


Regarding the usage of our schematics and alike documentation for Trenz module TE0712.

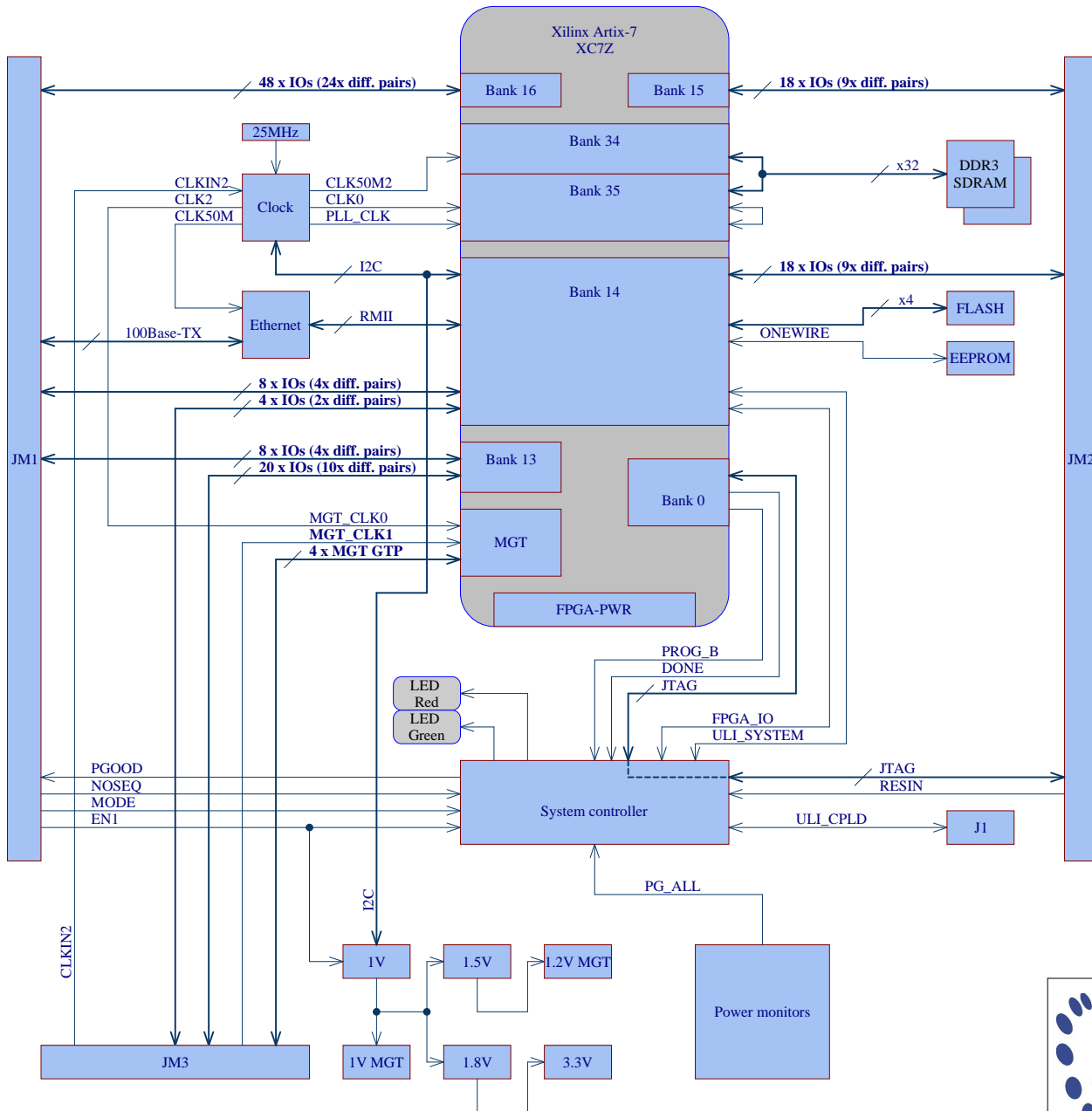
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Schematics and other handouts serve for informational purposes only!

	Title:		
	A4	Number: TE0712 72C06-M	Rev. 03
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	Filename: Legal Notices Modules.SchDoc		


REV	Description	
-01	Initial revision	
-02		
-03	<p>1. Added Legal notices, project overview and revision changes. Updated page count and page order.</p> <p>2. Added a [D3] diode between the [INIT] and [PROG_B] signals to keep the FPGA in the reset state while [PROG_B] is low during the initial power-up.</p> <p>3. Resistors [R2] , [R68] replaced by 2K2 (were 4K87) to improve I2C stability at higher baud rates.</p> <p>4. Change obsolete ferrite beads BKP0603HS121-T to MPZ0603S121HT000.</p> <p>5. Revised power supply circuit. Change obsolete components: - EN63A0QI - MP8869SGL-Z ([U14]); - EP53F8QI - MPM3834CGPA ([U6] , [U16]).</p> <p>6. Change [Q1] power switch TPS27082LDDCR to MP5077GG-Z.</p> <p>7. Added power monitors [U10] , [U11] STM6710LWB6F. System controller pin U3.25 connected to net [PG_ALL] instead of [3.3V] .</p> <p>8. [U14] I2C interface connected to bus [PLL_SDA] / [PLL_SCL] [U1B] . Added table with device addresses on the I2C bus. A new device will be detected during a bus scan</p> <p>9. Change capacitors in net "VIN" from 47 uF 6.3 V to 22 uF 10 V for [C70] , [C80] , [C126] , [C127] , [C132] , [C176] , [C177] .</p>	VY

	Title: Revision History		
	A4	Number: TE0712 72C06-M	Rev. 03
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	Drawn by: VY	Filename: Revision Changes.SchDoc	

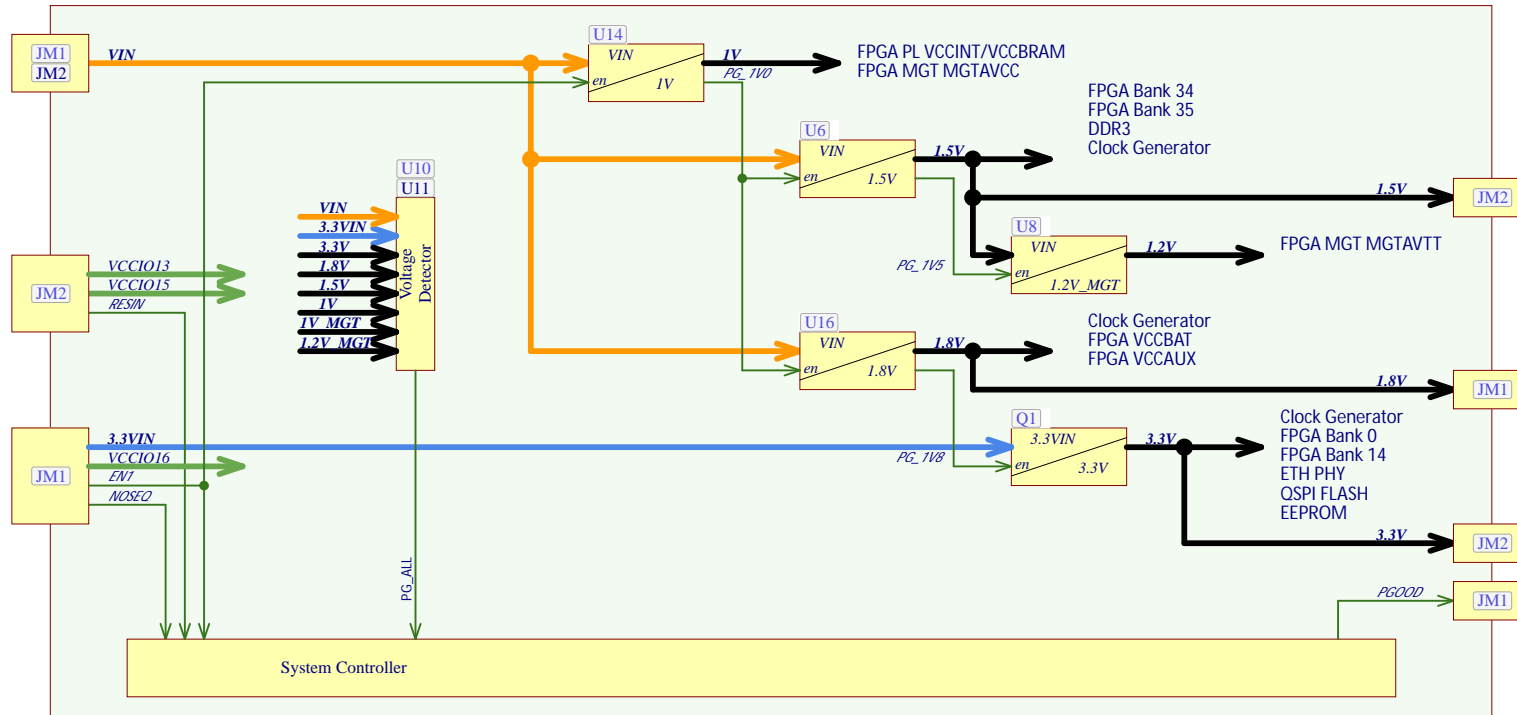


- U_Revision Changes
- U_TE0712
- U_Power_Diagram

Special notes:
DDR3 not populated
Ethernet PHY not populated

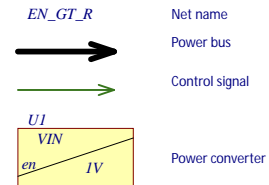
			Title: System Overview	
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Power-on sequencing:



Recommended Operating Conditions

Power Rail	Direction	Range	Tolerance	Description	Note
VIN	IN	3.3 - 5V	+/-5%	Micromodule Power	Mandatory
3.3VIN	IN	3.3V	+/-3%	Micromodule Power	Mandatory
VCCIO13	IN	1.2 - 3.3V	+/-3%	HR IO Bank13	-
VCCIO14	IN	3.3V	+/-3%	HR IO Bank14	Fixed
VCCIO15	IN	1.2 - 3.3V	+/-3%	HR IO Bank15	-
VCCIO16	IN	1.2 - 3.3V	+/-3%	HR IO Bank16	-
1.5V	OUT	1.5V	+/-3%	For Carrier card Periphery	-
1.8V	OUT	1.8V	+/-3%	For Carrier card Periphery	-
3.3V	OUT	3.3V	+/-3%	For Carrier card Periphery	-
VREF_JTAG	OUT	3.3V	+/-3%	For Carrier card Periphery	Connected to 3.3V

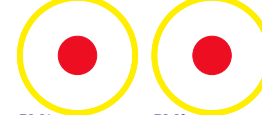


Title: GigaZee - Power Diagram		
A4	Number: TE0712 72C06-M	Rev. 04
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Filename: Power_Diagram.SchDoc		

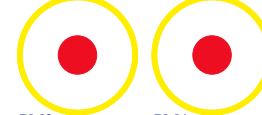
Special notes:

DDR3 not populated
Ethernet PHY not populated

FIDU-DOT - mini FIDU-DOT - mini



PM1 PM2
 FIDU-DOT - mini FIDU-DOT - mini

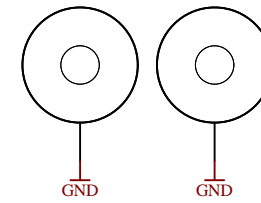


PM3 PM4
 FIDU-DOT - mini FIDU-DOT - mini

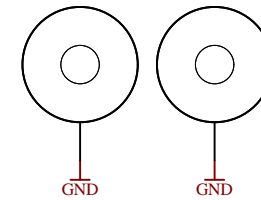


PM5 PM6

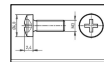
Mount.Hole 3.2mm Mount.Hole 3.2mm



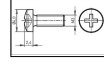
Mount.Hole 3.2mm Mount.Hole 3.2mm



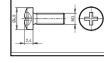
Top of Board



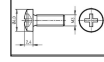
Screw M3x4



Screw M3x4



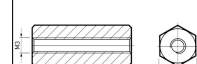
Screw M3x4



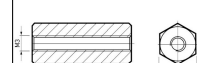
Screw M3x4



Standoff M3x8 II



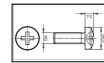
Standoff M3x8 II



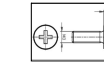
Standoff M3x8 II



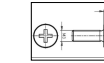
Standoff M3x8 II



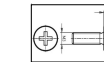
Screw M3x6



Screw M3x6



Screw M3x6



Screw M3x6

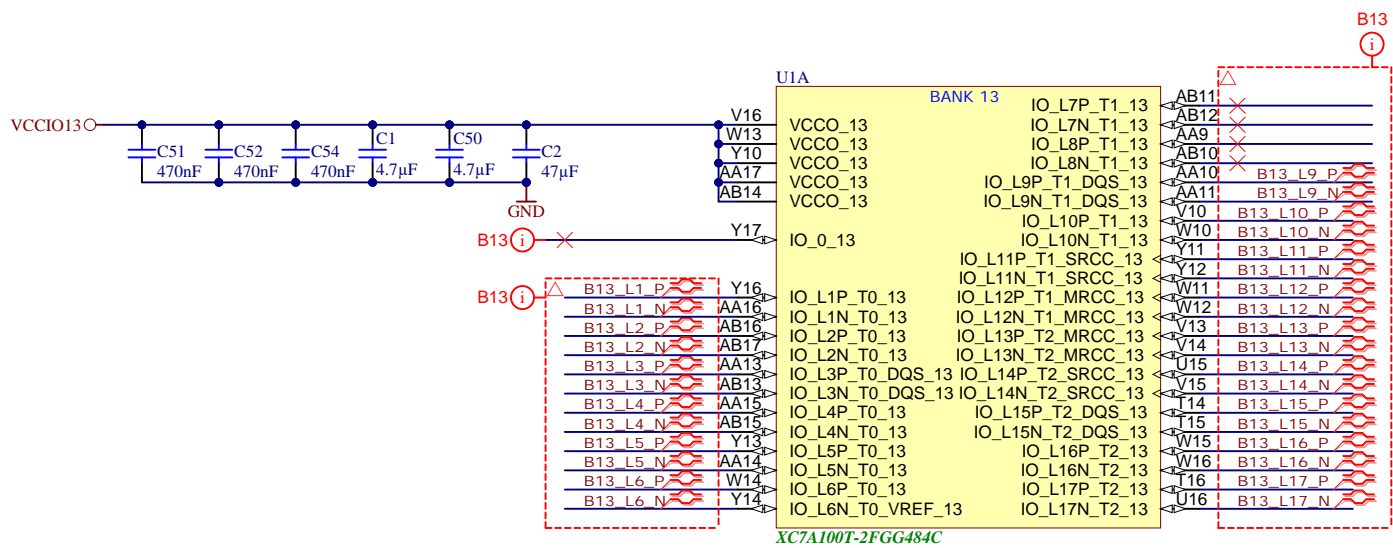
Serial
 Serial
 Serialnumber 6,3 x 6.3mm

Serial1
 TE Address Overlay
 LOGO ADDRESS

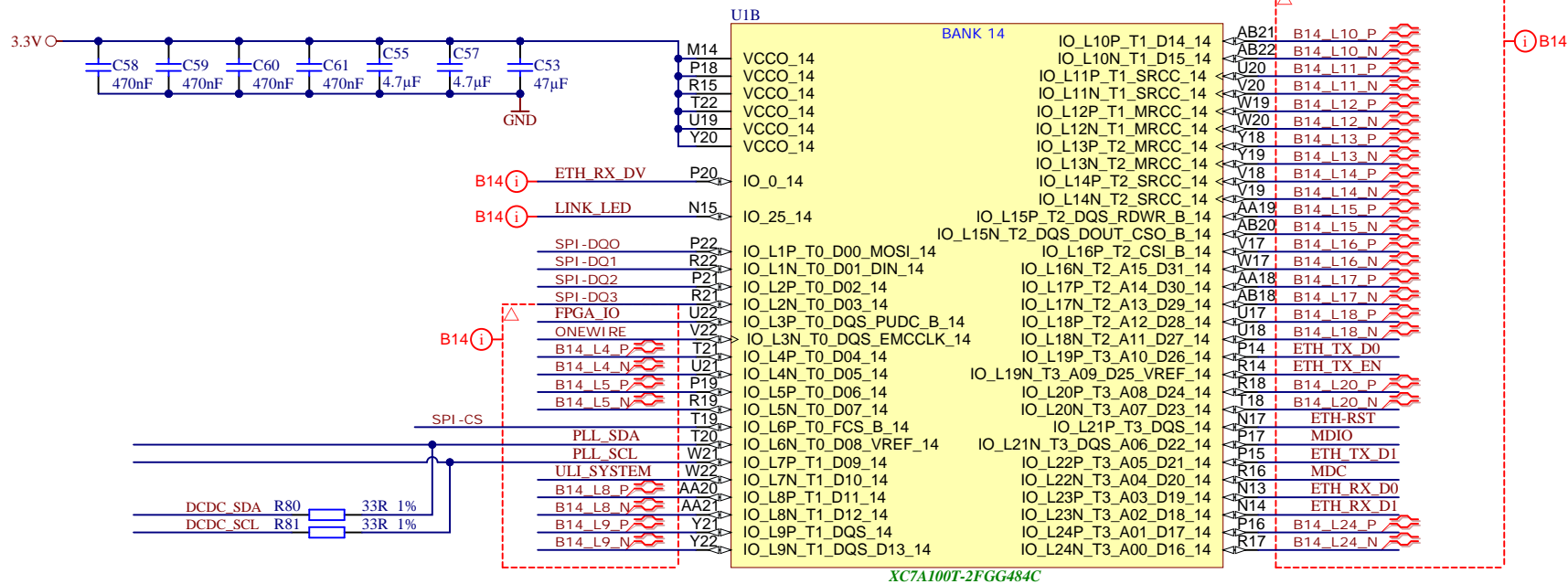
Assembly variant	72C06-M
Created by	MR
Modified by	MR
Modified at	2021-02-16
SVN Revision	14002



Title: TE0712		
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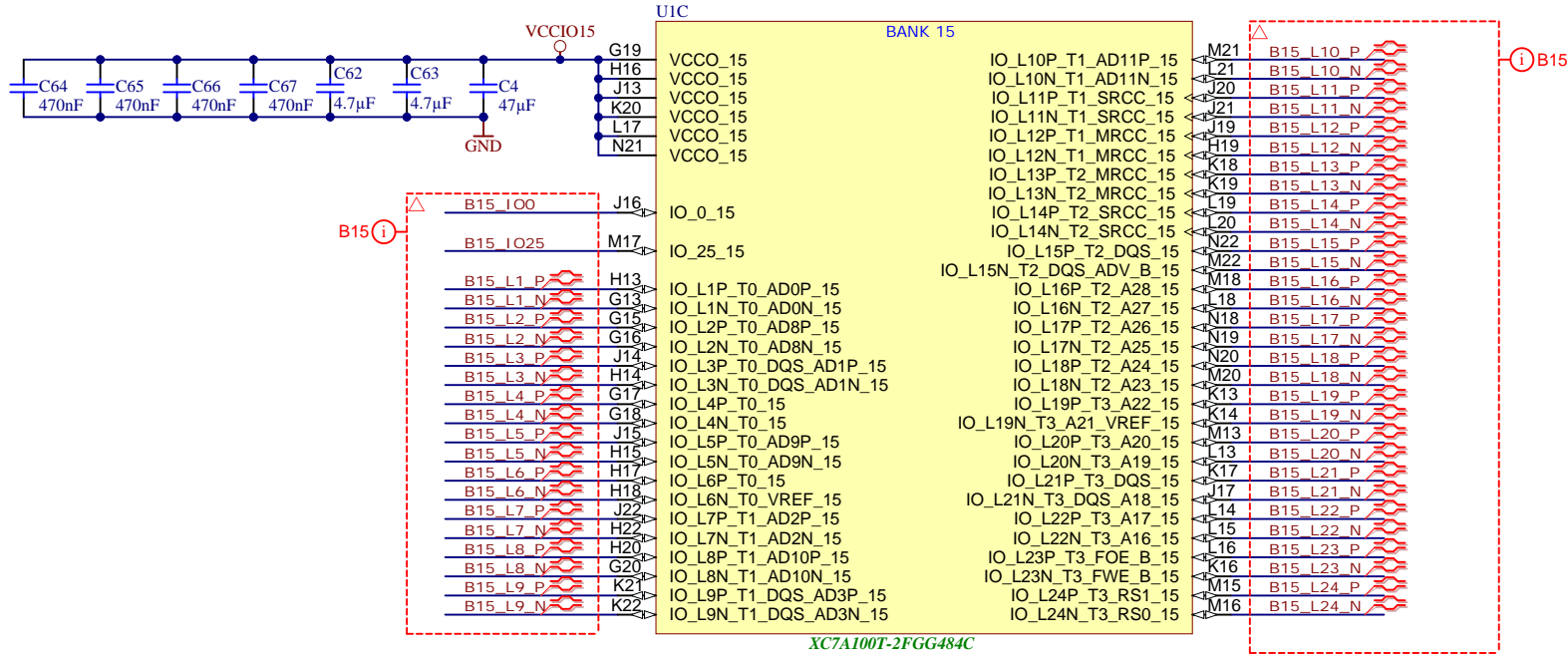
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A4	Number: TE0712 72C06-M	Rev. 03
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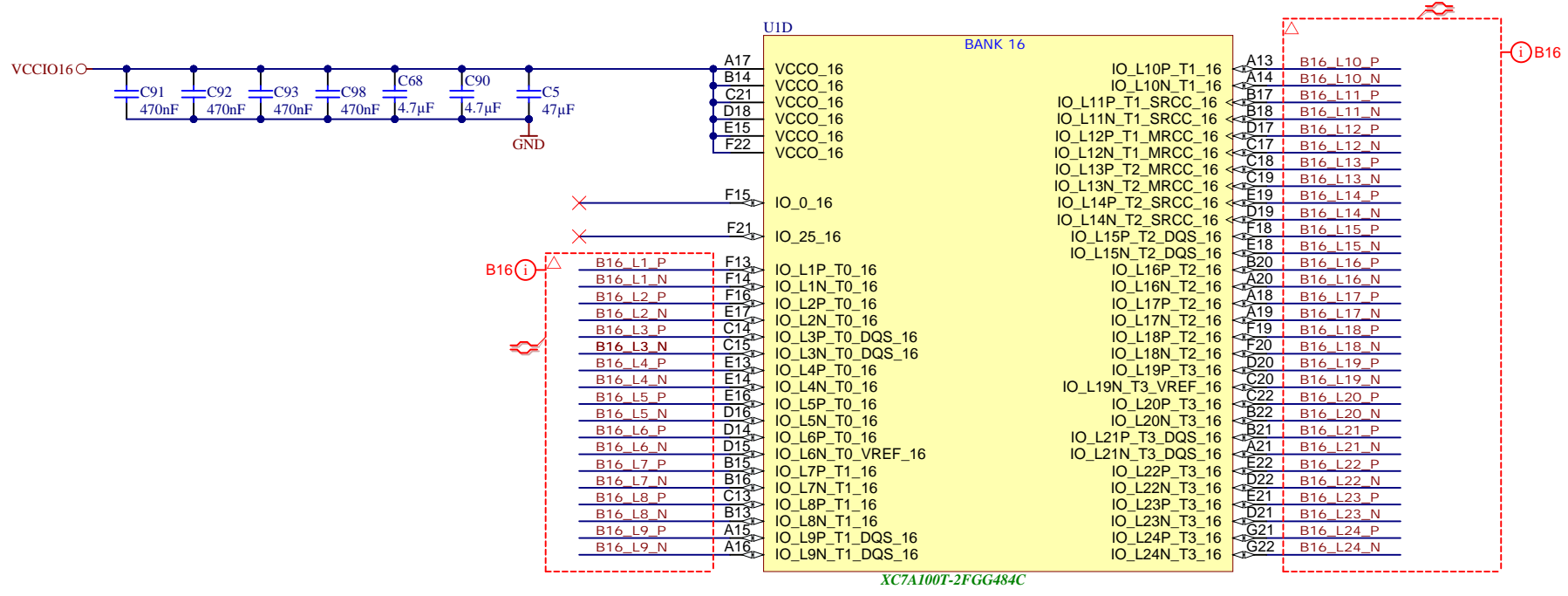
I2C bus addresses		
U1B	FPGA B14	h**
U2	Clock generator	h70
U14	DCDC VCCINT	h61



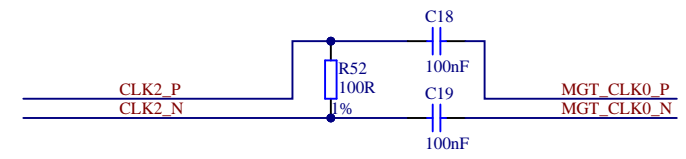
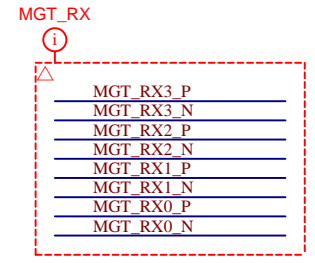
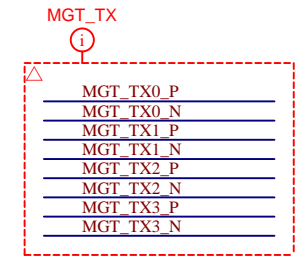
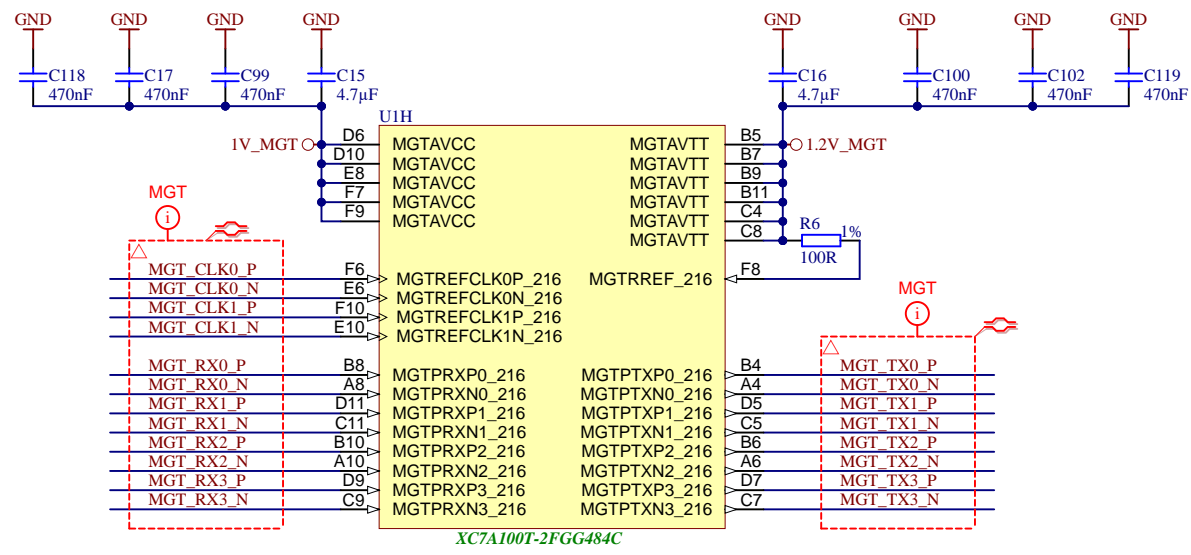
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	Title: B16		
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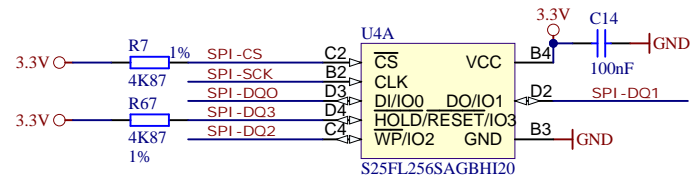
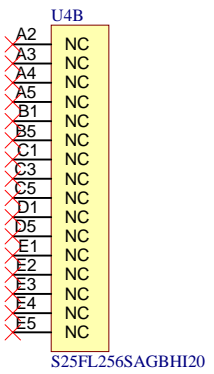
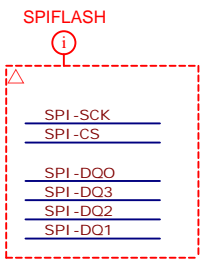
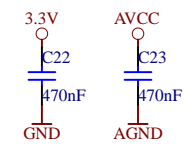
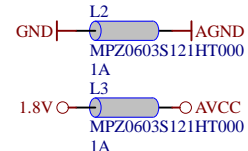
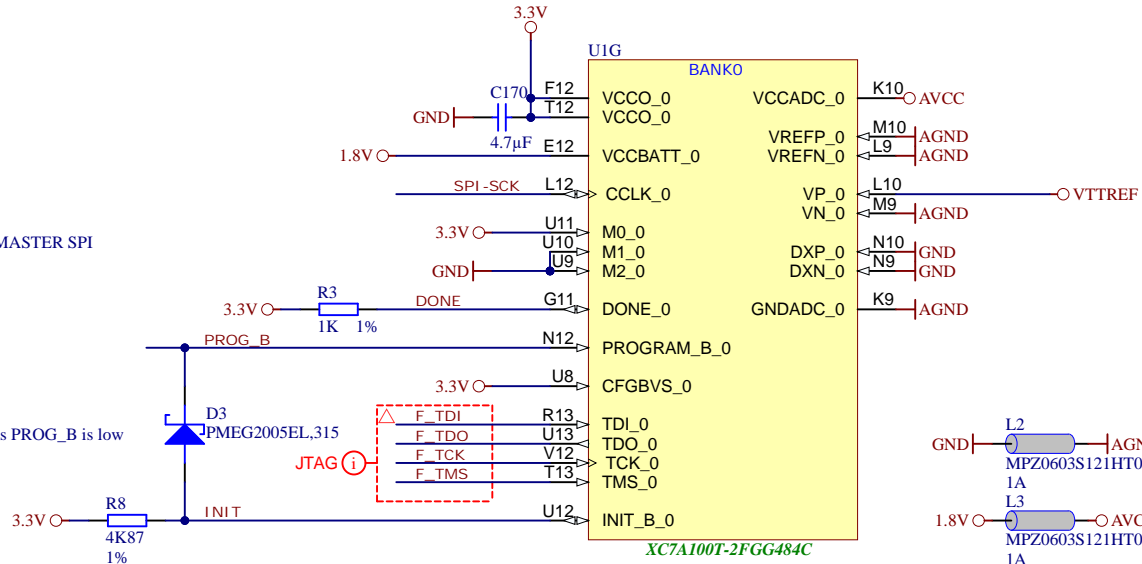


	Title: MGT		
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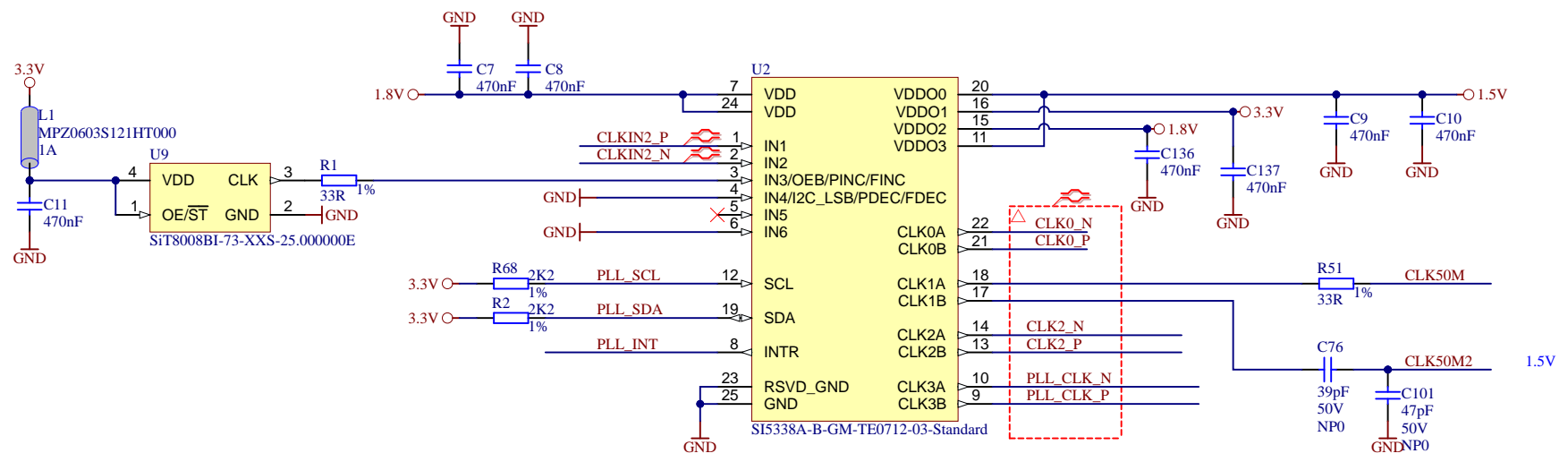


BOOTMODE = MASTER SPI

D3 keeps INIT low as long as PROG_B is low



Title: CFG		
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Filename: FPGA-CFG.SchDoc		



Datasheet SI5338:

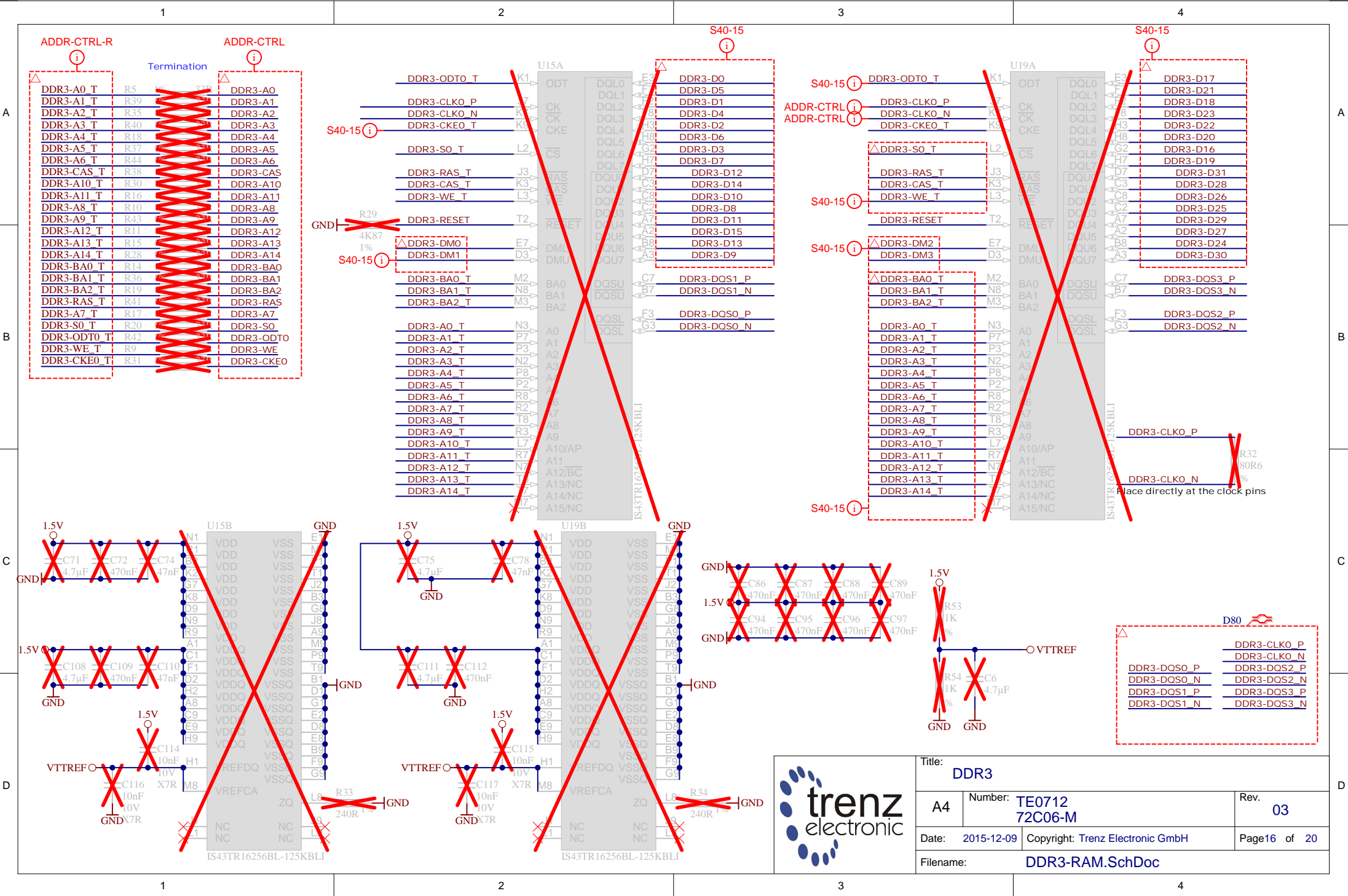
IN1/IN2

These pins are used as the main differential clock input or as the XTAL input. See "3.2. Input Stage" on page 19, Figure 3 and Figure 4, for connection details. Clock inputs to these pins must be ac-coupled. Keep the traces from pins 1,2 to the crystal as short as possible and keep other signals and radiating sources away from the crystal.

When not in use, leave IN1 unconnected and IN2 connected to GND.

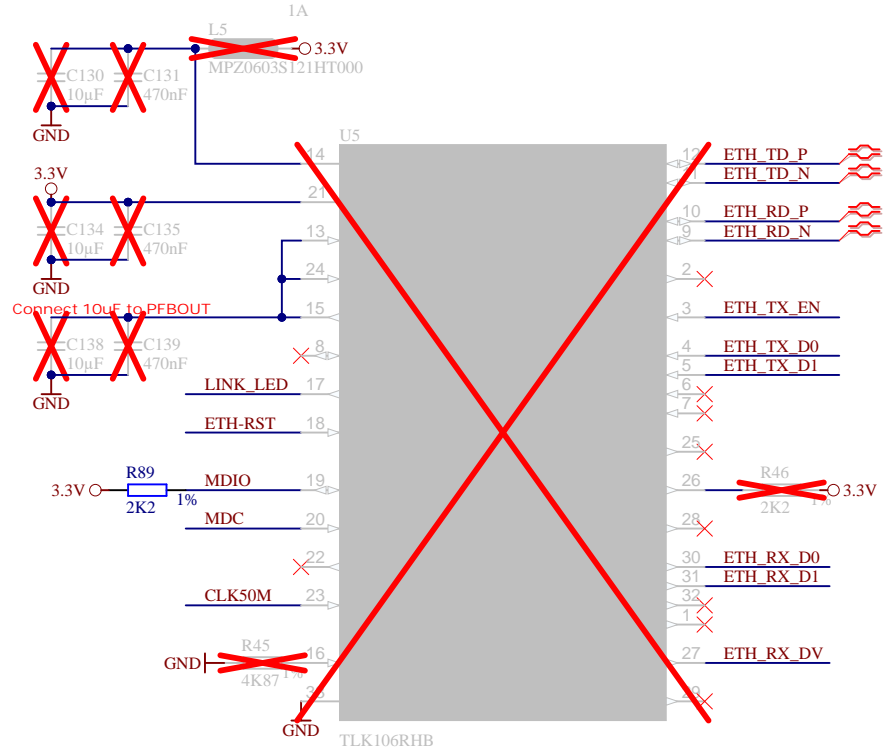


Title: Clock		
A4	Number: TE0712 72C06-M	Rev. 03
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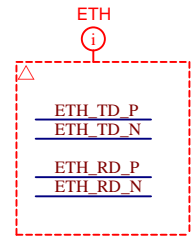
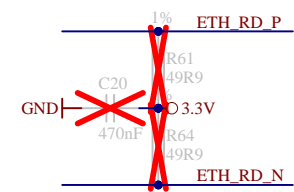
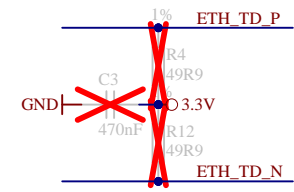
Title: DDR3		
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Component	Value
DDR3-CKLO_P	
DDR3-CKLO_N	
DDR3-DQSO_P	
DDR3-DQSO_N	
DDR3-DQS1_P	
DDR3-DQS1_N	
DDR3-DQS2_P	
DDR3-DQS2_N	
DDR3-DQS3_P	
DDR3-DQS3_N	

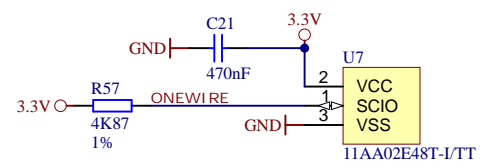
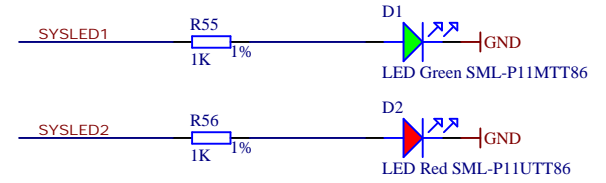
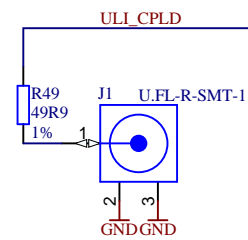
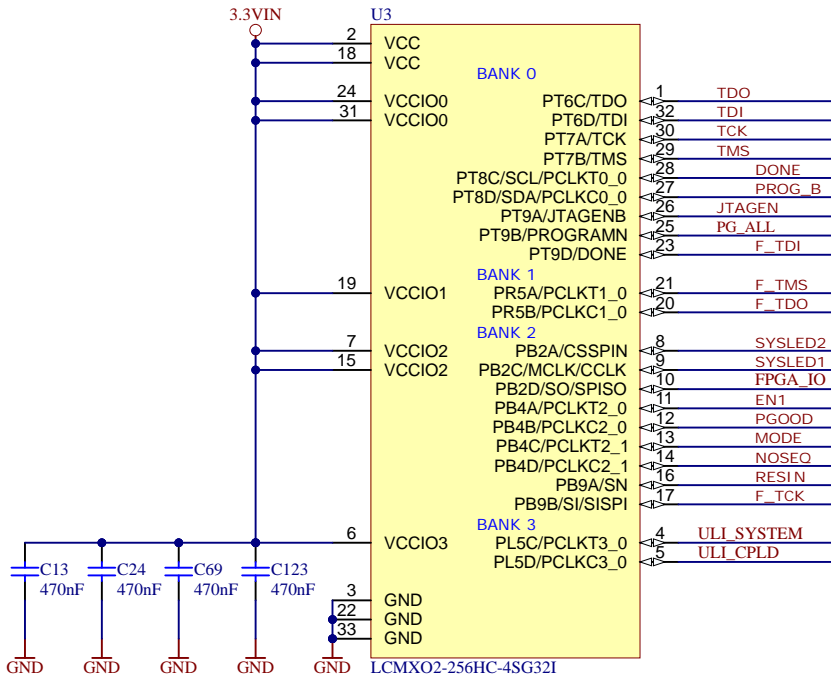


TLK106RHB

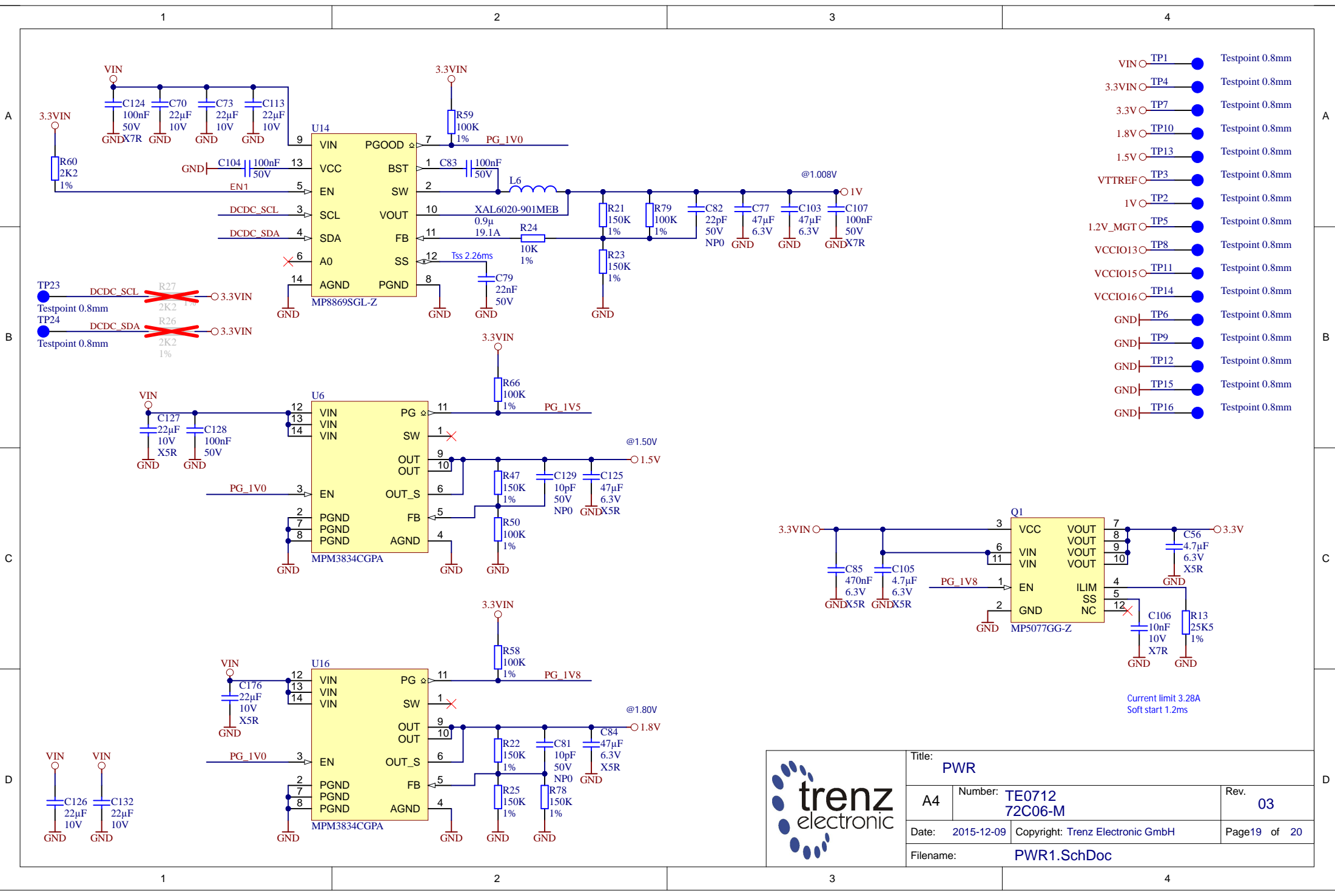
TLK106 is pin compatible with DP83822




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- VIN ○ TP1 ● Testpoint 0.8mm
- 3.3VIN ○ TP4 ● Testpoint 0.8mm
- 3.3V ○ TP7 ● Testpoint 0.8mm
- 1.8V ○ TP10 ● Testpoint 0.8mm
- 1.5V ○ TP13 ● Testpoint 0.8mm
- VTTREF ○ TP3 ● Testpoint 0.8mm
- 1V ○ TP2 ● Testpoint 0.8mm
- 1.2V_MGT ○ TP5 ● Testpoint 0.8mm
- VCCIO13 ○ TP8 ● Testpoint 0.8mm
- VCCIO15 ○ TP11 ● Testpoint 0.8mm
- VCCIO16 ○ TP14 ● Testpoint 0.8mm
- GND ○ TP6 ● Testpoint 0.8mm
- GND ○ TP9 ● Testpoint 0.8mm
- GND ○ TP12 ● Testpoint 0.8mm
- GND ○ TP15 ● Testpoint 0.8mm
- GND ○ TP16 ● Testpoint 0.8mm

			Title: PWR	
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Current limit 3.28A
Soft start 1.2ms

