

# Bias supply DC-DC KIT\_6W\_12V\_ICE5

Auxiliary supply solution featuring off-line  
SMPS current mode controller IC with  
800 V CoolMOS™ P7 SJ MOSFET

# Description

## KIT\_6W\_12V\_ICE5



**Ordering code:**  
**KIT\_6W\_12V\_ICE5**

### Board components

- › QR flyback PWM controller 5th generation ([ICE5QSAG](#))
- › 800 V CoolMOS™ P7 SJ MOSFET ([IPU80R4K5P7](#))

### Board specifications

- › Input voltage: 90 V<sub>DC</sub> - 400 V<sub>DC</sub>
- › Output voltage: 12 V<sub>DC</sub> (prim. and sec. side)
- › Output power max.: 6 W (prim. + sec. side)

### To be used with the following boards

- › [EVAL\\_800W\\_ZVS\\_FB\\_CFD7](#)
- › [EVAL\\_2KW\\_ZVS\\_FB\\_CFD2](#)
- › [EVAL\\_2KW\\_ZVS\\_FB\\_CFD7](#)
- › [EVAL\\_2.5KW\\_CCM\\_4PIN](#)
- › [EVAL\\_2K5W\\_CCM\\_4P](#)

# Product features

## ICE5QSAG

### Description:

- › Infineon latest 5<sup>th</sup> generation quasi-resonant flyback PWM controller offers high performance and comprehensive suite of protection to increase system robustness.

### Summary of Features:

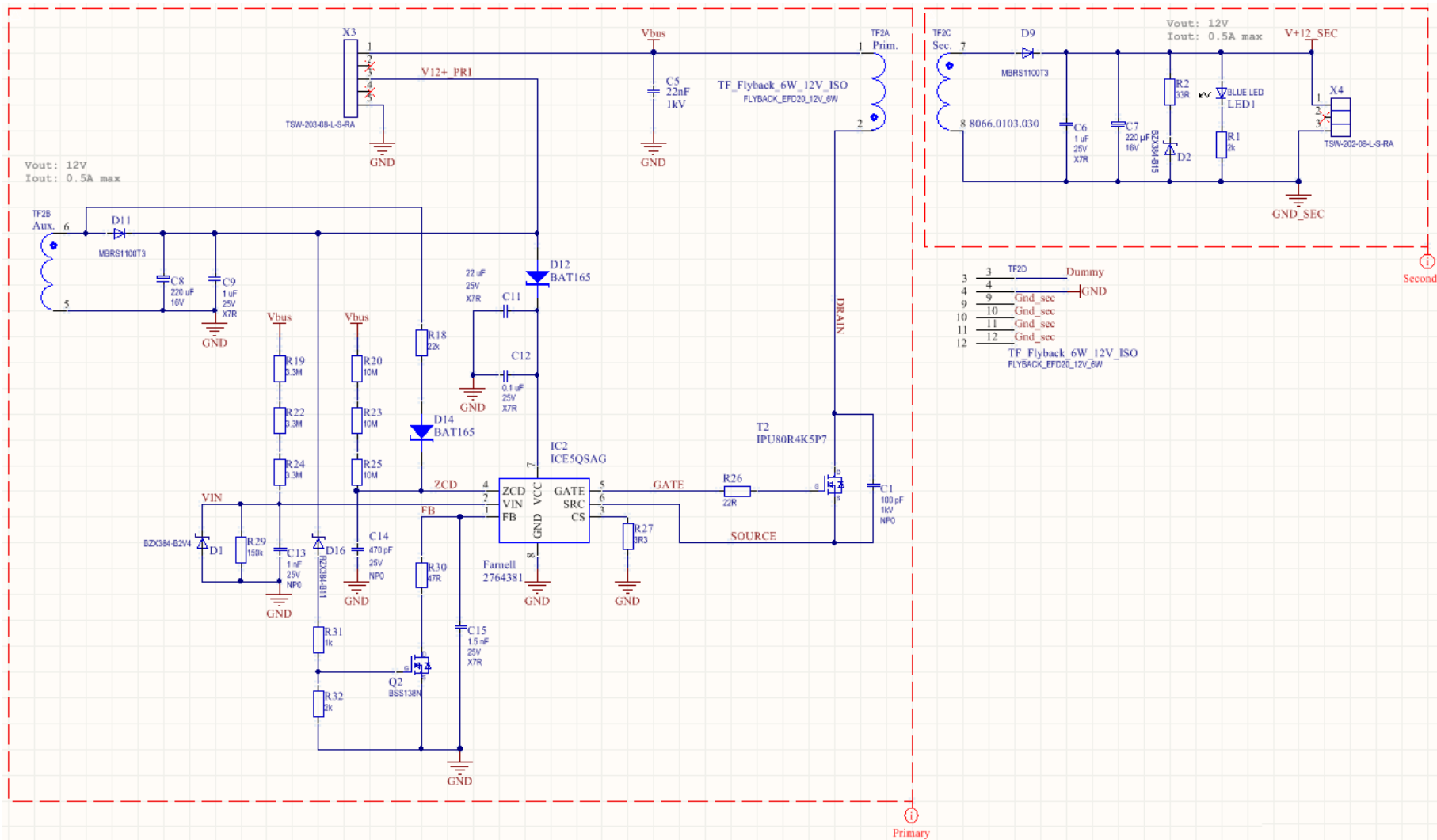
- › Novel quasi-resonant switching scheme
- › Rapid and adjustable start-up with cascode configuration
- › 2 level selectable active burst mode level
- › Built-in digital soft-start
- › Cycle by cycle peak current limitation
- › Digital frequency reduction with decreasing load for higher efficiency
- › Adjustable line input over-voltage and brown IN/OUT protection
- ›  $V_{CC}$  and CS pin short to ground protection
- › OLP, output short, output over-voltage, OTP with hysteresis and  $V_{CC}$  over/under voltage protection
- › Auto-restart for all protection features



### Benefits:

- › High efficiency with latest CoolMOS™ P7 SJ MOSFET family and quasi-resonant switching scheme
- › Auto-restart recovery scheme to minimize interruption to system operation
- › Extensive protection coverage to increase system robustness
- › Rapid start-up performance with cascode configuration

# Schematic

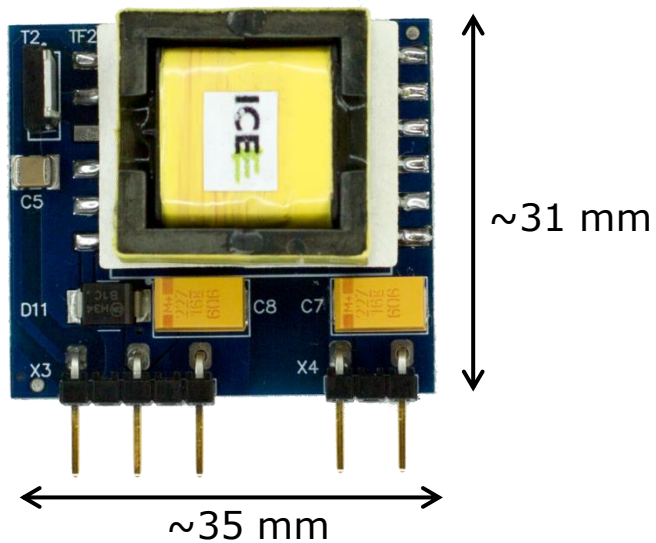


# Base board KIT\_6W\_12V\_ICE5



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## Technical Material

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

> [KIT 6W 12V ICE5](#)

## 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)

# Support

## Online tools and services



The screenshot shows the Infineon website header with the following elements:

- Infineon logo
- Navigation menu: Products, Applications, **Tools** (highlighted with a red box and number 3), About Infineon, Careers
- Utility links: **Newsletter** (highlighted with a red box and number 1), Contact, **Where to Buy** (highlighted with a red box and number 2), English, Login
- Search bar with a magnifying glass icon

The main content area features a large image of a city skyline at night. Overlaid on the right side of the image is a teal box with the following text:

- Section: **Lighting**
- Text: "New LED controller enables low-wattage luminaire designs August 26th 17:00 CEST"
- Button: "Register Now!" with a right-pointing arrow

Navigation arrows are visible on the left and right sides of the main image area.

- 1 **Subscribe to Newsletter**
- 2 **Where to Buy**
- 3 **Tools, Finders and Selectors**
- 4 **Support**

The navigation menu is organized into three columns:

- Products**
  - Applications
  - Tools
  - Support** (highlighted with a red box and number 4)
  - Technology
- Power**
  - Automotive System IC
  - ESD & EMI
  - Microcontroller
  - RF & Wireless Control
  - Security IC
  - Sensor
  - Smart Card IC
  - Interface
  - Transistor & Diode
- Power Overview**
  - Power MOSFET
  - IGBT
  - Smart Low-Side & High-Side Switches
  - Linear Voltage Regulator
  - DC-DC Converter
  - LED Driver | Lighting ICs
  - Silicon Carbide (SiC)
  - High Power Thyristors & Diodes
  - Motor Control & Gate Driver
  - AC-DC Supply

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