

# Expert kit

# KIT\_2K5W\_CCM\_TOLL

To be used with

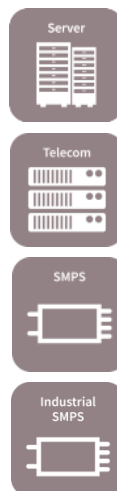
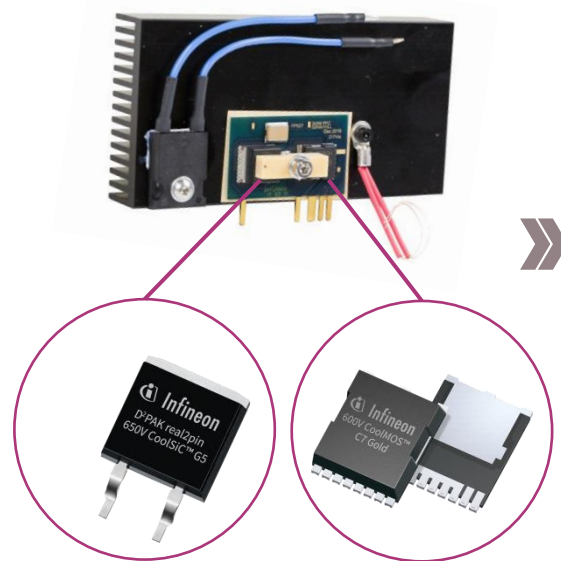
[EVAL\\_2K5W\\_CCM\\_4P\\_V2](#)

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



# 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

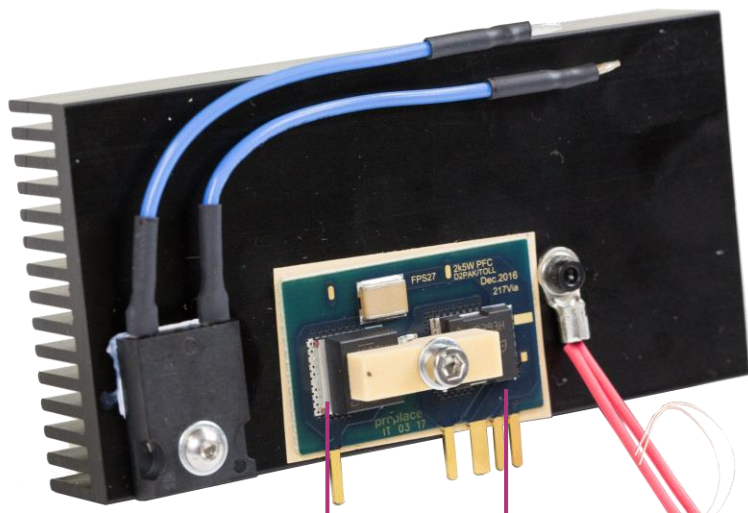
|                     |                                   |
|---------------------|-----------------------------------|
| Sales name          | <a href="#">KIT_2K5W_CCM_TOLL</a> |
| SAP Mat number      | SP001690906                       |
| Infineon order code | KIT2K5WCCMTOLLTOB01               |

### 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



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

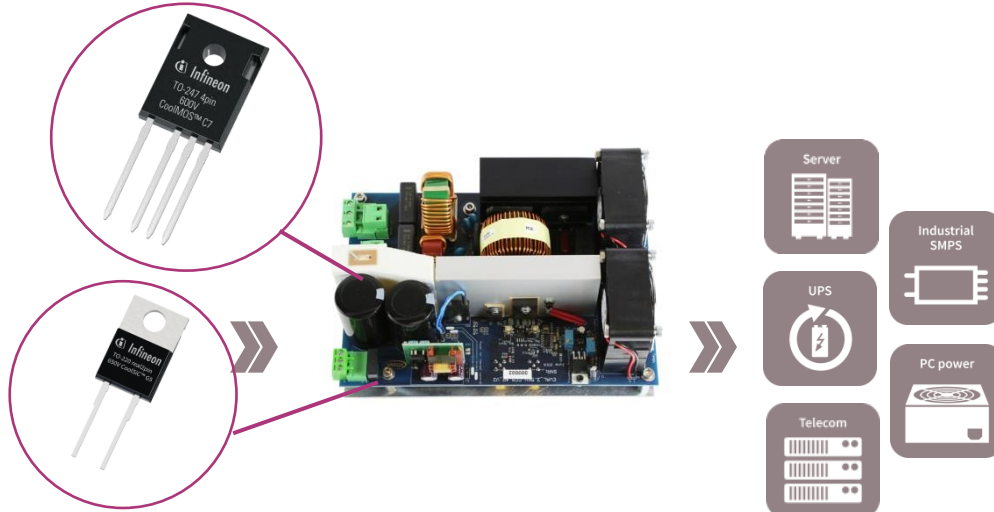
### CoolSiC™ Schottky diode 650 V G5

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><br>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 help's 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)

## Videos

- > Technical Videos
- > Product Information Videos

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

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