CHARGED
VIRTUAL CONFERENCE
EV ENGINEERING

Unlocking Next-Gen xEV Power Conversion

Torsten Klemmer
Application Management
OBC & HV-LV DC/DC
Infineon

Xinying Fu
Product Marketing Manager
Infineon

Unlocking next-gen xEV power conversion: New SiC devices

Torsten Klemmer, Application Management OBC & HV-LV DC/DC
Xinying Fu, Product Marketing Manager SiC Power Devices
March 2026

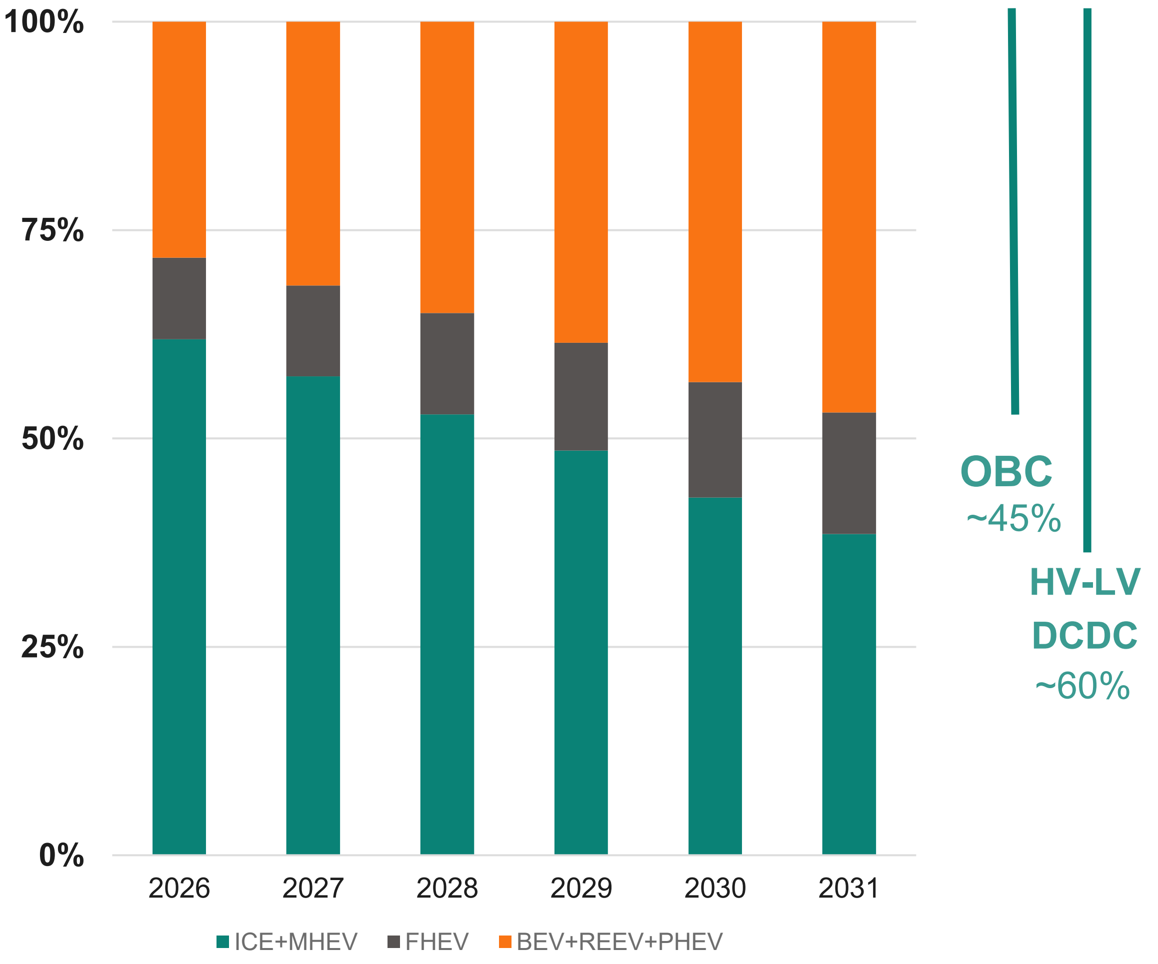
Electrification drives transformation in the automotive industry where power conversion plays a key role

Market

- **~ 60%** of the global **car produced in 2031** will be **electrified** (xEV) ➔ HV-LV DC/DC adaption
- **AC** home and destination **charging** remains **dominant** charging **use case**
- Standards & regulations drive the adoption of **Vehicle-to-Grid (V2G)** what is expected to have positive impact on xEV operation costs
- **Range anxiety drives** powertrain **diversification**
  - Range extended Electric Vehicles (REEV)
  - Battery Voltage classes & Battery Capacity
  - Charging Power (On-board and DC off-board)

➔ **45%** of the global **car produced in 2031** will have an on-board charger (**OBC**) Battery Electric Vehicle (BEV), Range-extended Electric Vehicle (REEV), Plug-in Hybrid Electric Vehicle (PHEV)

Powertrain type adaptation share [%]



Source: Infineon Automotive Business Intelligence based external market guidance reports, Dec 2025

Six key trends for OBC addressed with different impacts on electronic design and on semiconductor selection

User experience

System implementation & cost down

Trend

Higher AC charging power

- 6.6 kW mainstream in China
- 11 kW mainstream
- 22 kW as a trend

Impact

- Scalable topologies
- Semi $R_{DS(ON)}$

Six key trends for OBC addressed with different impacts on electronic design and on semiconductor selection

User experience

System implementation & cost down

	Higher AC charging power	Higher HV battery voltage
Trend	– 6.6 kW mainstream in China – 11 kW mainstream – 22 kW as a trend	– 400 V mainstream – 800 V getting traction – 1st 900 V+ upcoming
Impact	– Scalable topologies – Semi $R_{DS(ON)}$	– Topology selection – Semi breakdown voltages

Six key trends for OBC addressed with different impacts on electronic design and on semiconductor selection

User experience

System implementation & cost down

	Higher AC charging power	Higher HV battery voltage	Bi-directional power flow
Trend	– 6.6 kW mainstream in China – 11 kW mainstream – 22 kW as a trend	– 400 V mainstream – 800 V getting traction – 1st 900 V+ upcoming	– V2L & V2H established – V2G starting now
Impact	– Scalable topologies – Semi RDSON	– Topology selection – Semi breakdown voltages	– Partial load efficiency – Extended operation times

Six key trends for OBC addressed with different impacts on electronic design and on semiconductor selection

User experience

System implementation & cost down

	Higher AC charging power	Higher HV battery voltage	Bi-directional power flow	Efficiency
Trend	– 6.6 kW mainstream in China – 11 kW mainstream – 22 kW as a trend	– 400 V mainstream – 800 V getting traction – 1st 900 V+ upcoming	– V2L & V2H established – V2G starting now	– ≤96% state of the art – V2G ➔ light load – Switching losses for system optimization
Impact	– Scalable topologies – Semi RDSON	– Topology selection – Semi breakdown voltages	– Partial load efficiency – Extended operation times	– Topology selection – Switch-technology

Six key trends for OBC addressed with different impacts on electronic design and on semiconductor selection

User experience | **System implementation & cost down**

	Higher AC charging power	Higher HV battery voltage	Bi-directional power flow	Efficiency	Form factor optimization
Trend	– 6.6 kW mainstream in China – 11 kW mainstream – 22 kW as a trend	– 400 V mainstream – 800 V getting traction – 1st 900V+ upcoming	– V2L & V2H established – V2G starting now	– ≤96% state of the art – V2G ➔ light load – Switching losses for system optimization	– especially the z-dimension ➔ ≤10cm
Impact	– Scalable topologies – Semi RDSON	– Topology selection – Semi breakdown voltages	– Partial load efficiency – Extended operation times	– Topology selection – Switch-technology	– Passives design – Topology selection – Cooling system – Switch-technology & package

Six key trends for OBC addressed with different impacts on electronic design and on semiconductor selection

User experience

System implementation & cost down

	Higher AC charging power	Higher HV battery voltage	Bi-directional power flow	Efficiency	Form factor optimization	System Integration x-in-1
Trend	– 6.6 kW mainstream in China – 11 kW mainstream – 22 kW as a trend	– 400 V mainstream – 800 V getting traction – 1st 900V+ upcoming	– V2L & V2H established – V2G starting now	– ≤96% state of the art – V2G ➔ light load – Switching losses for system optimization	– especially the z-dimension ➔ ≤10cm	– High voltage ECU system integration
Impact	– Scalable topologies – Semi RDSON	– Topology selection – Semi breakdown voltages	– Partial load efficiency – Extended operation times	– Topology selection – Switch-Technology	– Passives design – Topology selection – Cooling system – Switch-Technology & Package	– Shared components – Higher reliability

Six key trends for OBC addressed with different impacts on electronic design and on semiconductor selection

User experience

System implementation & cost down

	Higher AC charging power	Higher HV battery voltage	Bi-directional power flow	Efficiency	Form factor optimization	System Integration x-in-1
Trend	– 6.6 kW mainstream in China – 11 kW mainstream – 22 kW as a trend	– 400 V mainstream – 800 V getting traction – 1st 900 V+ upcoming	– V2L & V2H established – V2G starting now	– ≤96% state of the art – V2G ➔ light load – Switching losses for system optimization	– especially the z-dimension ➔ ≤10cm	– High voltage ECU system integration
Impact	– Scalable topologies – Semi $R_{DS(ON)}$	– Topology selection – Semi breakdown voltages	– Partial load efficiency – Extended operation times	– Topology selection – Switch-technology	– Passives design – Topology selection – Cooling system – Switch-technology & package	– Shared components – Higher reliability

Key technical trends and cost-down are the main driver for the new topology revolution, technology and package innovation

Impact

Higher Power
Scalable topologies
Semi $R_{DS(ON)}$

Battery Voltage
Topology selection
Semi breakdown voltages

Bi-directionality
Partial load efficiency
Extended operation times

Efficiency
Topology selection
Switching losses

Formfactor optimization
Passives design, **Topology selection**, cooling system, switch technology & package

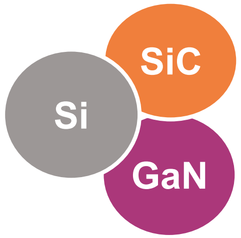
Formfactor optimization
Shared components
Higher reliability

system costs

€

Solutions

Technology

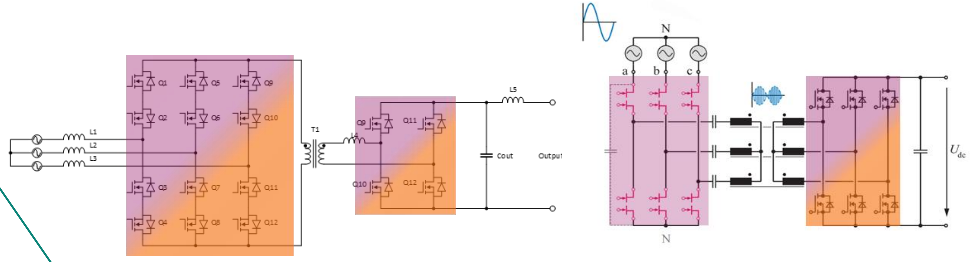


+

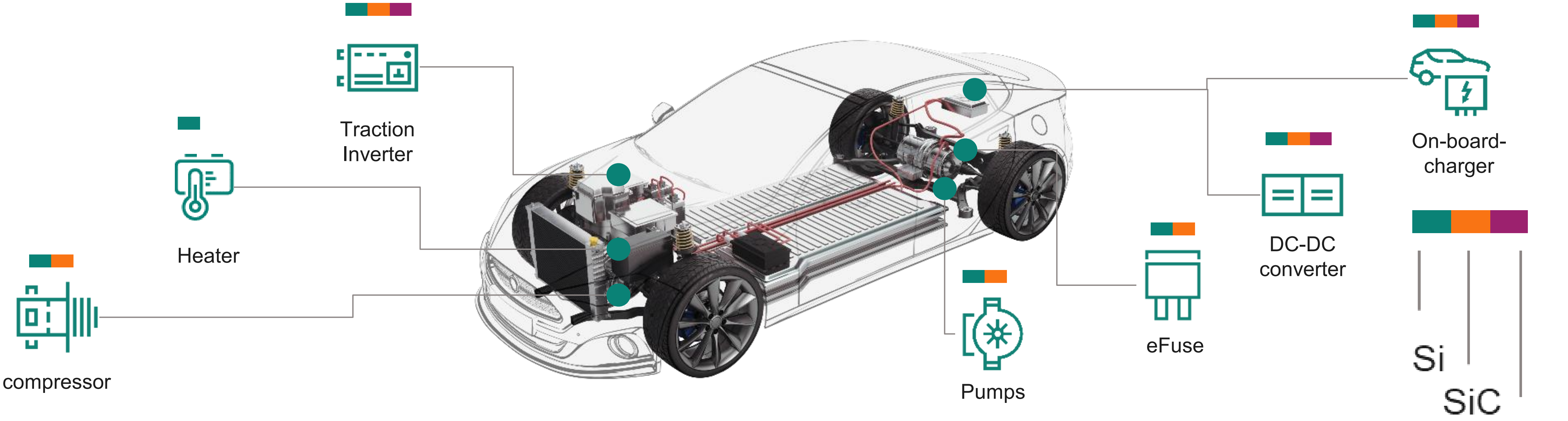
Packaging

+

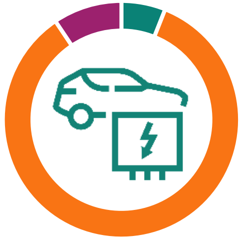
Topology innovation



SiC adoption accelerates rapidly, reaching break-even in 2027
OBC-DCDC first, followed by traction inverter



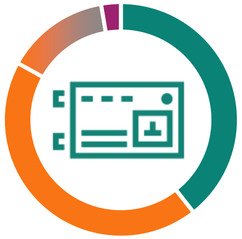
Penetration rate [% in 2030]



OBC DC-DC

85% 9%

Fastest SiC adoption in BEV, owing to bi-directional charging. SiC prominent today.

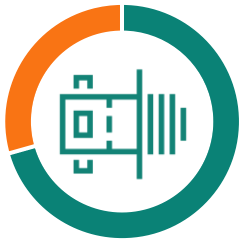


Inverter

44% 14% 3%

SiC/Si breaks even around 2027

FUSION 2026+



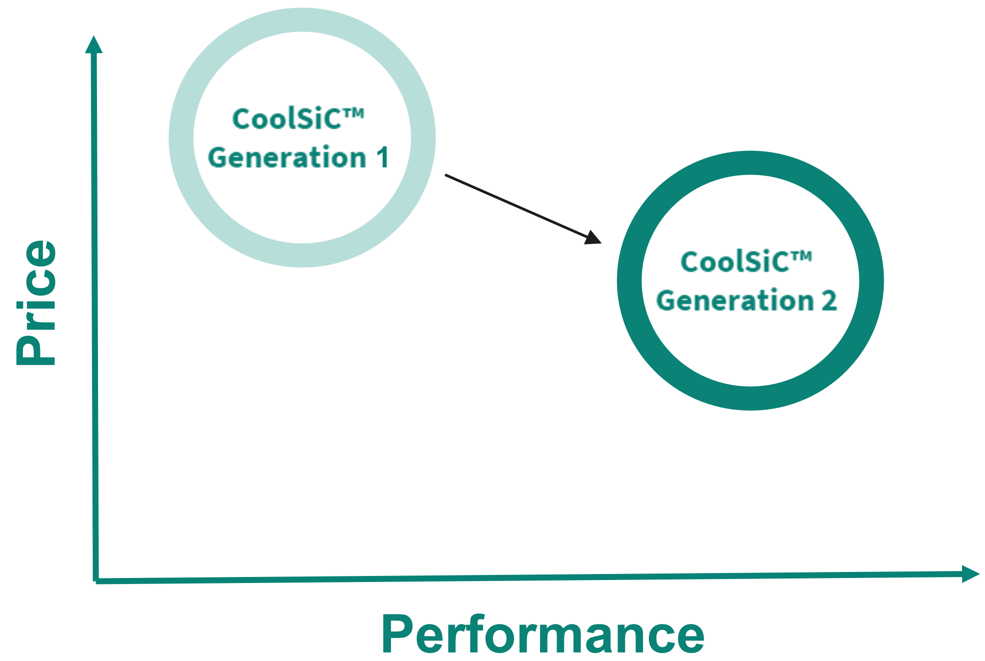
Auxiliary

29%

IGBT still dominates in this decade

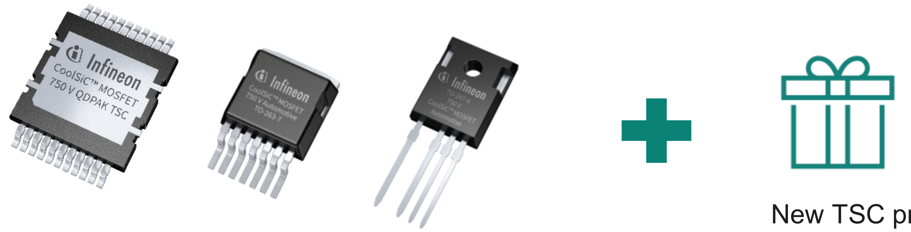
Source: IHS Alternative Propulsion Report Feb 2024 and Infineon x-Divisional market intelligence, update as of May 2024

CoolSiC™ MOSFET 750V G2 Automotive and Industrial:
higher system performance per $ or € invested in SiC



Advantages

Generation 2 enables the design of more cost optimized, efficient, compact, and reliable systems.



New TSC product

8 mΩ - 140 mΩ | 750 V G1 | SoP 2023

4 mΩ - 60 mΩ | 750 V G2 | >SoP 2025

Applications

Automotive: On-board charger, HV-LV DC-DC converter, eFuses e-Disconnect, HVAC compressor, E-Suspension, PTC heating

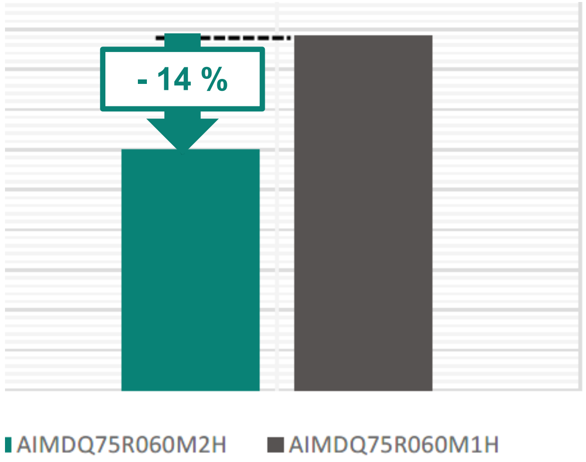
Industrial: EV charging, Server, Telecom, Solar, Energy storage, SSCB

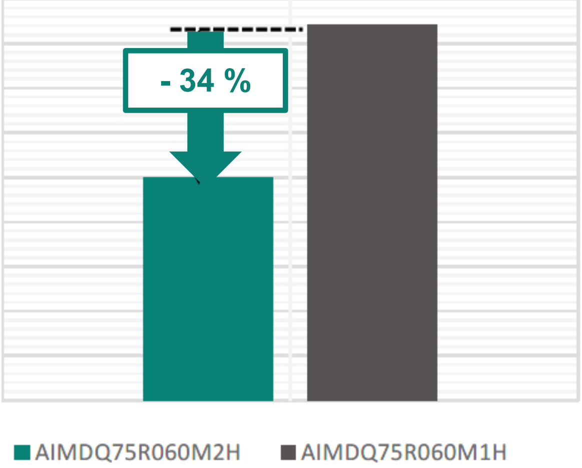
Unveiling a new performance with CoolSiC™ G2
FoM at 125°C

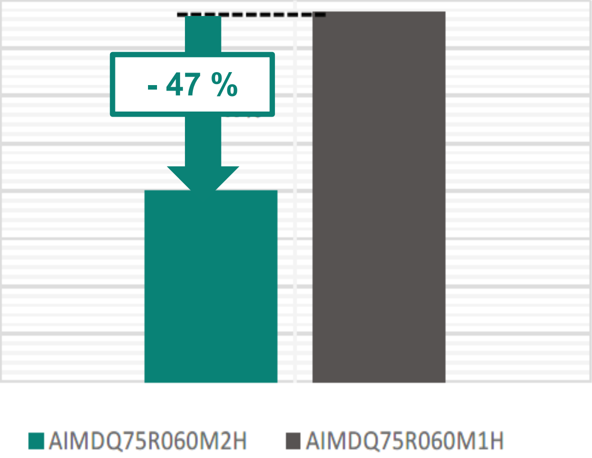
Performance Excellence

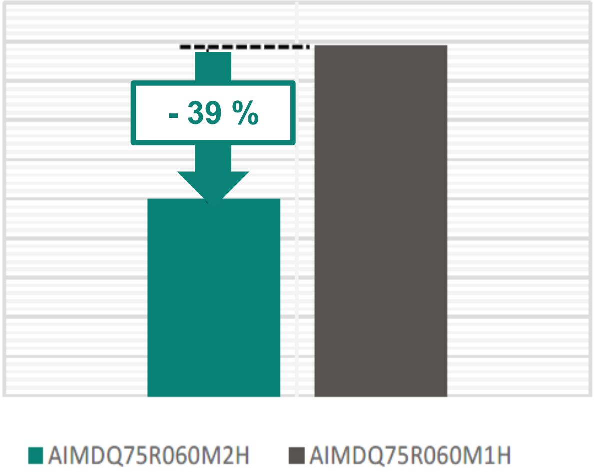
Figures-of-merit (FOM) comparison: lower is better for energy efficiency optimization

The classical MOSFET FOM (from low-voltage silicon world)			
$R_{DSON,typ}$ x Q_G (mΩ*nC) at 125°C	$R_{DSON,typ}$ x Q_{OSS} (mΩ*nC) at 125°C	$R_{DSON,typ}$ x Q_{fr} (mΩ*nC) at 125°C	$R_{DSON,typ}$ x E_{OSS}(mΩ*µJ) at 125°C
Lower means lower gate driving power loss	Lower is better in soft-switching topologies	lower is better for hard-switching half-bridge top.	Lower is better for light-load efficiency









Infineon products: AIMDQ75R060M1H, AIMDQ75R060M2H
Q_G = total charge at given conditions, Q_{oss}= total charge associated to C_{OSS} at given conditions. E_{OSS} = total energy associated to C_{OSS} at given conditions
Source: Application Note- AN125027 CoolSiC™ 750 V G2 automotive MOSFET

Exclusive robustness features secure a longer product lifetime with performance untouched

SiC Performance Excellence

Robustness

Highly robust 750 V technology with $V_{(BR)DSS}$ =840 V, fit for V_{bus}> 500 V

Table 2 Maximum ratings

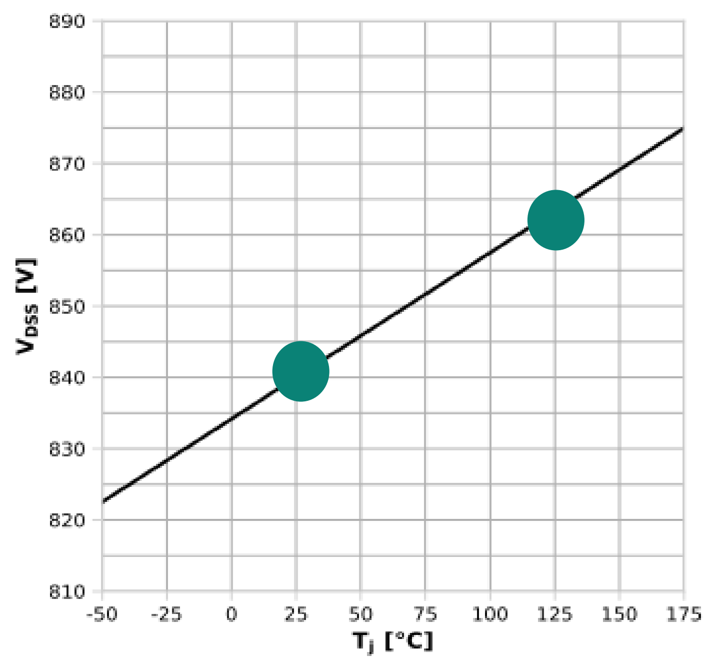
Parameter	Symbol	Values			Unit	Note / Test condition
		Min.	Typ.	Max.		
Drain-source voltage	V_{DSS}	-	-	750	V	static, T_j = -55°C to 175°C

at T_j = 25°C, unless otherwise specified

Table 5 Static characteristics

Parameter	Symbol	Values			Unit	Note / Test condition
		Min.	Typ.	Max.		
Drain-source breakdown voltage 5)	$V_{(BR)DSS}$	840	-	-	V	V_{GS} = 0 V, I_D = 0.81 mA

Diagram 14: Drain-source breakdown voltage



V_{DSS}=f(T_j); I_D=0.81 mA

Source: AIMDQ75R025M2H datasheet

For V_{rms} = 440 V,** the buffer to V_{DSS} = 750 V is **310 V

For grid fluctuations V_{rms} = 620 V,** the buffer to $V_{(BR)DSS}$ = 840 V for abnormal conditions is **220 V

Exclusive robustness features secure a longer product lifetime with performance untouched

SiC | Performance Excellence

Robustness

Highly robust 750 V technology with $V_{(BR)DSS}$ =840 V, fit for V_{bus}> 500 V

100% avalanche tested in production

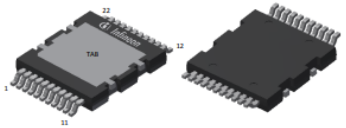
Public
AIMDQ75R025M2H
Final datasheet

SiC MOSFET

CoolSiC™ Automotive Power Device 750 V G2

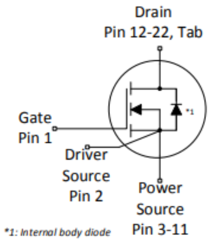
Built on Infineon's robust 2nd generation Silicon Carbide trench technology, the 750 V CoolSiC™ MOSFET delivers unparalleled performance, superior reliability, and great ease of use. It enables cost effective, highly efficient, and simplified designs to fulfill the ever-growing system and market needs.

Q-DPAK



Features

- Highly robust 750V technology, 100% avalanche tested
- Best-in-class $R_{DS(on)}$ x Q_{fr}
- Excellent $R_{DS(on)}$ x Q_{oss} and $R_{DS(on)}$ x Q_G
- Unique combination of low C_{rss}/C_{iss} and high $V_{GS(th)}$
- Infineon proprietary die attach technology
- Cutting edge TSC package with material group I
- Driver source pin available



Benefits

- Enhanced robustness and reliability for bus voltages beyond 500 V

Source: *AIMDQ75R025M2H datasheet*

Exclusive robustness features secure a longer product lifetime with performance untouched

Performance Excellence

Robustness

- Highly robust 750 V technology with $V_{(BR)DSS}$ =840 V, fit for V_{bus}> 500 V
- 100% avalanche tested in production
- **Avalanche robustness**

Public

CoolSiC™ Automotive Power Device 750 V G2

AIMDQ75R025M2H

1 Maximum ratings

at T_j = 25°C, unless otherwise specified.

Avalanche energy, single pulse	E_{AS}	-	-	230	mJ	I_D = 8.6 A, V_{DD} = 50 V; see table 11

Robust design

Source: AIMDQ75R025M2H datasheet

Exclusive robustness features secure a longer product lifetime with performance untouched

SiC Performance Excellence

Robustness

- Highly robust 750 V technology with $V_{(BR)DSS}$ =840 V, fit for V_{bus}> 500 V
- 100% avalanche tested in production
- Avalanche robustness
- **Short circuit withstand time typ. 2µs**

Short circuit faults

- OBC/DC-DC output short → charger fire
- Inductive load short → line stop
- Motor phase-phase short → traction loss

EU Germany (AU) Salzburg *16/11/2025*

at T_j = 25°C, unless otherwise specified

Table 5 Static characteristics

Parameter	Symbol	Values			Unit	Note / Test condition
		Min.	Typ.	Max.		
Short-circuit withstand time 7)	t_{SC}	-	2	-	µs	V_{DD} = 500 V, V_{GS} = 18 V, $V_{DS(peak)}$ <750 V ; $R_{G,ext}$ = 2.3 Ω

Source: *AIMDQ75R025M2H datasheet*

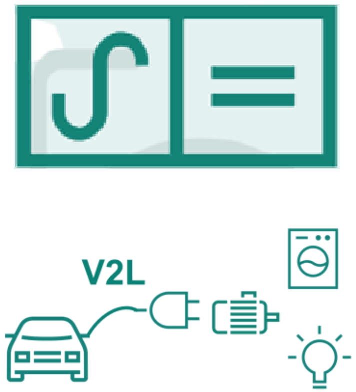
High-power converters having S.C ruggedness requirements using SiC MOSFETS detect short-circuit <1 ~1.5 µs

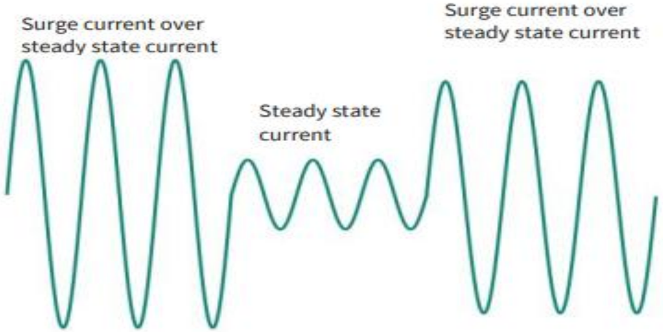
- via precision current sensing and Microcontroller
- or integrated gate-driver desaturation (DESAT) protection.

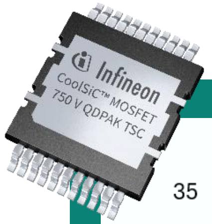
Exclusive robustness features secure a longer product lifetime with performance untouched

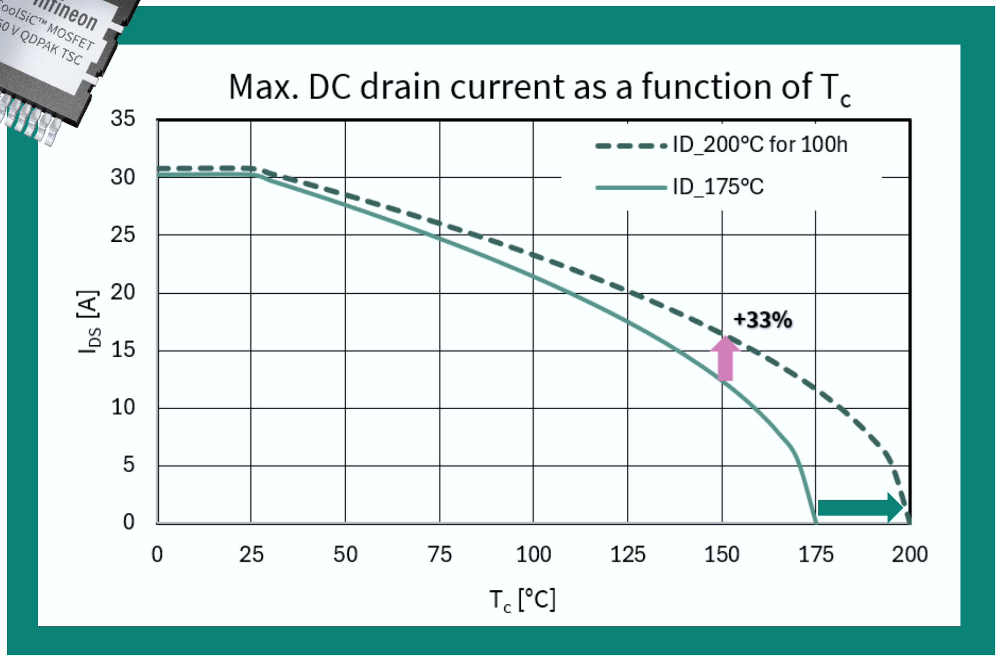
Robustness

- Highly robust 750 V technology with $V_{(BR)DSS}$ =840 V, fit for V_{bus}> 500 V
- 100% avalanche tested in production
- Avalanche robustness
- Short circuit withstand time typ. 2µs
- **Robustness in overload operation up to T_{vj}=200°C**







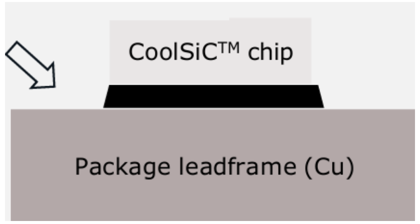


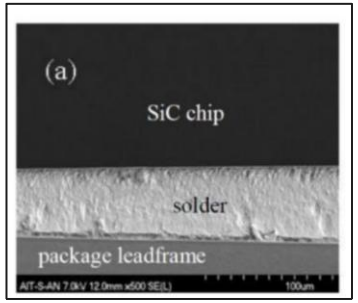
Source: Application Note- AN125027 CoolSiC™ 750 V G2 automotive MOSFET

Thermal excellence enabled by .XT interconnection

Synergies between the chip and its package

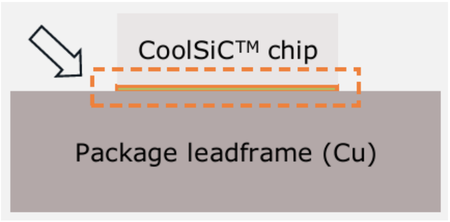
Standard interconnection

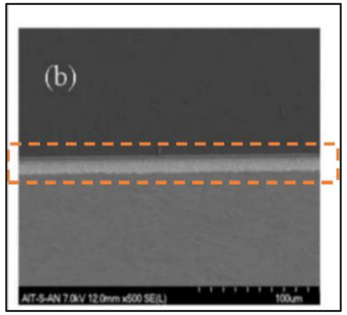




Standard soldering

.XT Interconnection

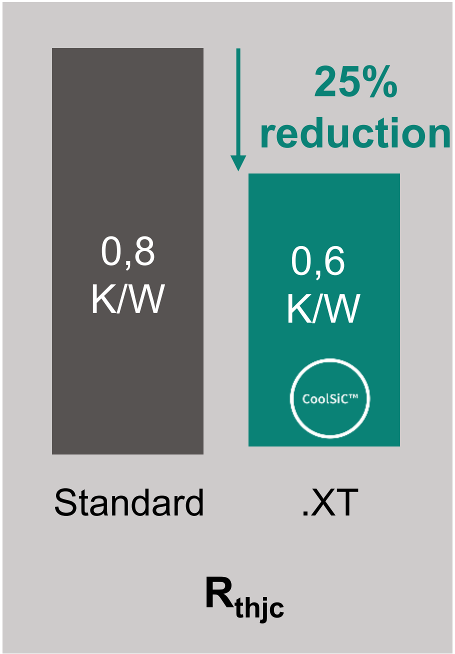




Elimination of solder joint through **diffusion soldering**

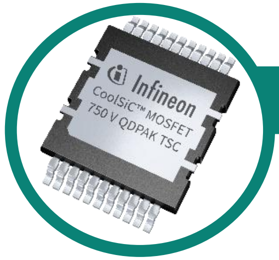
.XT technology benefits

Improved thermal conductivity & reliability performance*

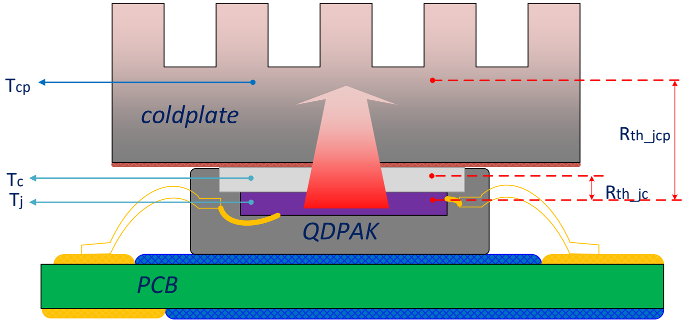


*at same form factor

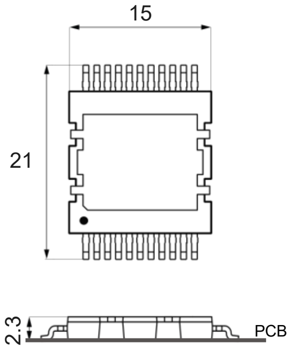
Top-side-cooling enables optimal mechanical cooling design, reduces manufacturing and BOM cost significantly



Q-DPAK TSC

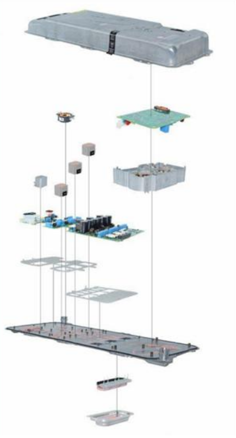


JEDEC registered



Note: All dimension in millimeters

Simplified assembly



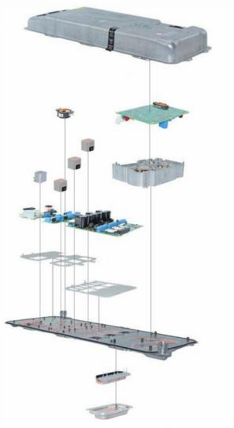
41 -76%
Nr. of connectors

PCB: FR4

No stacking of different boards needed

One big FR4 PCB:
all power components
and IC/driver/magnetics

€

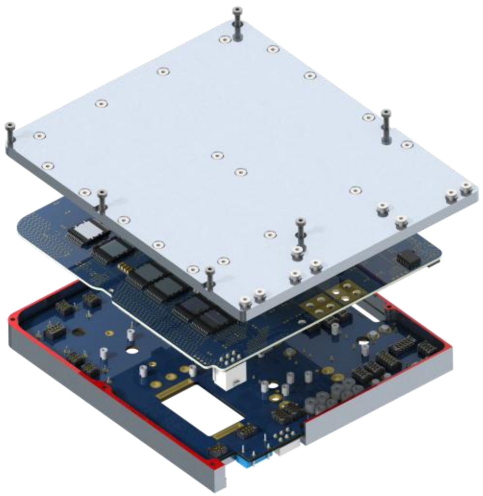


-33%
Assembly costs

-18%
FR4 PCB cost

-76%
Nr. of connectors

**Based on A2mac teardown reports*
C Segment passenger car, Production year 2020, 11kW OBC

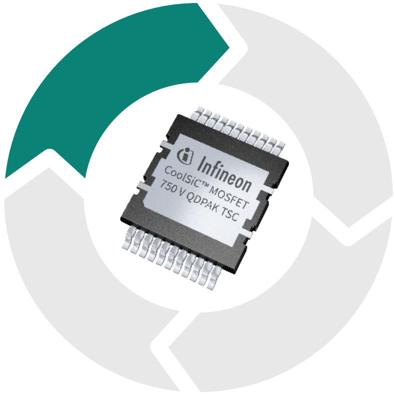


- **Thermal & electrical performance**
- **Increased power density**
- **PCB layout flexibility**
- **Manufacturing advantage**
- **Stability and system lifetime**

Easy-of-use
CoolSiC^{TM} G2 offers high immunity against parasitic turn-on

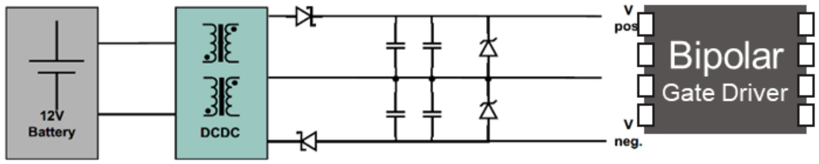
Unipolar gate driving

- 50% less driving BoM cost
- Less design complexity
- Bootstrap configuration



Negative gate voltage turn-off

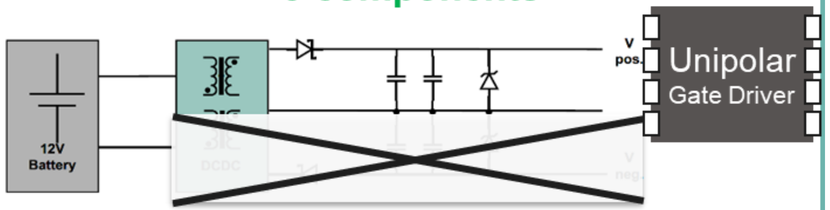
10 components



✓ - 50% BOM & Space
✓ Less complex transformer

0V gate voltage turn-off

5 components



Easy-of-use
High flexibility on driving voltage offers the best compatibility

Unipolar gate driving

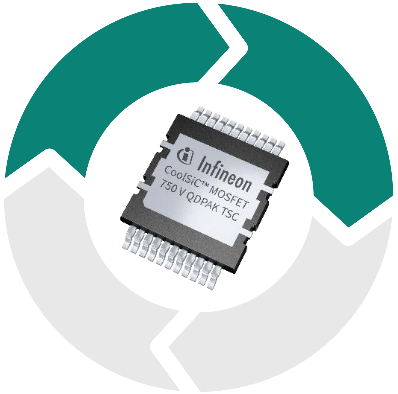
50% less driving BoM cost

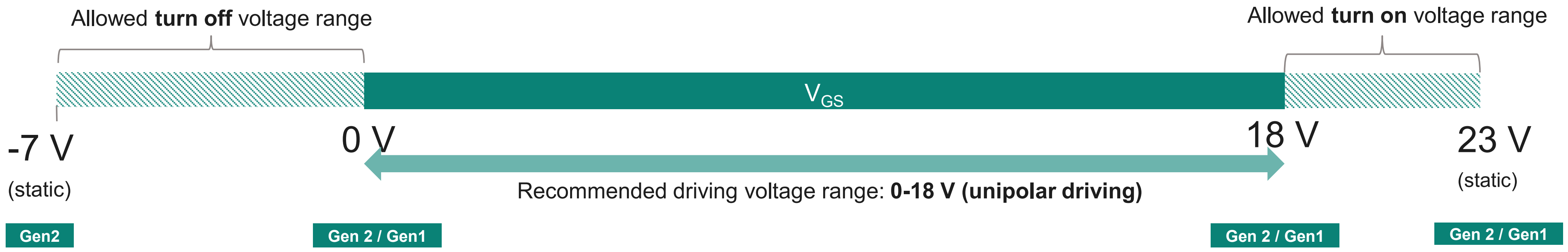
Less design complexity

Bootstrap configuration

Extended driving voltage range

- Higher flexibility
- Higher design margin
- Best 2nd source compatibility





Easy-of-Use
A scalable portfolio with high granularity

Unipolar gate driving

50% less driving BoM cost

Less design complexity

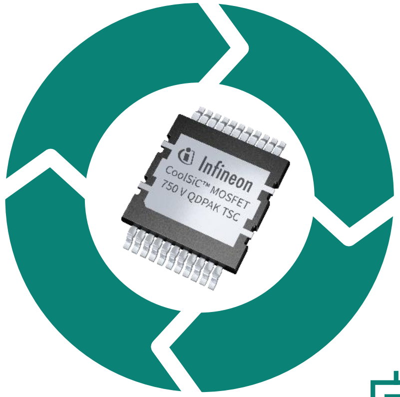
Bootstrap configuration

Extended driving voltage range

Higher flexibility

Higher design margin

Best 2nd source compatibility



Maximum $R_{DS(on)}$ at T_j = 150°C in DS

- Reduced over-stacking design margin
- More cost/performance efficient design

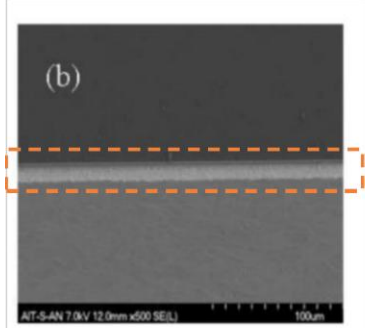
A more granular portfolio with Best-in-class $R_{DS(on)}$ 4 mΩ

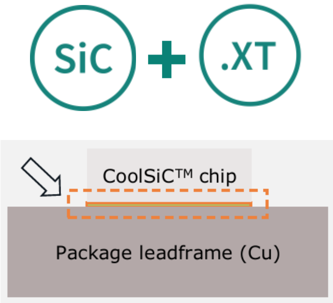
- More selection of Rdsons
- Less conduction loss

Superior Infineon Automotive Quality starting from the technology design

SiC Quality Excellence

Design





Gate oxide reliability
Video available [here]

Avalanche capability

Wide V_{GS} range with 0 V turn-off V_{GS}

Robustness against parasitic turn-on

Short circuit capability

Patented .XT technology

High $V_{GS(th)} \geq 4.5$ V

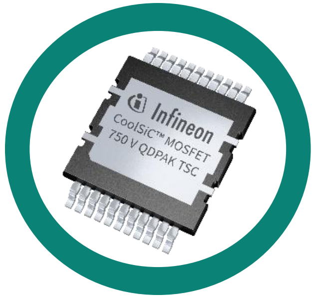
High breakdown voltage

Extended junction temperature

40 years of automotive experience

>100 Infineon Automotive Design Rules

Robust Automotive Technology

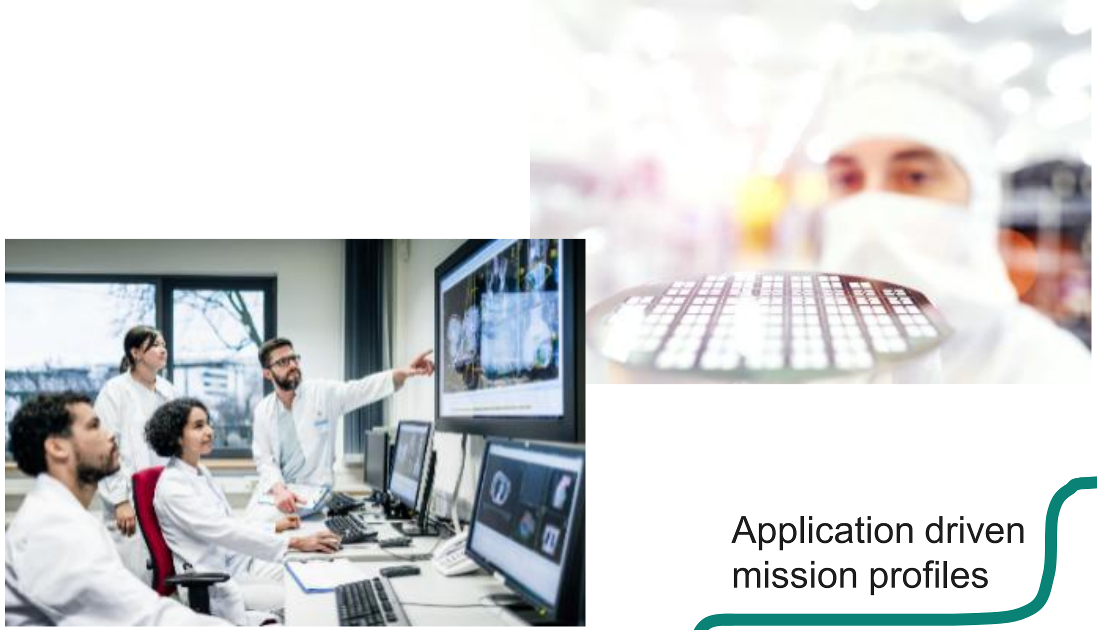


CoolSiC™

Superior Infineon Automotive Quality through stringent qualification process

Quality Excellence

Qualification



CoolSiC™

Risk mitigation measures

Application driven mission profiles

Harsher qualification >AEC Q101

AEC Q101

Superior Infineon Automotive Quality throughout the production

SiC Quality Excellence

Production

Gate oxide screening

Statistical bin alarm (SBA)

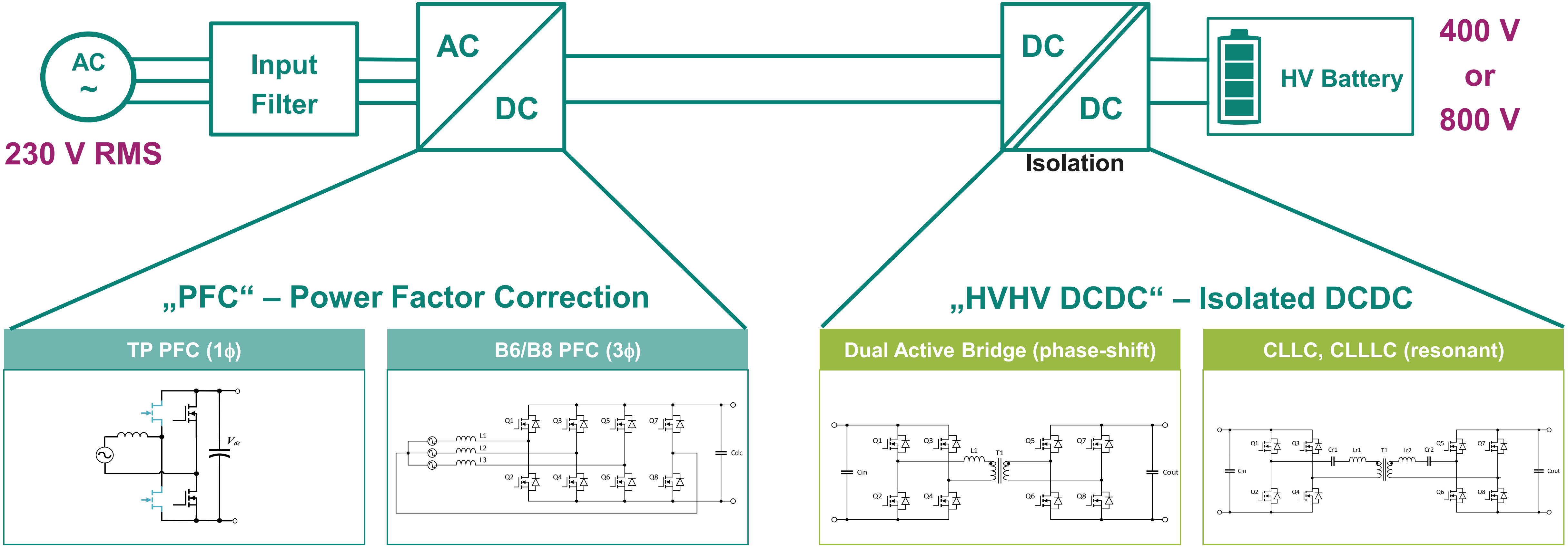
Part average test (PA)

Y_B screening

100% avalanche testing in BE implemented
When specified in the datasheets

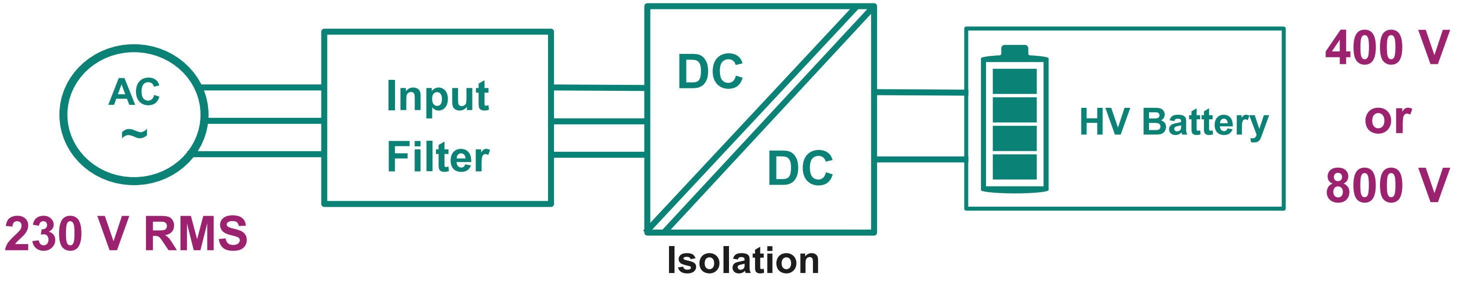
Rdson at HOT tested in BE implemented
when specified in the datasheets

On-board Charger (OBC) basic architecture today is based on 2-stage power conversions toplogies

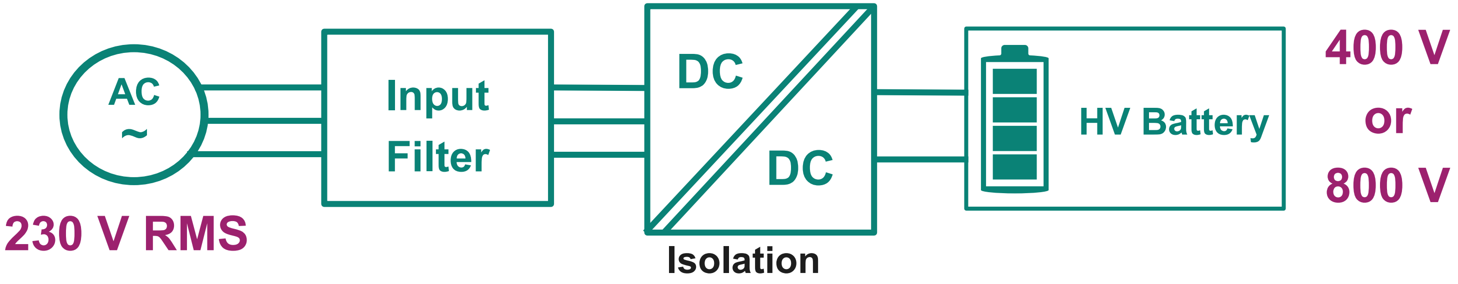


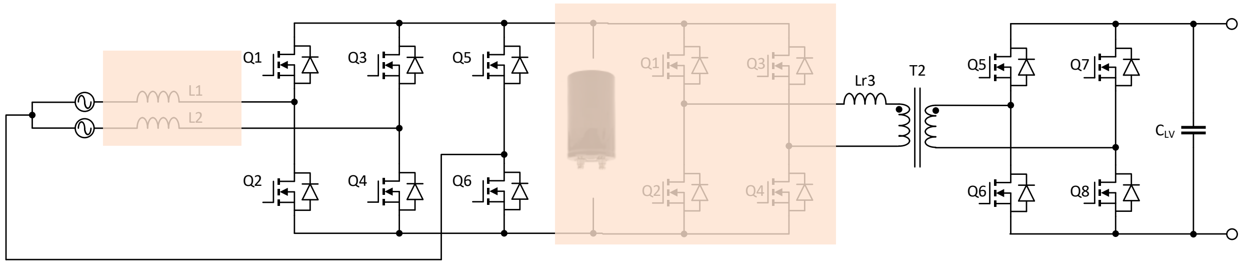
- Typical power class: 3.3 kW (single phase) / 6.6 kW (single phase) / 11 kW (3 phase) / 22 kW (3 phase)
- Variation of power, AC phase, bi-directionality add complexity
- Topology selection depends on several input and output parameter

On-board Charger (OBC) simplification by Single Stage Converter?

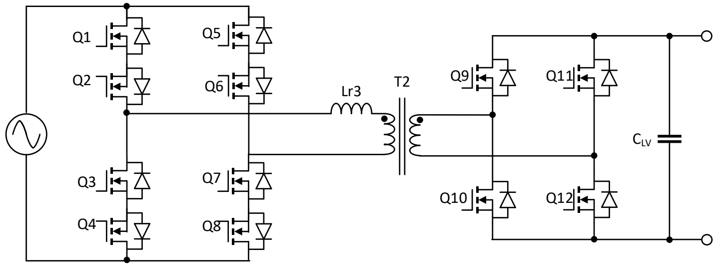


On-board Charger (OBC) simplification by Single Stage Converter!





Traditional two stages OBC
(PFC + HV/HV DCDC)



1-phase Single Stage Matrix Converter

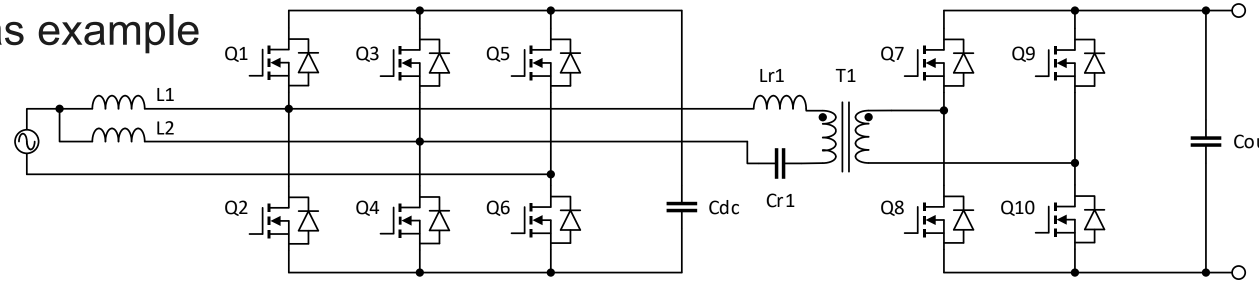
Saving of PFC inductors and

DC link capacitors (no pre-charge)

Single stage topologies are gaining market shares and we see basically 2 main ones being of interest: iBiDAB/LLC and Matrix

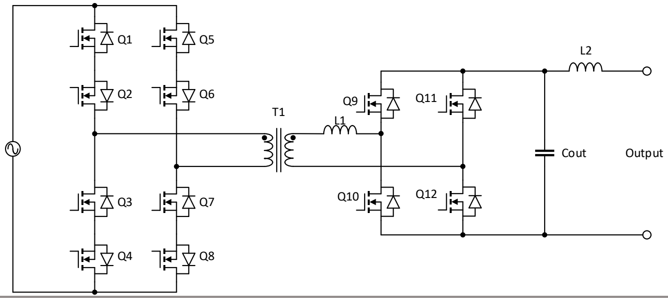
Quasi-single - stage iBiDAB / iBiLLC

– iBiDAB as example



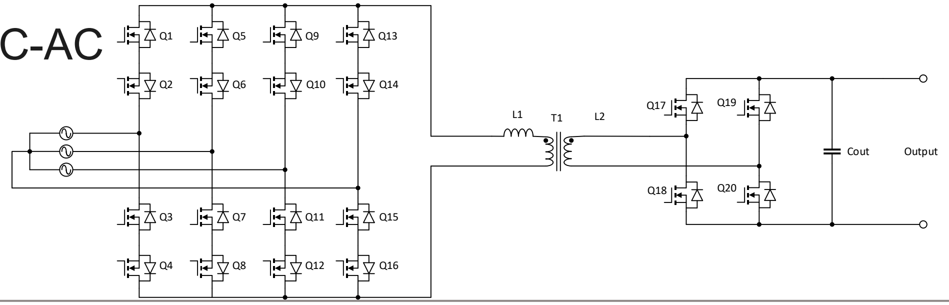
Single-stage Matrix 1-phase

– Single-phase AC-AC



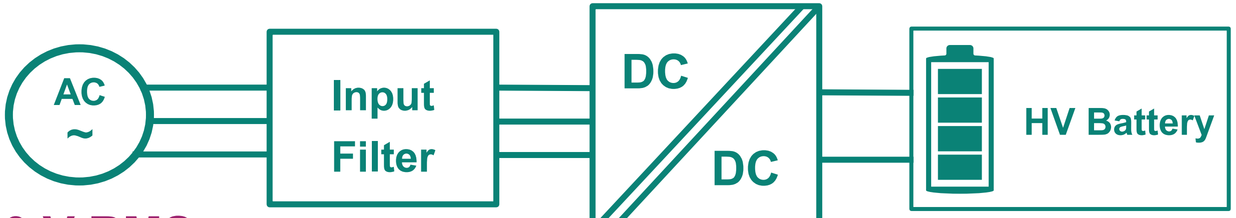
Single-stage Matrix 3-phase

– 3-phase to 1-phase AC-AC



** Simplified topology drawings*

Single Stage Converter simplify the system and enable higher realiabilty, increased power density and system cost reduction

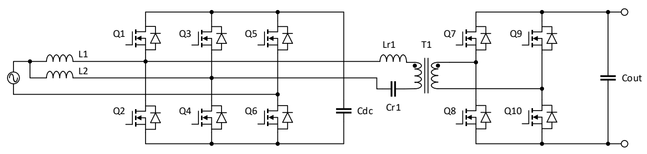
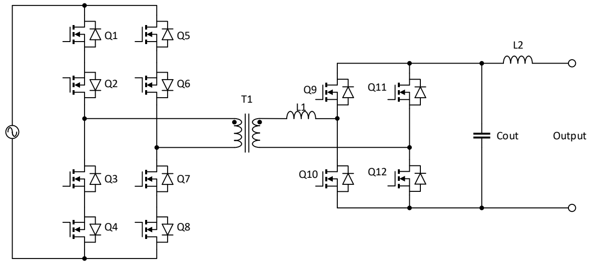


230 V RMS

Isolation

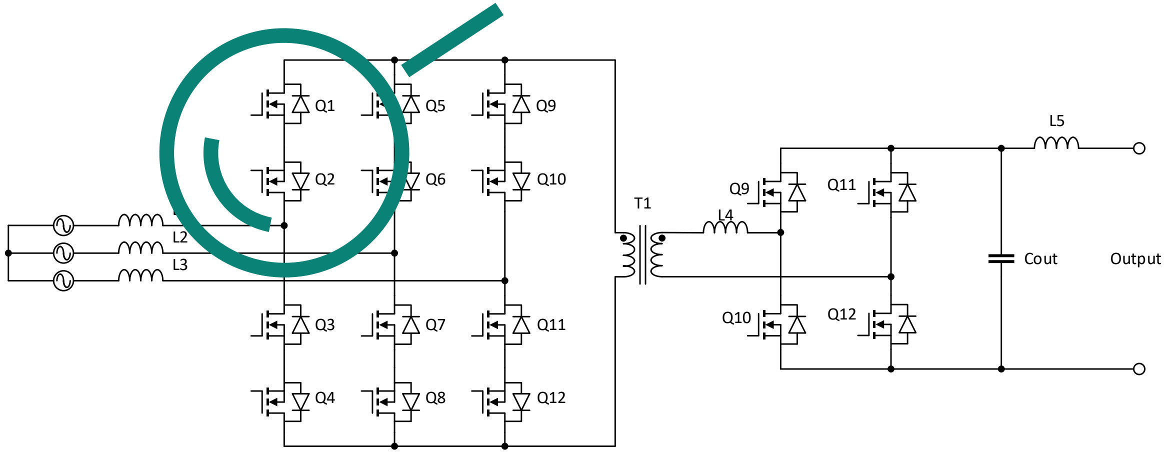
400 V
or
800 V

Isolated Single Stage Converter Toplogies

Qasi-Single Stage iBiDAB/iBiLLC	True Single Stage Matrix Converter
	

- ✓ **Simplified system structure** and **lower part count**
- ✓ **Saving** of **PFC inductors** and **DC link capacitors** (no pre-charge)
- ✓ **System level benefits**:
  - – higher **reliability**
  - – Increased **power density**
  - – reduced **system cost**

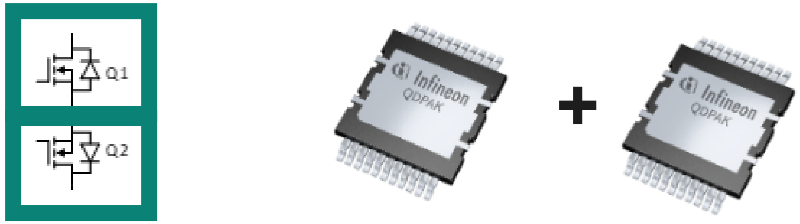
For the matrix converter there are several implementation options for the realization of the back-to-back switches



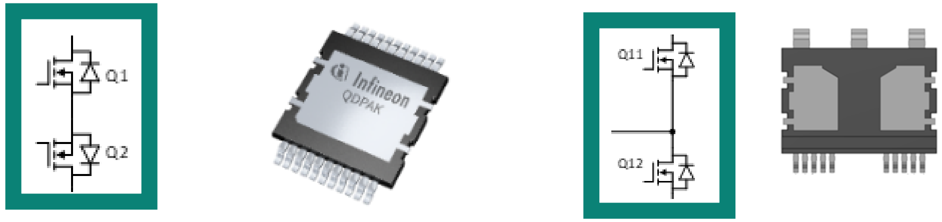
Single Stage – Matrix Converter

Implementation options

2 discrete switches

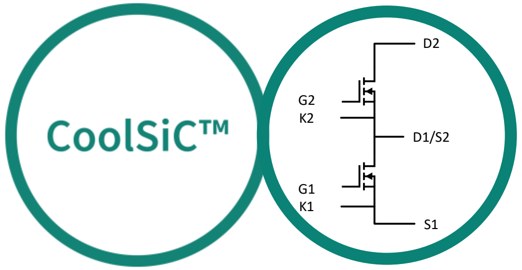


2 discrete switches in one package



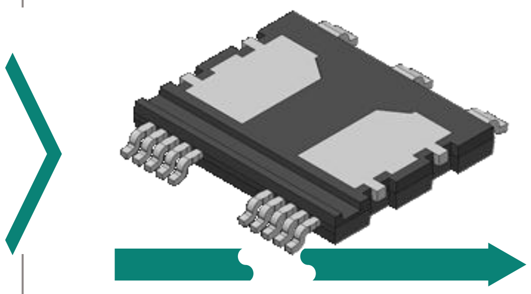
1 discrete bidirectional GaN switch

CoolSiC™ H-DPAK Half-bridge
a new top-sided cooling package embedded with latest CoolSiC™



- **CoolSiC™ technology**
- **Dual-die in half-bridge configuration**
- **Dual independent channels**
- **In H-DPAK Top-sided cooling**
- **Thermal excellence with .XT technology**
- Creepage and clearance compliant
- **Standard 2.3mm** *package thickness as Infineon Q-DPAK and TOLT.*

AEC Qualified



CoolSiC™ H-DPAK Half-bridge

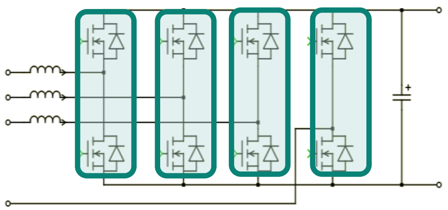
- ✓ **Increase power density and integration:** higher PCB utilization **>15% less PCB area compared to Q-DPAK**
- ✓ **Improve switching performance: 4x reduced parasitic inductance*** enables higher efficiency

  ** Compared with TO247-4*
- ✓ **Reduce BoM cost:** saving on the devices level compared to Q-DPAK and less PCB material cost
- ✓ **Reduce design efforts and assembly efforts** by replacing two discretes
- ✓ **High scalability with CoolSiC™ MOSFETs 750 V to 1200 V**

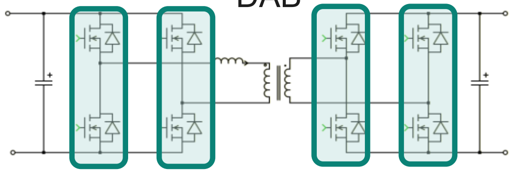
Half-bridge as a fundamental cell in the one-stage and two-stage converters addressing various topologies for OBC

Two - stage

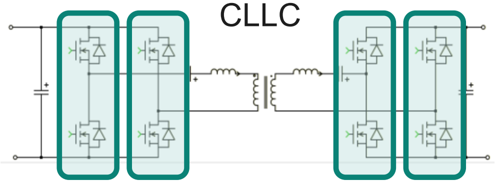
B8

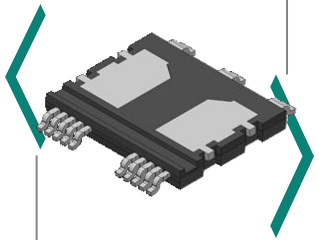


DAB



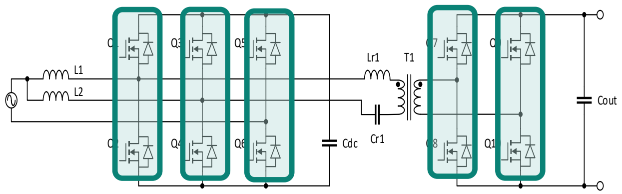
CLLC



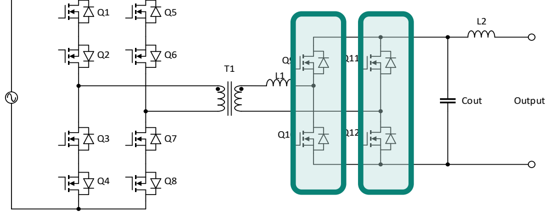


Single - stage

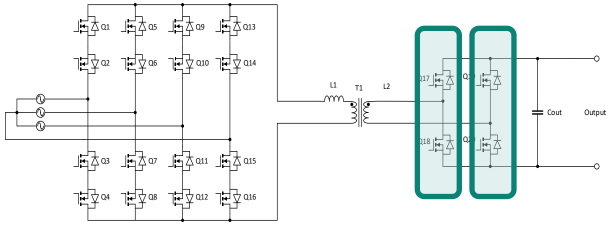
Quasi single stage

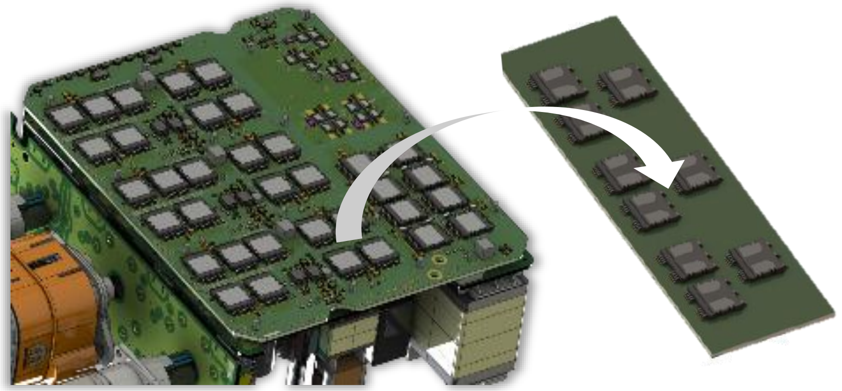


Modular Matrix



Matrix

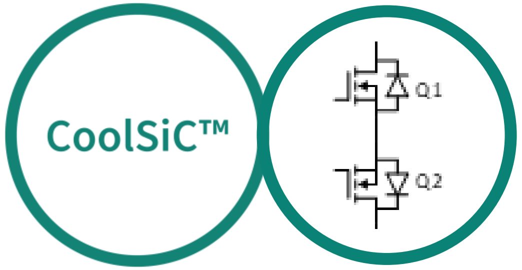




High power density

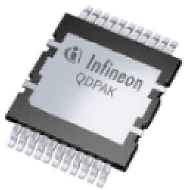
Lower system cost

CoolSiC™ Q-DPAK bidirectional-switch
unlocks the power density by enabling bidirectionality in TSC



- **CoolSiC™ technology**
- **Dual-die common drain connected**
- **Dual independent channels**
- **Bidirectional switching**
- **In Q-DPAK Top-sided cooling**
- **Thermal excellence with .XT technology**
- **Standard 2.3mm** *package thickness as Infineon DDPAK, TOLT, H-DPAK*

AEC Qualified



Unparalleled switching performance

– Unparalleled **switching performance to enable higher efficiency**

Exclusive robustness

– **Highly robust 750 V technology with** $V_{(BR)DSS}$ =840 V, fit for V_{bus}> 500
– Robust avalanche capability, **100% avalanche tested in production**
– Robust **overload operation up to T_{vj}=200°C for 100 h**
– **Short circuit withstand time typ. 2µs**
– **200 V/ns dv/dt** ruggedness

Best chip and package interconnect thru .XT

– **R_{thjc}** excellence and **mechanical robustness**

Ease of use

– **Voltage driven device (with EiceDRIVER™)**
– **Unipolar gate driving** enables the driving BoM cost saving up to 50% and **bootstrap configuration**
– Increased flexibility on driving voltage with **wider $V_{gs(static)}$ -7 V to 23 V**

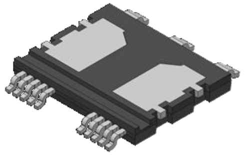
Premium quality

– **beyond** AECQ-101 with outstanding reliability for automotive products

New CoolSiC™ devices- Bidirectional-switch & Half-bridge

enable the single-stage converter with a mature and robust CoolSiC™ technology

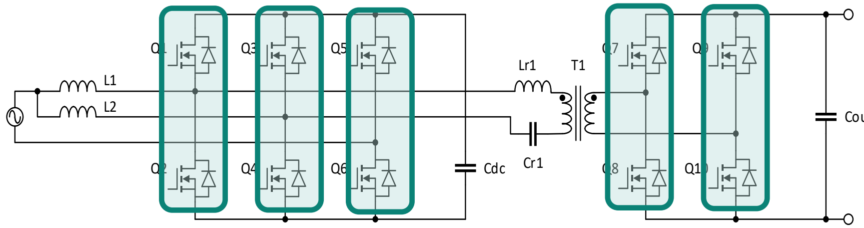
CoolSiC™
Q-DPAK Bidirectional Switch



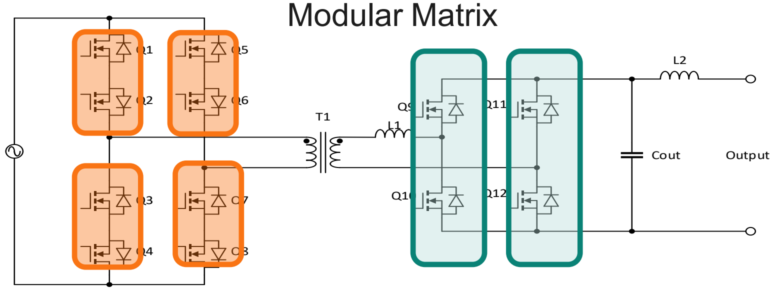
CoolSiC™
H-DPAK Half-bridge

Single - stage

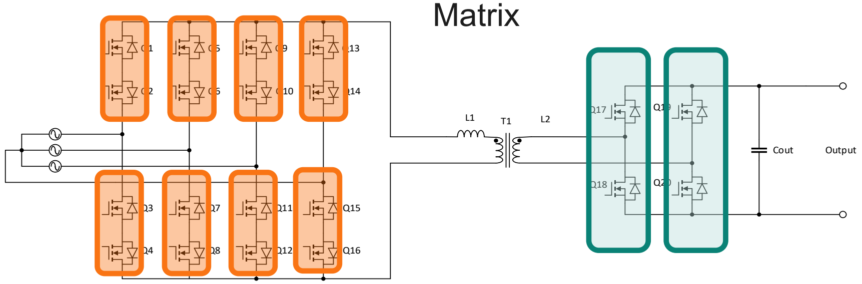
Quasi single stage



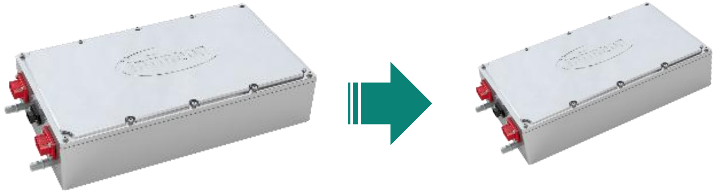
Modular Matrix



Matrix



Powered by CoolSiC™

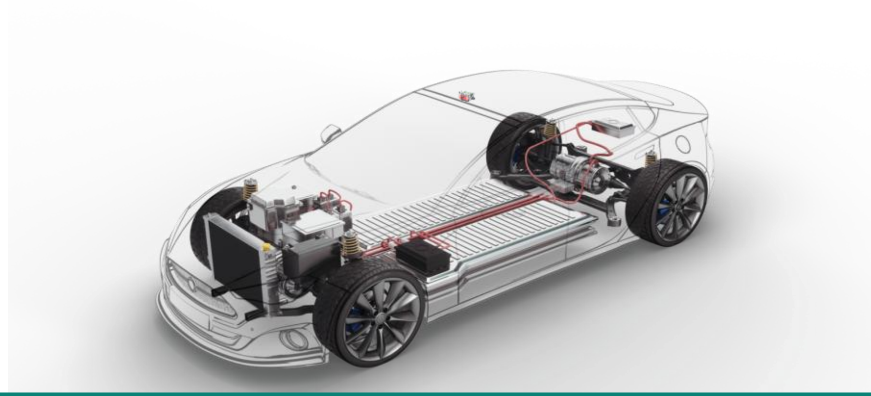


Higher power density

Lower system costs

Robust design w. reliablity

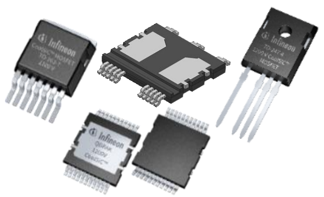
High charging efficiency



We address all key functional blocks of On-board Charger (OBC), with specialized product portfolios

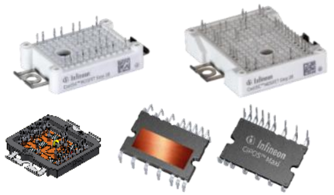
Functional Block Diagram

Power Discrete

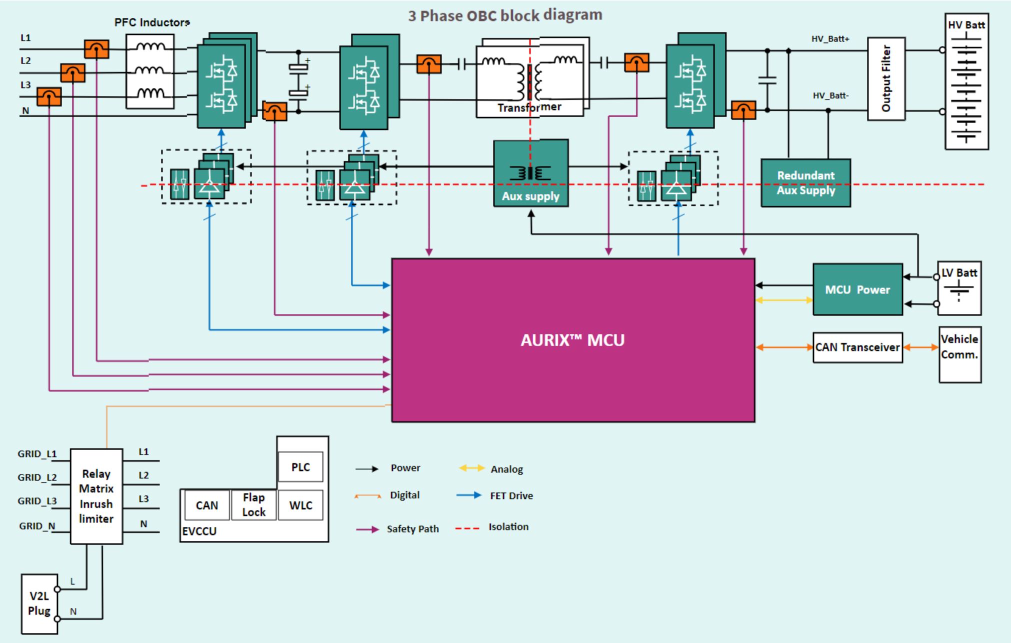


CoolMOS, IGBT, CoooSiC and CoolGaN (650V, 750V, 1200V, 1700V, various Rdson)

Power Module



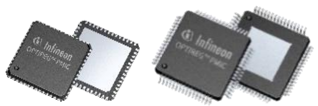
Easy and Moulded Modules (650V ,750V, 1200V, various Rdson)



Microcontroller

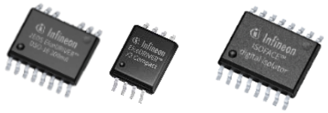
AURIX™ Microcontroller TC2xx, TC3xx, TC4xx

OptiREG PMIC



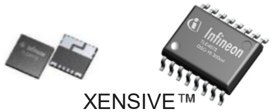
Microcontroller PMIC TLF3558x

Gate Driver



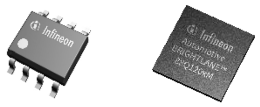
EICEDRIVER™ Gate Drivers (1ch, 2ch)

Current Sensor



XENSIVE™ Magnetic Current Sensor / TMR TLE497x, TLE557x

Connectivity



- CAN transceivers TLE935x
- BRIGHTLANE™ Ethernet Solutions

Recap: Infineon´s SiC solutions for power conversion

Enabling customers to design simple, robust, efficient &cost effective

xEV Market and OBC trend

Key technical trends and cost-down are the **main drivers for the new topologies towards single stage**, technology and package innovation

CoolSiC^{TM} with high quality & robustness

Our superior CoolSiC^{TM} trench technology + Infineon SiC quality extension guarantee device with **best-in-class switching performance**, **exclusive robustness** and **long-term reliability**

New CoolSiC^{TM} devices- BDS & Half-bridge

Addressing the single-stage converter with a **mature CoolSiC^{TM}** technology, enabling **high power density, system cost-down** when securing **high performance with robustness** over system lifetime.

Check out our additional information to get a deeper understanding of On-Board Charger (OBC) and HV-LV DC/DC applications

Collaterals and brochures

- Product briefs
- Application brochures
- Presentations
- Press releases

Technical material

- Application notes
- Technical articles
- Simulation models
- Datasheets, MCDS files

Hardware

- Evaluation boards

On-board charger

https://www.infineon.com/application/automotive-onboard-charging-obc

DC-DC HV/LV

https://www.infineon.com/application/automotive-hv-dc-dc-converter

Infineon