

# Expert kit

# KIT\_2K5W\_CCM\_TOLL

To be used with

[EVAL\\_2K5W\\_CCM\\_4P\\_V2](#)

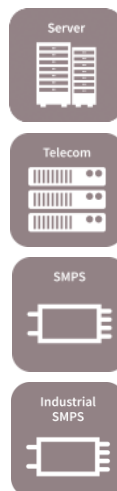
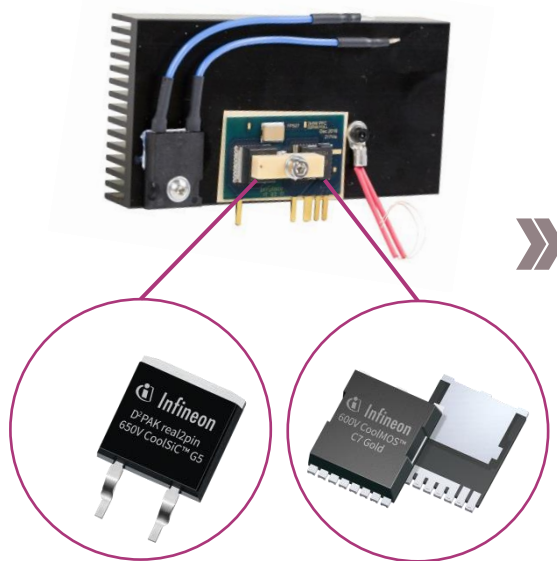


[Zechner Florian \(IFAT PMM ACDC AF\)](#)

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# Expert kit

## KIT\_2K5W\_CCM\_TOLL



## Technical & order details

To be used together with:  
[EVAL\\_2K5W\\_CCM\\_4P\\_V2](#)

Parameter	Value
Input voltage	85 V <sub>AC</sub> ~ 265 V <sub>AC</sub>
Input current	<14 A <sub>eff</sub>
Output Voltage & current	400 V <sub>DC</sub> , 6.25 A
Output power	2.5k W@V <sub>in</sub> =230 V;
Peak efficiency	>98% @ 230 V <sub>AC</sub>

Learn more

Sales name	<a href="#">KIT_2K5W_CCM_TOLL</a>
SAP Mat number	SP001690906
Infineon order code	KIT2K5WCCMTOLLTOBO1

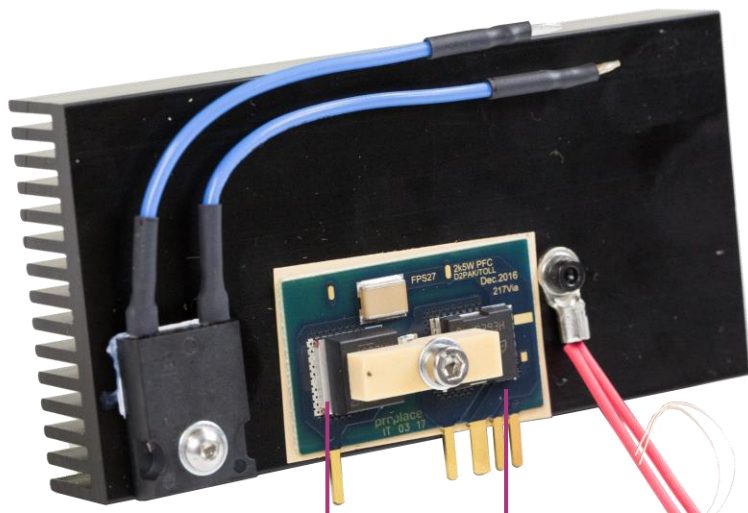
### Features

- > Convenient SMD upgrade kit for the [EVAL\\_2K5W\\_CCM\\_4P\\_V2](#) PFC evaluation board
- > Modifies the PFC stage to SMD solution by just replacing the heatsink with it's already assembled devices
- > Topology: CCM PFC
- > Assembled on heat sink for plug and play

### Benefits

- > Easy to use SMD solution
- > Thermal management example
- > SMD vs. THD comparison in same environment
- > Plug and play module for CCM PFC

# Expert kit KIT\_2K5W\_CCM\_TOLL



600 V CoolMOS™ G7  
([IPT60R028G7](#))

CoolSiC™ Schottky diode 650 V G5  
([IDK12G65C5](#))

Ordering code:  
KIT\_2K5W\_CCM\_TOLL

**Expert kit with 600 V CoolMOS™ G7 for  
EVAL\_2.5KW\_CCM\_4PIN**

### Board components

- › 600 V CoolMOS™ G7 SJ MOSFET  
([IPT60R028G7](#))
- › CoolSiC™ Schottky diode 650 V G5  
([IDK12G65C5](#))

### To be used with the following board

- › [EVAL\\_2K5W\\_CCM\\_4P\\_V2](#)

### Target applications

- › Telecom
- › Server
- › Industrial
- › General SMPS

# Component features

## IPT60R028G7

### CoolMOS™ C7 Gold SJ MOSFET in TO-Leadless (G7) - a new SMD package using Kelvin source concept

The 600 V CoolMOS™ C7 Gold (G7) SJ MOSFET technology for the first time brings together the benefits of the improved 600 V CoolMOS™ G7 technology, 4pin Kelvin source capability and the improved thermal properties of the TO-Leadless package. This enables now SMD solution for high current hard switching topologies such as power factor correction (PFC) up to 3 kW.

The 600 V CoolMOS™ G7 further more offers new SMD design solutions also for resonant circuits such as high end LLC topologies.

## IDK12G65C5

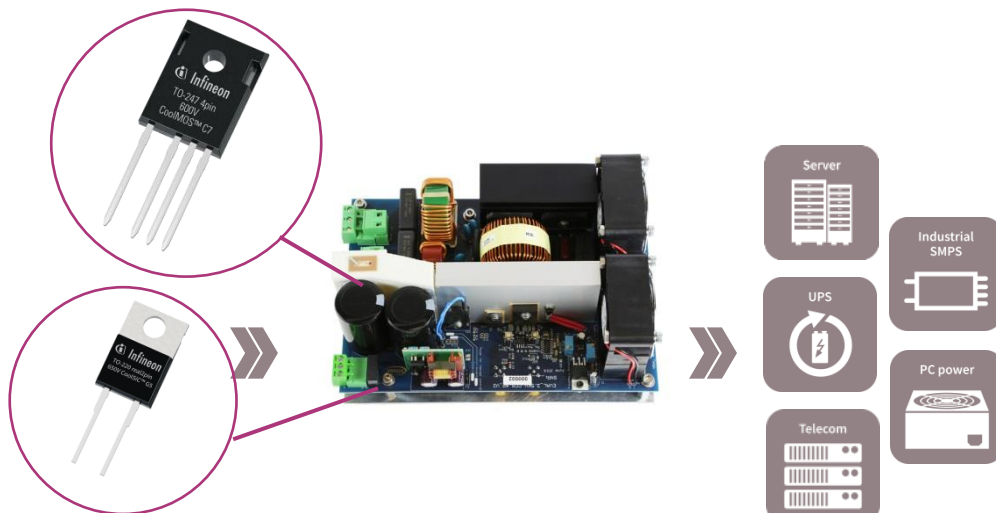
### CoolSiC™ Schottky diode 650 V G5

CoolSiC™ generation 5 represents Infineon's leading edge technology for SiC Schottky barrier diodes. The Infineon proprietary diffusion soldering process, already introduced with G3, is now combined with a new, more compact design and thin wafer technology. The result is a new family of products showing improved efficiency over all load conditions, coming from both the improved thermal characteristics and a lower figure of merit ( $Q_c \times V_f$ ). Benchmark switching behaviour.

- > No reverse recovery charge
- > Smooth recovery curve
- > Temperature independent switching behaviour
- > High operating temperature ( $T_j \text{ max} = 175^\circ\text{C}$ )

# To be used with evaluation board EVAL\_2K5W\_CCM\_4P\_V2

## EVAL\_2K5W\_CCM\_4P\_V2



## Technical & order details

Parameter	Value
Input voltage	85 V <sub>AC</sub> ~ 265V <sub>AC</sub>
Output voltage	400 V
Output power	2.5k W @ V <sub>in</sub> = 230 V <sub>AC</sub> 1kW @ V <sub>in</sub> = 90 V <sub>AC</sub>
Peak Efficiency	>98%

### Learn more

Sales name	<a href="#">EVAL_2K5W_CCM_4P_V2</a>
SAP Mat number	SP001712686
Infineon Order Code	EVAL2K5WCCM4PV2TOBO1

## Features

- > The board is developed for the laboratory use
- > This evaluation board helps customers to get familiar with Infineon products and to evaluate different behaviour of conventional 3pin devices compared to the high performance CoolMOS™ C7 devices in TO-247 4pin within a PFC application
- > The version V2 also enables the evaluation of the SMD TOLL adaptor kit [KIT\\_2K5W\\_CCM\\_TOLL](#)
- > Variable switching frequency: 40-200 kHz

## Benefits

- > Able to analyse the switching performance of different package variants in a very common used PFC topology. It helps to understand the switching behaviour and parasitic influences
- > With the various option settings via "solder jumper" it is possible to modify the circuit without changing any layout
- > Therefore the evaluation board offers plenty investigation variants
- > It shows how to boost the efficiency in a standard PFC topology

Following expert kits are available

- > [KIT\\_2K5W\\_CCM\\_TOLL](#) Easy to use SMD solution
- > [KIT\\_6W\\_12V\\_BIAS\\_ICE3](#) DC-DC Bias board
- > [KIT\\_6W\\_12V\\_BIAS\\_ICE5](#) DC-DC Bias board



## Technical Material

- > Application Notes
- > Simulation Models
- > Datasheets
- > PCB Design Data

- > [KIT\\_2K5W\\_CCM\\_TOLL - Infineon Technologies](#)
- > [EVAL\\_2K5W\\_CCM\\_4P\\_V2 - Infineon Technologies](#)

## Evaluation Boards

- > Evaluation Boards
- > Demoboards
- > Reference Designs

- > [www.infineon.com/evaluationboards](http://www.infineon.com/evaluationboards)

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- > Technical Videos
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- > [www.infineon.com/mediacenter](http://www.infineon.com/mediacenter)

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