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# Bias supply DC-DC KIT\_6W\_12V\_ICE5 Auxiliary supply solution featuring off-line SMPS current mode controller IC with 800 V CoolMOS<sup>™</sup> P7 SJ MOSFET



Jared Huntington Zechner Florian

# Description KIT\_6W\_12V\_ICE5





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

#### **Board components**

- QR flyback PWM controller 5th generation (<u>ICE5QSAG</u>)
- > 800 V CoolMOS<sup>™</sup> P7 SJ MOSFET (<u>IPU80R4K5P7</u>)

### **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

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### **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
- $\rightarrow$  OLP, output short, output over-voltage, OTP with hysteresis and V<sub>CC</sub> over/under voltage protection
- > Auto-restart for all protection features

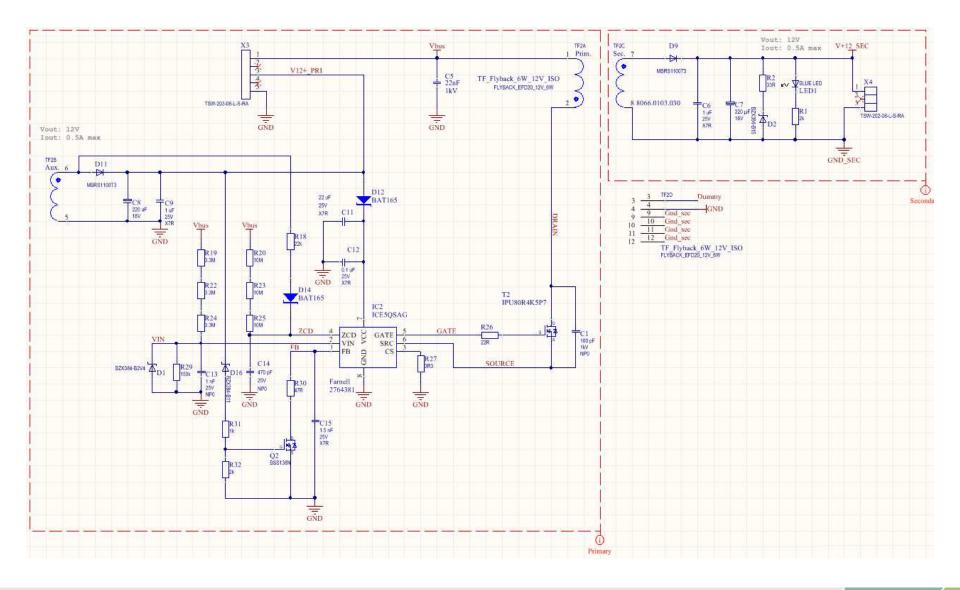
### **Benefits:**

- → High efficiency with latest CoolMOS<sup>TM</sup> 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



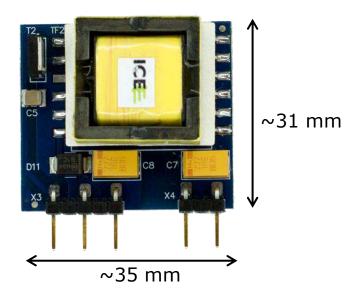
# Base board KIT\_6W\_12V\_ICE5





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

Auxiliary supply solution featuring off-line SMPS current mode controller IC with an 800 V CoolMOS<sup>™</sup> SJ MOSFET



# Support

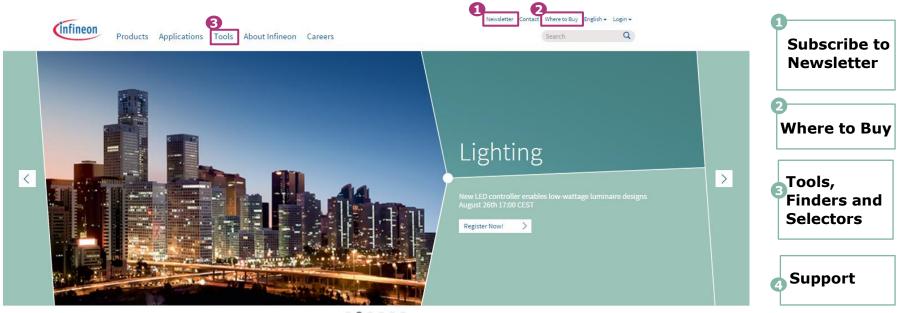


| Technical<br>Material | <ul> <li>&gt; Application Notes</li> <li>&gt; Simulation Models</li> <li>&gt; Datasheets</li> <li>&gt; PCB Design Data</li> </ul> | > <u>KIT 6W 12V ICE5</u>          |
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