



LITIX™ Power

TLD5190-1QV System Demoboard V1

LITIX_V1

15.06.2016

ATV BP LI

www.infineon.com/litix



Board description

- › Credit card sized LED driver in high efficient H-Bridge topology
- › 1A LED driver in current control mode
- › Supply voltage range: 8V – 40V
- › Short circuit detection threshold: 21.6V
- › Output overvoltage protection threshold: 55V

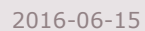
Jumper Settings

- › Jumper J1: Compensation network
 - 1-2 closed: $C_{comp} = 6.8\text{nF}$
 - 3-4 closed: $C_{comp} = 10\text{nF}$ (default setting)
 - 5-6 closed: $C_{comp} = 22\text{nF}$
 - 7-8 closed: $C_{comp} = \text{not mounted}$

- › Jumper J2: Set Pin configuration
 - Closed: Set pin connected to fixed voltage
 - Open: Output current can be set externally over TPSET

Quick Start

- › Connect battery to VS and GND (8V – 40V)
- › Connect LED load (e.g. 10 white LEDs) to OUT+ and OUT-
 - LED forward voltage has to be within short circuit and output overvoltage protection values.
- › Select compensation network (default 10nF J1 position 3-4 closed)
- › Close JP2
- › Connect TPEN (low active) and TPPWMI to digital supply (e.g. 5V)
- › Switch ON supply



LED current dimming

The LED current can be dimmed analog or digital:

- › Analog: Open JP2 and force external reference voltage to TPSET (optional: Close JP2 + change of resistor RSET1 and RSET2)
- › Digital: Apply a PWM signal (e.g. 200Hz 25%DC) to TPPWMI

Please refer to TLD5190-1QV DS for detailed information

Short circuit and overvoltage protection

Short circuit and overvoltage protection thresholds are set to

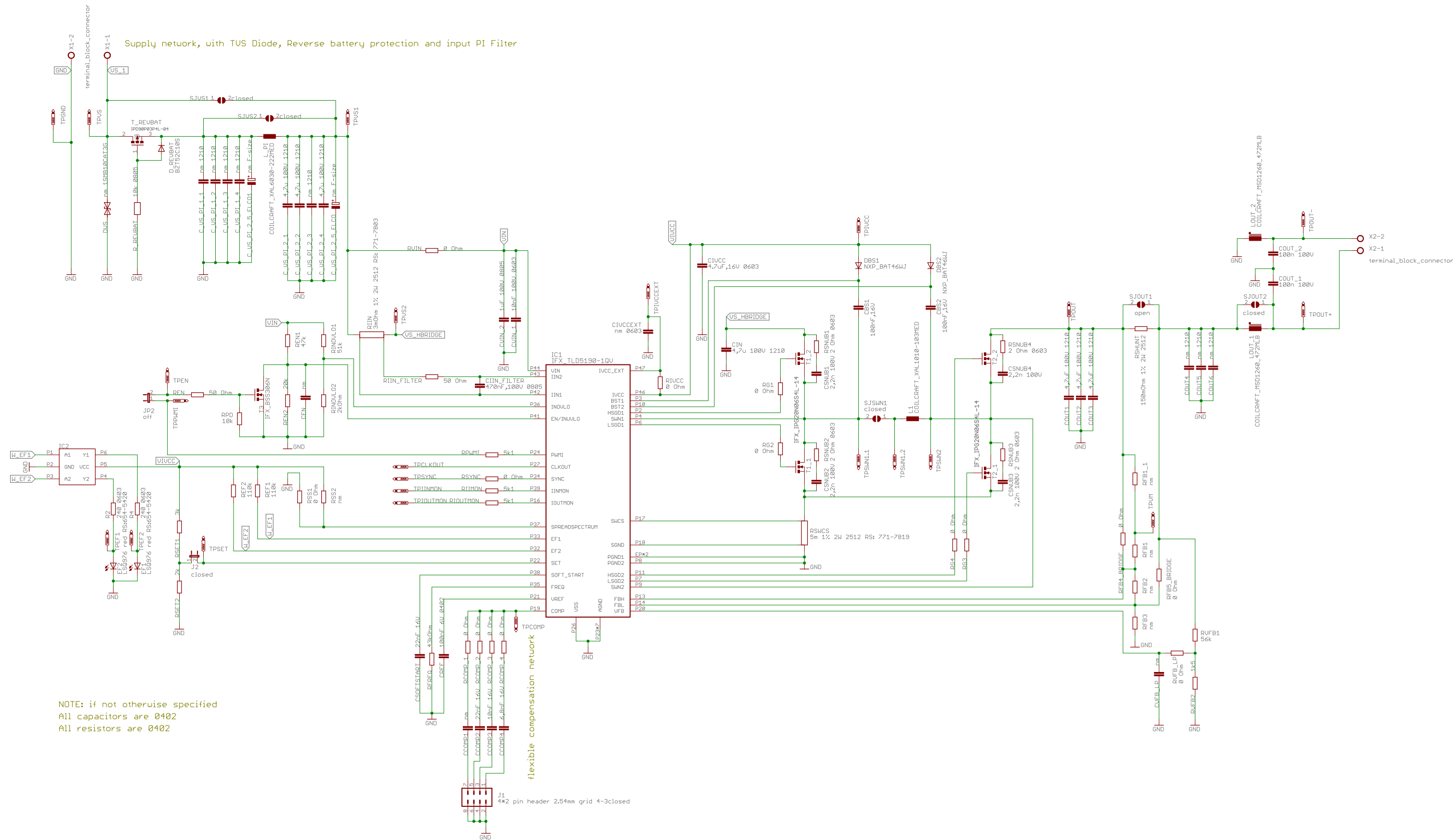
$$\text{› } V_{OUT_OV_protected} = V_{FB,OVTH} \frac{R_{VFB1} + R_{VFB2}}{R_{VFB2}} = 55V$$

$$\text{› } V_{OUT_SC_protected} = V_{FB,SCTH} \frac{R_{VFB1} + R_{VFB2}}{R_{VFB2}} = 21.6V$$

using the external circuitry of the IC. The thresholds can be changed by adapting resistor R_{VFB1} and R_{VFB2} . Please refer to the datasheet for detailed information of the component selection

Schematic and board layout

- › The schematic and layout designs are shown on the following two pages.
- › The visible content (copper layers, names,...) can be activated or deactivated using the PDF reader layer settings.

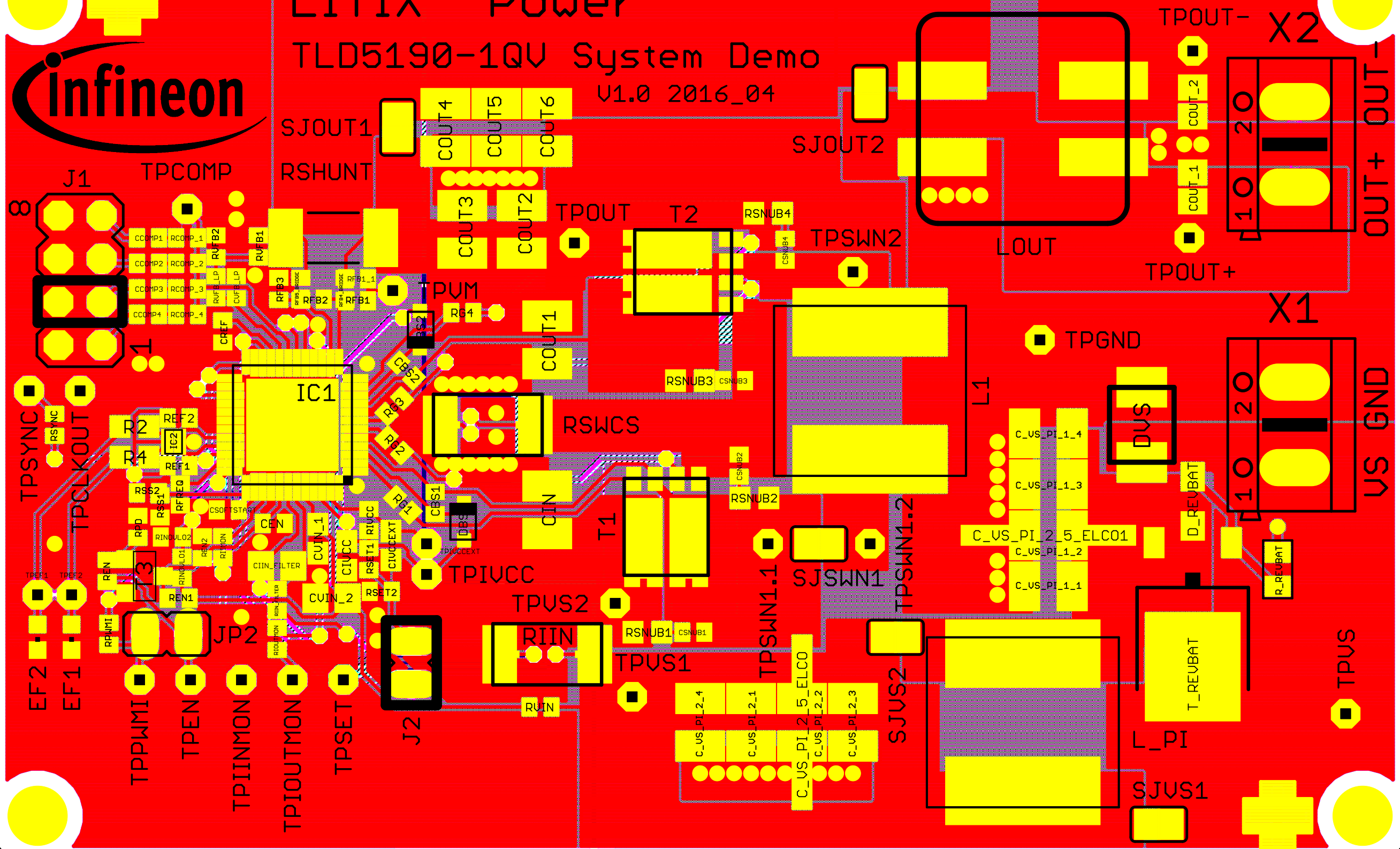




LITIX™ Power

TLD5190-1QV System Demo

V1.0 2016_04



Thank you very much for your attention

For more information, please visit:

<http://www.infineon.com/LITIX>

Confidential – Do not forward this presentation or its content to any 3rd party

Published by Infineon Technologies AG, Am Campeon 1-12, 85579 Neubiberg, Germany
© Infineon Technologies AG 2015. All Rights Reserved.

DISCLAIMER:

THE INFORMATION GIVEN IN THIS PRESENTATION IS GIVEN AS A HINT FOR THE IMPLEMENTATION OF THE INFINEON TECHNOLOGIES COMPONENT ONLY AND SHALL NOT BE REGARDED AS ANY DESCRIPTION OR WARRANTY OF A CERTAIN FUNCTIONALITY, CONDITION OR QUALITY OF THE INFINEON TECHNOLOGIES COMPONENT. THE RECIPIENT OF THIS PRESENTATION MUST VERIFY ANY FUNCTION DESCRIBED HEREIN IN THE REAL APPLICATION. INFINEON TECHNOLOGIES HEREBY DISCLAIMS ANY AND ALL WARRANTIES AND LIABILITIES OF ANY KIND (INCLUDING WITHOUT LIMITATION WARRANTIES OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD PARTY) WITH RESPECT TO ANY AND ALL INFORMATION GIVEN IN THIS PRESENTATION.



Part of your life. Part of tomorrow.



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Infineon:](#)

[TLD5190QVDEMOV1TOBO1](#)