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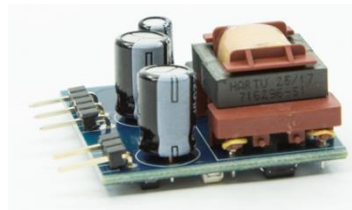
# Bias supply DC-DC

## KIT\_6W\_12V\_BIAS\_ICE3

Auxiliary supply solution featuring off-line  
SMPS current mode controller IC  
CoolSET™ with integrated 650 V  
CoolMOS™

# Description

## KIT\_6W\_12V\_BIAS\_ICE3



**Ordering code:**  
**KIT\_6W\_12V\_BIAS\_ICE3**

### Board components

- › CoolSET™ (ICE3RBR4765JZ)

### 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\_V2

# Bill of materials

Part	Value	Pcs*	Remark	Device	Package
R5	1100092; 47	1		R-EU_R0805	R0805
R4, R6	1100124; 1k	2		R-EU_R0805	R0805
R3	1100131; 2k	1		R-EU_R0805	R0805
R1, R2	1100581; 560	2		R-EU_MELF0207R	MINI_MELF-0207R
C8	1100965; 1,5n	1		C-EUC0805	C0805
C5	1100985; 100n	1		C-EUC0805	C0805
R7	1R2	1		MMA02040C1208FB300	MINI_MELF-0204R
PCB1	6W_BIAS-Supply	1		PCB_NUTZEN	PCB-NUTZEN
D1, D4	10BQ100	2		MBRS1100T3	SMB
C6	22µ/25V	1		CPOL-EUE2.5-6	E2,5-6
C3	33p/3000V	1		C-EUC1808	C1808
C2	100n/500V	1		C-EUC1210	C1210
C1, C4	220µ/25V	2		CPOL-EUE5-8.5	E5-8,5
C7	220n/16V	1		C-EUC0805	C0805
Q1	BC847C	1		BC847	SOT23
D6	BZX84-B13,215	1		BZX84	SOT23
TR1	HARTU-716296-51	1		HARTU-716296-51	EF-16_
IC1	ICE3RBR4765JZ	1	Infineon component	ICE3RBR4765JZ	PG-DIP-7-4
D5	LL4448	1		LL4448	MINIMELF
D2	LYT679	1		LEDT679	P-LCC-2
X2, X4	PINHEAD-1X01/90	2		PINHEAD-1X01/90	PINHEAD-1X01/90
X3	PINHEAD-1X02/90	1		PINHEAD-1X02/90	PINHEAD-1X02/90
X1	PINHEAD-1X03/90	1		PINHEAD-1X03/90	PINHEAD-1X03/90
D3	SMAJ15	1		SMAZ	SMA

# Product features

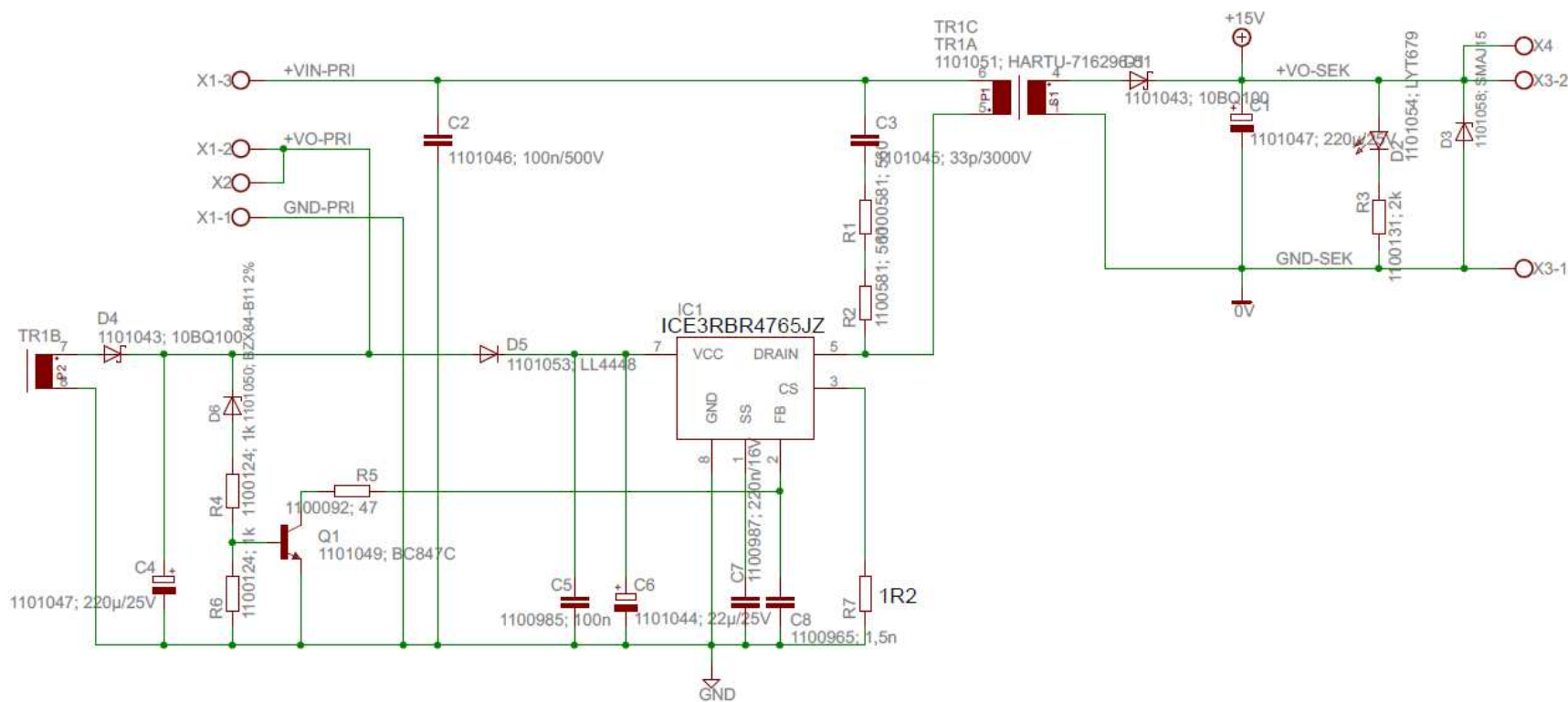
## CoolSET™ ICE3RBR4765JZ

Off-line SMPS current mode controller IC with integrated 650 V CoolMOS™ and start-up cell in DIP-7 package. It has a more robust design and can work to -40°C. The outstanding performance includes BiCMOS technology, active burst mode, built-in frequency jitter, soft gate driving, propagation delay compensation, built-in soft start time, built-in blanking time and extendable blanking time for over load protection, external auto-restart enable feature, etc.

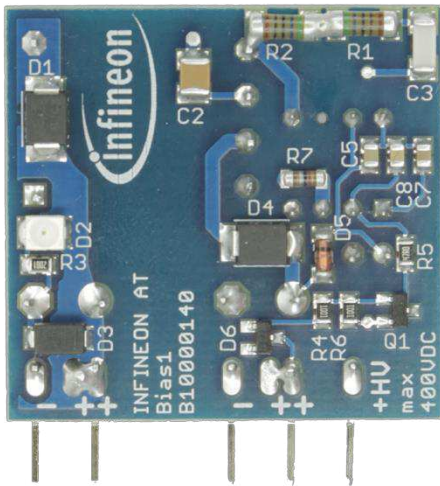
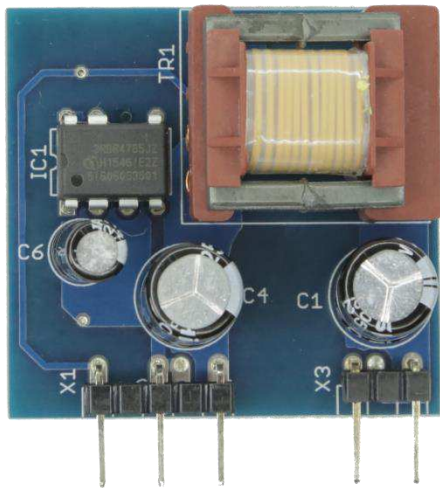
- > 650 V avalanche rugged CoolMOS™ with built-in start-up cell
- > Active burst mode for lowest standby power
- > Fast load jump response in active burst mode
- > 65 kHz internally fixed switching frequency
- > Auto restart protection mode for overload, open loop,  $V_{CC}$  under voltage, over temperature and over voltage
- > Built-in soft start
- > Built-in blanking window with extendable blanking time for short duration high current



# Schematic



# Base board KIT\_6W\_12V\_BIAS\_ICE3



~35mm

~37mm

**Ordering code:**  
**KIT\_6W\_12V\_BIAS\_ICE3**

Auxiliary supply solution featuring off-line SMPS current mode controller IC CoolSET™ with integrated 650 V CoolMOS™



## Technical Material

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

- > [EVAL\\_2KW\\_ZVS\\_FB\\_CFD2](#)
- > [EVAL\\_2K5W\\_CCM\\_4P\\_V2](#)

## 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 a '3' in a circle), About Infineon, Careers
- Utility links: **Newsletter** (highlighted with a red box and a '1' in a circle), Contact, **Where to Buy** (highlighted with a red box and a '2' in a circle), 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 a '4' in a circle)
  - 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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