-TO247-3
IKWH70N67PR7XKSA1	SP005980607	PG-TO247-3

CoolSiC™ MOSFET 650 V Generation 2, 26 / 30 mΩ in TOLT package



The CoolSiC™ MOSFET 650 V G2 is now available in 26 mΩ and 30 mΩ $R_{DS(on)}$ granularity. The SiC MOSFET in TOLT package, leverages the CoolSiC™ G2 best-in-class switching performance while enabling all the benefits of top-side cooling. Complementing the Q-DPAK package, already available with CoolSiC™ and CoolMOS™, it is now possible to implement a total discrete top-side cooling solution, obtaining better thermal performance, system cost reduction and simplification, and a cheaper assembly.

Features

- Excellent figures of merit (FOMs)
- High robustness and overall quality
- Flexible driving voltage range
- Support for unipolar driving (V_{GSoff}=0)
- Lower thermal resistance
- Improved package interconnect with .XT
- Top-side cooling

Benefits

- Enables BOM savings
- Maximizes the system performance per $
- Highest reliability
- Enables top efficiency and power density
- Simplifies assembly and cooling
- Water cooling "ready"
- Allows designs without fan or heatsink
- Lower stray inductances
- Better gate control

Competitive advantage

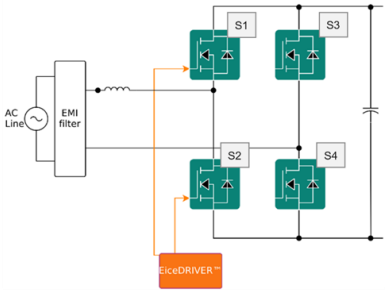
- CoolSiC™ MOSFETs 650 V G2 in TOLT package are built on the CoolSiC generation 2 technology, featuring leading FOMs (figure of merit), reliability and ease of use. TOLT is a top-side cooled discrete package, which optimally complements Q-DPAK, already available with 750 V CoolSiC™ and CoolMOS™, offering improved thermal capability, low parasitics and system cost savings, both by enabling automated assembly and by simplifying the system design (e.g., elimination of the IMS board)

Target applications

- Switched mode power supplies (SMPS)
- Solid State Circuit Breaker (SSCB)
- EV charging
- PV inverters
- Energy storage systems
- Microinverters

Block diagram:

Topology example 1: CCM Totem Pole PFC



S1, S2	– CoolSiC™ MOSFET 650 V – CoolGaN™ HEMT 600 V / 650 V – Low Q_{rr} CoolMOS™ solution
S3, S4	– CoolMOS™ 8 – CoolMOS™ S7
Gate Driver ICs	– EiceDRIVER™ 2EDB9259Y – EiceDRIVER™ 2EDF9275F

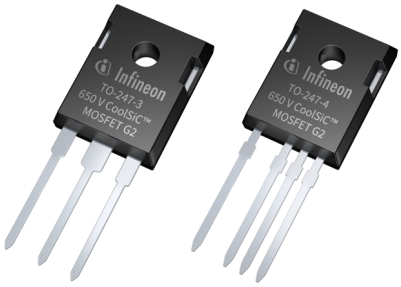
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IMLT65R026M2HXTMA1	SP005969467	PG-HDSOP-16
IMLT65R033M2HXTMA1	SP005969468	PG-HDSOP-16

CoolSiC™ MOSFET 650 V Generation 2, 10 / 26 / 33 / 60 mΩ in TO247 and TO247 4pin



The CoolSiC™ MOSFET 650 V G2 in TO-247 and TO-247 4pin package is now available in additional $R_{DS(on)}$ granularity of 10 mΩ, 26 mΩ, 33 mΩ and 60 mΩ. The CoolSiC™ MOSFET Generation 2 builds on the strengths of Generation 1 technology and enables the accelerated system design of more cost optimized, efficient, compact, and reliable solutions. The CoolSiC™ MOSFET Generation 2 comes with significant improvements in key figures-of-merit for both, hard-switching operation and soft-switching topologies, suitable for all common combinations of AC-DC, DC-DC, and DC-AC stages.

Features

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

Benefits

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

Competitive advantage

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

Target applications

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

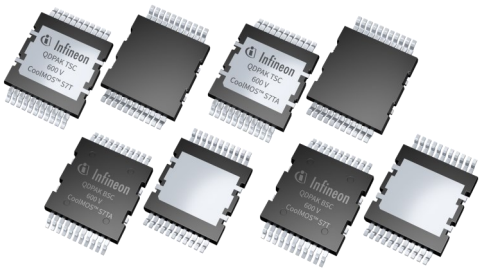
Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
IMW65R010M2HXKSA1	SP006051133	PG-TO247-3
IMW65R026M2HXKSA1	SP006051134	PG-TO247-3
IMW65R033M2HXKSA1	SP006051135	PG-TO247-3
IMW65R060M2HXKSA1	SP006051136	PG-TO247-3
IMZA65R010M2HXKSA1	SP006051138	PG-TO247-4
IMZA65R026M2HXKSA1	SP006051139	PG-TO247-4
IMZA65R033M2HXKSA1	SP006051140	PG-TO247-4
IMZA65R060M2HXKSA1	SP006051141	PG-TO247-4

CoolMOS™ S7T and S7TA SJ MOSFET with integrated temperature sensor, 10 mΩ in Q-DPAK TSC and BSC package



The CoolMOS™ S7T and S7TA is now available in very low $R_{DS(on)}$ of 10 mΩ. The embedded temperature sensor increases junction temperature sensing accuracy and robustness while enabling easy implementation and functional safety. The device is optimized for low-frequency and high-current switching applications. It is an ideal fit for industrial application such as solid-state relay, circuit breaker designs and line rectification in SMPS as well as automotive applications like battery disconnect, eFuses and on-board charger. The temperature sensor enhances the CoolMOS™ S7 features, allowing the best possible utilization of the power transistor.

Features

- Optimized price performance
- Tailored for low-frequency switching
- Reduced parasitic source inductance
- Seamless diagnostics
- Accurate and fast monitoring over time
- High current capability
- Enhanced protection
- Optimized thermal device utilization
- Cutting-edge top-side-cooled package

Benefits

- Minimized conduction losses
- Increased system performances
- Allowing more compact design over EMR
- Lower TCO over prolonged time
- Enabling higher power density designs
- Reduction of external sensing elements
- Best utilization of power transistor
- 40% more accurate than discrete sensor
- 4 x faster than discrete sensor solution
- Optimal PCB space utilization
- Enabling functional safety
- Best-in-class thermal dissipation

Target applications

- Solid State Relay (SSR)
- Solid state circuit breaker (SSCB)
- Motor soft starter
- Power distribution unit (AC-DC)
- eFuse
- On-board charger
- Battery disconnection

Product collaterals / Online support

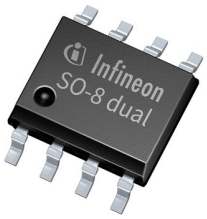
Product family page 600 V CoolMOS™ S7 / S7T

Product family page 600V CoolMOS™ S7A

Product overview incl. datasheet link

OPN	SP Number	Package
IPDQ60T010S7XTMA1	SP005737946	PG-HDSOP-22
IPDQ60T010S7AXTMA1	SP005737982	PG-HDSOP-22
IPQC60T010S7XTMA1	SP005737957	PG-HDSOP-22
IPQC60T010S7AXTMA1	SP005738002	PG-HDSOP-22

OptiMOS™ dual MOSFETs 30 V and 40 V in SO-8 package



The new OptiMOS™ dual 30 V and 40 V offer best price performance in SO-8 package. This product portfolio, in a compact SO-8 package with two MOSFETs in one package it enables smaller PCB footprint, more compact and efficient designs.

Features

- Best price / performance
- $R_{DS(on)max}$ and $FOMQ_g$ optimization
- Standardization of packages: SO-8
- Ease of use (LL target)

Benefits

- Competitive price
- Right-fit products, flexible use
- Convenient selection and purchasing
- Ease of design
- Simplified product services

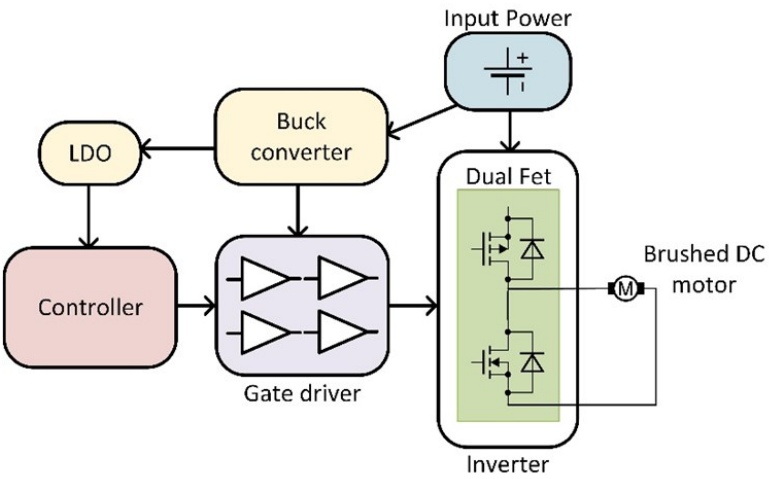
Competitive advantage

- Excellent price / performance
- Reduced system costs
- Compact SO-8 package with two MOSFETs in one package. It enables smaller PCB footprint, more compact and efficient designs

Target applications

- Lawn mower
- Service robots
- Vacuum cleaner
- Drone
- Consumer

Block diagram:



Product collaterals / Online support

Product family page

Product overview incl. datasheet link

OPN	SP Number	Package
ISA220280C03LMDSXMA1	SP005904287	PG-DSO-8
ISA150233C03LMDSXMA	SP005904295	PG-DSO-8
ISA250300C04LMDSXMA1	SP005904304	PG-DSO-8
ISA170230C04LMDSXMA1	SP005904309	PG-DSO-8
ISA250250N04LMDSXMA1	SP005904317	PG-DSO-8
ISA170170N04LMDSXMA1	SP005904321	PG-DSO-8

76 mm thyristor / thyristor module with 1600 V and 1800 V in pressure contact technology

Infineon‘s thyristor 76 mm Power Start with 1600 V and 1800 V, 3400 A module for soft start applications in pressure contact technology is a cost effective and fully integrated solution for overload current up to 5100 A.
With its design, Power Start STT3400N16P76 and STT3400N18P76 focusses on reducing complexity and number of components. Main benefit of the new design concept in comparison to existing soft starter solutions is only three foot-prints (55 / 76 / 110 mm) fitting a broad range of current classes.

Features

- Reduction to essential components
- Integrated heatsink and no thermal grease
- Thermal capacity directly coupled to silicon
- Double side cooling

Benefits

- Comfortable integration with the bypass contactor into the typical design space
- Pre-assembled and ready to use
- Heat sink design included
- Up to 5100 A overload current for 21 s possible

Competitive advantage

- Usage of bare chips between the heatsinks instead of ceramic discs increases thermal performance and reduces size and cost

Target applications

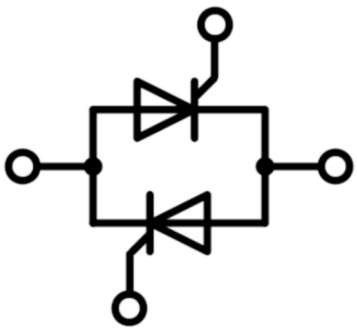
- Drives - soft starter

Product collaterals / Online support

Product page STT3400N16P76

Product page STT3400N18P76

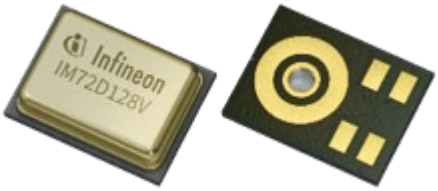
Block diagram:



Product overview incl. datasheet link

OPN	SP Number	Package
STT3400N16P76XPSA1	SP005875124	BG-PS76-1
STT3400N18P76XPSA1	SP005875117	BG-PS76-1

XENSIV™ MEMS microphone IM72D128VV01



The IM72D128VV01 is an ultra-high performance XENSIV™ MEMS microphone designed for applications which require a digital PDM MEMS microphone with high SNR (low self-noise), low distortion (high AOP) and very low current consumption.

SNR of 71.5 dB(A) enables far-field and low volume audio pick-up. The flat frequency response (11 Hz low-frequency roll-off) and tight manufacturing tolerances improve the performance of multi-microphone (array) applications.

Features

- Signal-to-noise ratio of 71.5 dB(A) SNR
- Acoustic overload point at 128 dBSPL
- IP57 dust and water resistant
- Digital PDM interface
- Flat frequency response: LFRO at 11 Hz
- Narrow sensitivity and phase tolerances
- Omnidirectional pickup pattern
- SMD package: 4 mm x 3 mm x 1.2 mm

Benefits

- Far-field and low volume audio pick-up
- Clear audio signals even for highest SPL
- High precision audio beams and algorithms

Target applications

- Active Noise Cancellation (ANC) headphones and earbuds
- Laptops and tablets
- Cameras, camcorders, and camera accessories
- Smart speakers
- IOT devices

Product collaterals / Online support

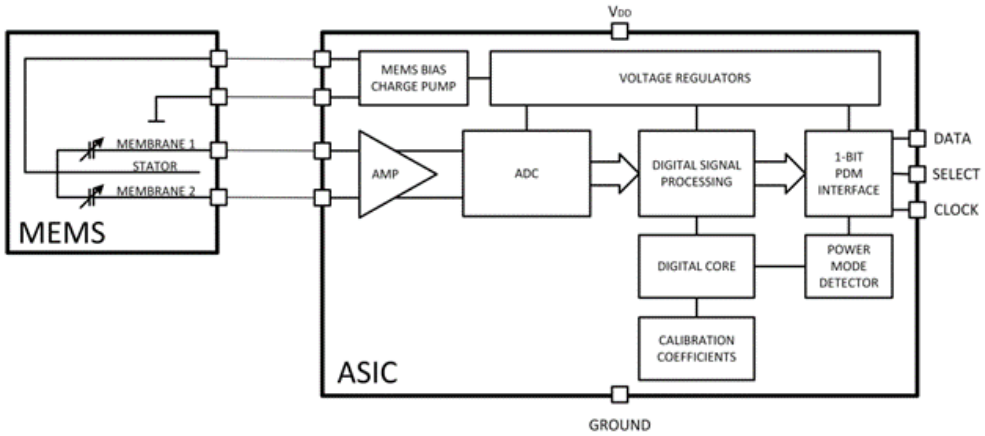
Product page

Board page

Competitive advantage

- The IM72D128V is optimally suited for advanced audio capture due to its far-field and low volume audio pick-up capabilities, tight sensitivity tolerance, and digital PDM output. With an impressive SNR of 71.5 dB(A), this solution is tailored to elevate the audio experience across a wide range of devices including headphones, earbuds, laptops, tablets, cameras, smart speakers, and IoT devices, all while maintaining low current consumption

Block diagram:



Product overview incl. datasheet link and product brief link

OPN	SP Number	Package
IM72D128VV01XTMA1	SP005969496	PG-LLGA-5
KITIM72D128VV01FLEXTOBO1	SP006038668	

XMC1400 Kit with support for shields and CAN interface: evaluation board KIT_XMC14_2GO

The XMC1400 2Go kit provides an easy way to evaluate almost all capabilities of the XMC1400 microcontroller. The kit is powered via USB, interfaces to other Infineon sensor boards and provides multiple interfaces including a CAN bus. The software development is supported via ModusToolbox™ and the Arduino IDE.

Features

- XMC1404-Q040X0200 (ARM® Cortex™-M0 core)
- 48 MHz, 200 KB flash, 16 KB RAM
- USB (5v) or externally (12v) powered
- Segger J-Link debugger with virtual COM
- Pin header for sensor shields/breadboard
- CAN bus interface
- 2 user LEDs

Benefits

- Low cost evaluation platform
- Getting started with ModusToolbox™
- Fully supported in Arduino IDE
- Full debug support for SWD and SPD
- UART-to-USB bridge (virtual COM)
- Easy access to all peripheral modules

Target applications

- Industrial I/O
  - Sense
  - Control
  - Drive
  - Communicate
- Motor Control
  - Drones and eBikes
- Smart lighting

Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
KITXMC142GOTOBO1	SP006065576

Evaluation board EVAL_XDP710_FET_BD allows evaluation of FETs

This FET board connects with EVAL_XDP710_V2 to allow evaluation of FETs available in various footprints with Infineon's XDP XDP710-002.

Features

- Supports PG-TSON-8-3, D²PAK7 packages
- Supports D²PAK, TOLL, SSO8, packages
- Easy interface with EVAL_XDP710_V2

Benefits

- Easy to parallel for high power
- Built-in heatsink via copper busbar

Target applications

- GPU
- AI Server
- DC-DC

Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
EVALXDP710FETBDTOBO1	SP006079177

Reference board REF_60100EDPS

This reference board is designed to demonstrate the performance and benefits of using high-efficiency, low $R_{DS(on)}$ power MOSFETs as a replacement for traditional electromechanical contactors in 48 V applications.

Features

- High current capability
- Bidirectionality
- Top-side cooling
- Programmability
- Current sense

Benefits

- Minimal heat generation
- Built-in protection features
- Easy integration with microcontrollers
- Optimized for 48 V systems

Competitive advantage

- Higher current capability
- Top-side cooling
- Protection features embedded

Target applications

- Cordless power tools
- Datacenter and computing solutions
- Energy storage systems
- Light electric vehicles (LEV)
- Telecommunication infrastructure

Block diagram:

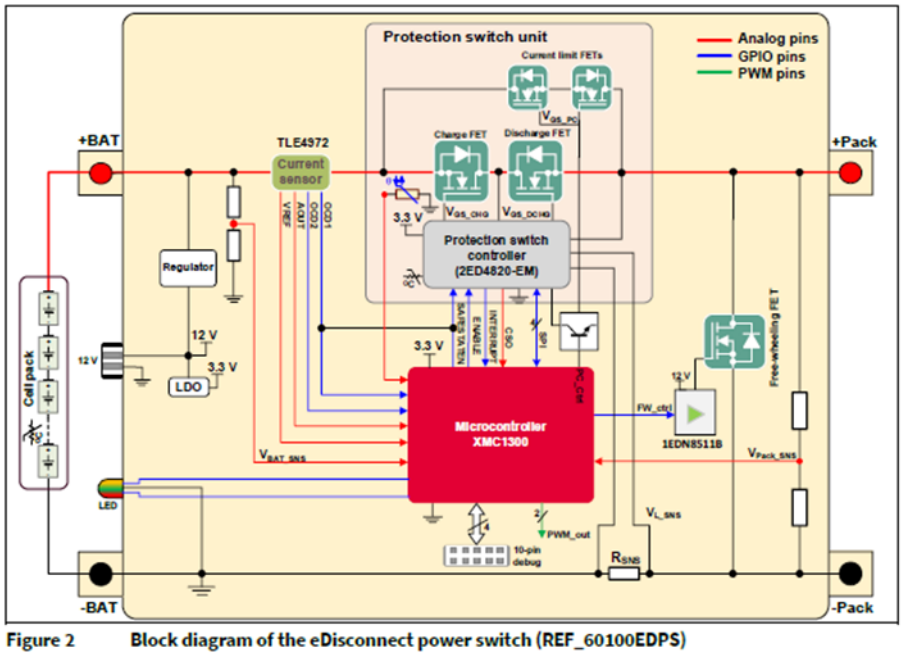


Figure 2 Block diagram of the eDisconnect power switch (REF_60100EDPS)

Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
REF60100EDPSTOBO1	SP006098644

Evaluation board EVAL_1EDL8011_84V_50A for battery-powered applications

The evaluation board EVAL_1EDL8011_84V_50A is developed for battery-powered applications that require an integrated gate driver for disconnect switch for battery protection. With wide DC input range of 10 V to 84 V, this board enables evaluation of various battery platforms.

Features

- DC input voltage range: 10 V to 84 V
- Maximum output current: 50 A
- Maximum output continuous power: 4.2 kW
- Safe switch-off mechanism
- Featuring OptiMOS™ 5 FET: IPT039N15N5

Benefits

- Reduced components and lower BOM
- Design over various battery platforms
- Increased system reliability

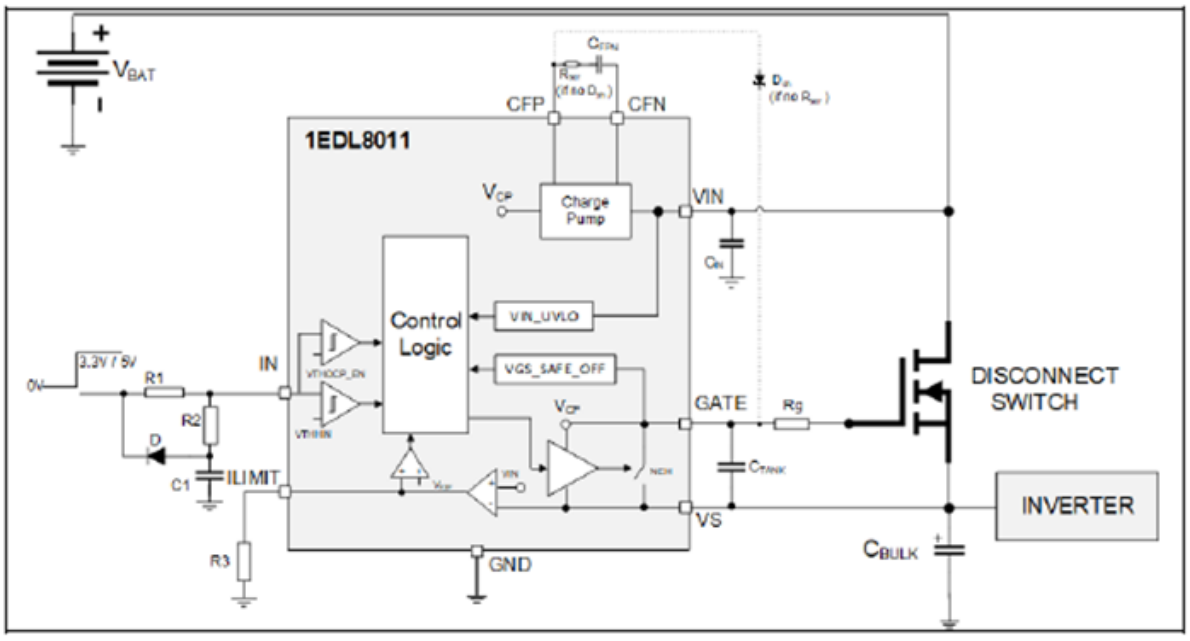
Target applications

- Power tools
- Robotics
- Drones
- eBike
- Vacuum cleaners

Product collaterals / Online support

Board page

Block diagram:

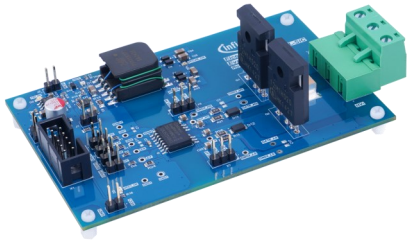


Product overview incl. application note link

OPN	SP Number
EVAL1EDL801184V50ATOBO1	SP005968440

EVAL-2ED3146MC12L - evaluation board for 2ED314xMC12L 6.5 A, 5.7 kV (rms) dual-channel isolated gate driver with deadtime control

This evaluation board is designed to evaluate the 2ED3146MC12L isolated gate driver IC in a half-bridge configuration. This board includes one 2ED3146MC12L, two IMZA120R020M1H CoolSiC™ 1200 V SiC Trench MOSFETs, and a galvanically isolated on-board power supply generated with the EiceDRIVER™ Power 2EP130R transformer driver IC. The board can be used to evaluate other ICs from the 2ED314xMC12L family by replacing the gate driver IC.



Features

- 2ED3146MC12L isolated gate driver IC in half bridge configuration
- Two IMZA120R020M1H 1200 V SiC MOSFETs
- 2EP130R transformer driver IC

Benefits

- Easy measurement and configuration
- On-board power supply from 2EP130R
- Gate driver and on-board switches can be substituted as desired

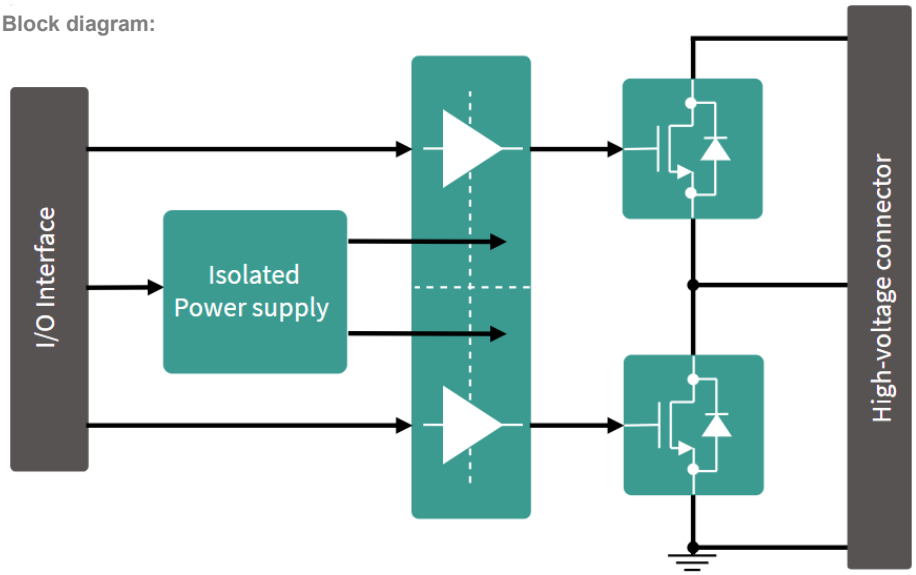
Target applications

- Energy storage systems
- EV charging
- Industrial drives
- Photovoltaic

Product collaterals / Online support

Board page

Block diagram:



Product overview incl. user manual link

OPN	SP Number
EVAL2ED3146MC12LTOBO1	SP006096160

CoolSiC™ MOSFET motor drives evaluation board for 7.5 kW EVAL-FS33MR12W1M1HM5

EVAL-FS33MR12W1M1HM5 is a 3-phase inverter board for motor drive applications featuring and demonstrating the usage of Silicon Carbide MOSFETs in this application.

The evaluation board was developed to support customers during their first steps designing applications with the CoolSiC™ MOSFET modules in Easy1B packages, such as the FS33MR12W1M1H_B11, and the EiceDRIVER™ 1200 V, our isolated gate driver 1EDI20H12AH.

Features

- EasyPACK™ 1B 1200 V / 33 mΩ sixpack module with CoolSiC™ MOSFET
- Lead-free terminal plating; RoHS compliant
- Low inductive design
- Integrated NTC temperature sensor

Benefits

- Easy-to-use power stage based on Infineon's 3-phase power modules including T_{vjop} under overload condition with up to 175°C
- Low inductive design using the PressFIT technology and power modules with very low stray inductance
- Rugged EiceDRIVER™ gate driver technology with stability against transient and negative voltages
- Enabling high frequency operation and improvement for reduced cooling requirements

Target applications

- General purpose drives

Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
EVALFS33MR12W1M1HM5TOBO1	SP005908151

Low cost Pmod-compatible memory module EVAL-S26HL512T

EVAL-S26HL512T, also referred to as the SEMPER™ HYPERBUS™ memory module is a low cost Pmod-compatible memory module which integrates a 512 Mb 3.3 V SEMPER™ HYPERBUS™ NOR Flash memory (S26HL512T). This memory module enables quick and easy integration of the SEMPER™ NOR Flash into any development kit.

Features

- Supports HYPERBUS or SPI with 3.3 V I/Os
- Connects to any host platform (MCU/SoC)
- Ideal for use with SEMPER™ SDK

Benefits

- This memory module enables quick and easy integration of the Semper™ Flash into any development kit

Target applications

- Industrial
- Automotive
- Communication

Product collaterals / Online support

Board page

Product overview incl. quick start guide link

OPN	SP Number
EVALS26HL512TTOBO1	SP006033701

Low cost Pmod-compatible memory module EVAL-S28HL512T

EVAL-S28HL512T, also referred to as the SEMPER™ OCTAL SPI memory module, is a low cost Pmod-compatible memory module which integrates a 512 MB 3.3 V SEMPER™ OCTAL SPI NOR Flash memory (S28HL512T). This memory module enables quick and easy integration of the SEMPER™ NOR Flash into any development kit.

Features

- Supports OCTAL SPI or SPI with 3.3 V I/Os
- Connects to any host platform (MCU/SoC)
- Ideal for use with SEMPER™ SDK

Benefits

- This memory module enables quick and easy integration of the Semper™ Flash into any development kit

Target applications

- Industrial
- Automotive
- Communication

Product collaterals / Online support

Board page

Product overview incl. quick start guide link

OPN	SP Number
EVALS28HL512TTOBO1	SP006058692

EconoDUAL™ 3 Power Kit (REF-CAV250KMT7INV) - 250kW eCAV Traction Inverter Power Block

This design represents a 250 kW three-phase inverter power block for 800 V eCAV traction systems. It includes three FF900R12ME7 EconoDual™ 3 IGBT7 power modules, three standalone gate driver boards mounted on the power modules with 1ED3321MC12N EiceDRIVER™ gate driver and booster stage, TLE4973 Hall current sensors placed on the inverter output busbars, a liquid cooling unit specifically designed for the modules and selected DC link capacitors.

Features

- EconoDUAL™ 3 half bridge power modules with 900 A / 1200 V Trenchstop™ IGBT7 technology
- Driver-board with booster stage using isolated EiceDRIVER™ gate driver with DESAT protection
- Isolated phase current measurement with XENSIV™ current sensors mounted on the inverter output busbars
- Isolated NTC module temperature measurement

Benefits

- Fast time to market through system solution
- Easy evaluation of EconoDUAL™ 3 module performance in real application environment
- Development advantage by advanced thermal management concept and matching DC-link
- Liquid cooling units specially designed for EconoDUAL™ 3 modules

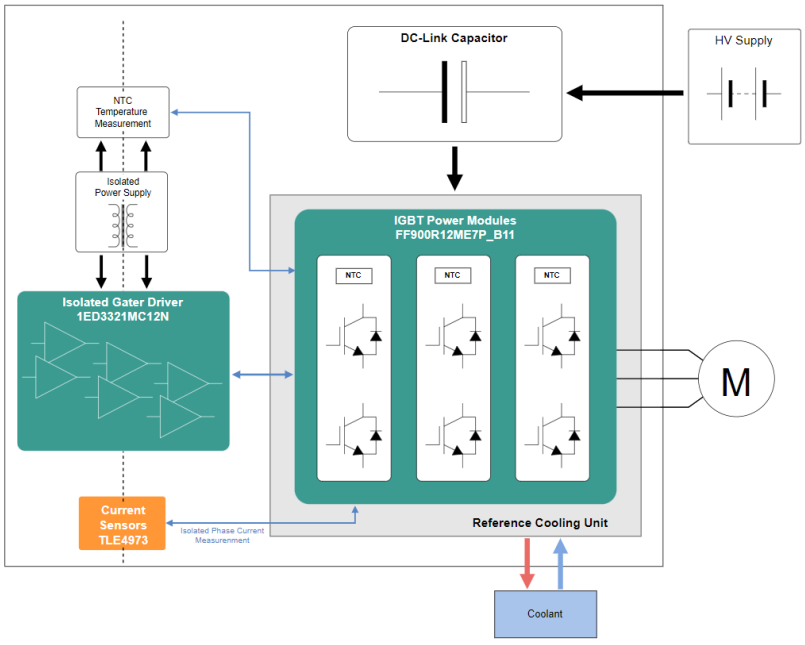
Target applications

- eBus
- eTruck
- Electric construction vehicle
- Electric agricultural vehicle

Competitive advantage:

- Very compact design:
  - 250 kW output power with three half bridge modules reaching a power density of about 28 kW/l
- Avoidance of paralleling of IGBT modules
- Modular design approach with standard EconoDUAL™ 3 module scalable up to 900 A currents
- Scalable gate driver and current sensor portfolio

Block diagram:



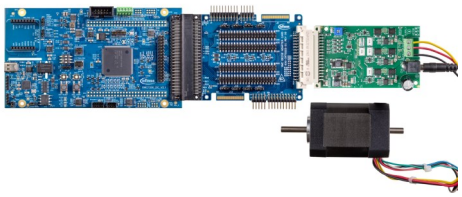
Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
REFCAV250KMT7INVTOBO1	SP006045533

XMC7200 complete system motor control kit (KIT_XMC7200_MC1)



The KIT_XMC7200_MC1 is a complete motor control system, designed to demonstrate the advanced motor control capabilities of the XMC7200 microcontroller.

The kit includes everything needed to focus on developing the application without worrying about component sourcing. It includes a motor, power board, drive card and power supply. Furthermore, to accelerate application development, dedicated code examples are included, showcasing the microcontroller's motor control features.

Infineon's XMC7200 Motor Drive Card is the core of the motor control system. It is powered by the XMC7200D, the high-end version of the XMC7000 family. The XMC7200D is a true programmable embedded system-on chip, integrating two 350-MHz Arm® Cortex®-M7 as the primary application processors, a 100 MHz Arm® Cortex®-M0+ that supports low-power operations, up to 8 MB flash and 1 MB SRAM, Gigabit Ethernet, Controller Area Network Flexible Data-Rate (CAN FD), Secure Digital Host Controller (SDHC) supporting SD / SDIO / eMMC interfaces, programmable analog and digital peripherals that allow faster time-to-market.

The ModusToolbox™ Motor Suite is dedicated to developing and tuning motor control applications. In particular, Motor Suite is a set of tools that enables designers to spin motors and optimize systems easily and quickly, its GUI supports developers in each step – parameterization, oscilloscope tracing, and dashboard for system visualization. The XMC7200 complete system motor control kit makes full use of the ModusToolbox™ Motor Suite, including a high-performance library for motor control.

Features

- Complete out-of-the-box experience
- "Real life" motor control use cases
- Ease of use with less complexity
- Galvanic isolation protection
- Precise positioning of motor axis
- Ability to remotely access the kit
- Multi-connectivity enablement
- Provision for adaptor board
- Maximum design flexibility
- Different power supply options
- Code examples showcasing motor control capabilities

Target applications

- Servo drives
- General purpose drives
- Robotics
- Multicopter
- Light electric vehicles

Competitive advantage

- Single / dual 350 MHz Arm® Cortex®-M7 and Cortex®-M0+ with up to 8 MB Flash, up to 1 MB SRAM
  - Perfect fit for demanding industrial application use cases
  - Higher processing performance
  - Ability of task distribution
- ADC: up to 96-ch, 12 bit with 3 x successive approximation ADC (SAR ADC) units; timers: up to 15-ch 16 bit for motor control, 87-ch 16 bit timer / counter / pulse-width modulation (TCPWM) and 16-ch 32 bit TCPWM; And advanced security options: optimal solution for motor control and power conversion applications
- Up to 125°C extended temperature range and lower-power modes down to 5 µA
  - Low power to support electrification and digitization
  - Power saving in energy-critical applications
  - Ability to operate in high ambient environments
- Interfaces: up to 10-ch CAN FD, up to 11-ch SCB
- eMMC, SMIF (QSPI/HS-SPI), up to 2-ch 10/100/1000 Mbit ethernet
- Available packages: QFP-176, BGA-272
  - Different core / memory / package combinations
  - Easy to adapt on existing PCB

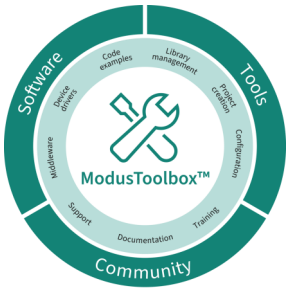
Product collaterals / Online support

Board page

Product overview incl. user manual link

OPN	SP Number
KITXMC7200MC1TOBO1	SP006041410

ModusToolbox™ Motor Suite



ModusToolbox™ Motor Suite delivers a seamless graphical user interface (GUI) to configure and monitor motor control and smart gate driver parameters for various boards and kits featuring Infineon's motor control solutions. Its versatility across motor types streamlines development and testing, while real-time parameter monitoring provides valuable insights to accelerate prototyping and optimization. This comprehensive solution empowers developers to bring high-performance motor control applications to market efficiently.

The Motor Suite GUI is designed to configure, tune and test the motor control applications on the following boards and kits:XMC7200 Motor Drive Card (KIT_XMC7200_DC_V1) and XMC7200 Complete System Motor Control Kit (KIT_XoC7200_MC1).

The main benefits of the Motor Suite GUI are: effortless and accurate board setup, comprehensive signal analysis, customized status monitoring, optimized system performance and optimized algorithms.

Features

- Initial system setup – out-of-the-box demo
  - Automatic kit identification
  - Run pre-selected motor
- Firmware and parameters customization for factors
  - Support for different types of motors
  - Various control and feedback methods, current sampling, and protection mechanisms
- High sample rate oscilloscope
  - System performance monitoring
  - Physical values or internal parameters are observed
- Test bench-dashboard for testing and tuning the system
  - Real-time access to key parameters for tuning
  - Setting of different protection methods and parameters

Benefits

- Rapid prototyping: utilizing the ModusToolbox™ Motor Suite
- Seamless integration into ModusToolbox™ and Motor Suite with application code examples
- Ease of use with less complexity

Target applications

- Servo drives
- General purpose drives
- Robotics
- Multicopter
- Light electric vehicles

Product collaterals / Online support

Tool page