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FREEDOM KL25Z

Revisions & Change Log

Rev	Description	Date	Approved
X1	Initial Draft	04/10/12	M. NORMAN
A	Release to production	05/03/12	M. NORMAN
B	Prototype redefinition. KL25 XTAL capacitors C16 & C19 changed from 10pF DNP to 22pF populated. Defined A5 signal from K20 MCU	05/09/12	M. NORMAN
C	Prototype release. Fixed J10 orientation according to Arduino R3 specification	05/21/12	M. NORMAN
CX1	Prototype Re-spin. Changed two pin headers to DNP bottom-shorting headers. Added support to AT45DB161D-S or AT45DB161E-SSHD SPI Flash Memory. Added 2pin header (J11) for on-board MCU programming isolation. Redefined KL25 power netnames. Changed USB connectors part numbers J5 and J7 Changed KL25 XTAL 1M resistor (R25) to DNP. Changed X-FREEDOM-KL25Z board name to FRDM-KL25Z	06/29/12	M. NORMAN
D	Pilot release. Changed 2pin header (J11) location for on-board MCU SWD CLK isolation. Changed to DNP non-production BOM parts BT1, J1, J2, J3, J4, J6, J9, J10, TP6, U5, J8 Removed OpenSDA leverage hint voltage legend	07/10/12	M. NORMAN
DX1	Production Re-spin. Fixing V. drop in ADC by changing SH1 for R77 & R80, and 3.0V zenner (D9) also changed BAT54C rectifiers (D1, D2, D5) for MBR120VLSFT1G diodes (D6, D7, D8, D10, D11, D12, D13 to enhance VF curve and current capability. Added J20 header to bypass D12 vdrop. Changed J4 and J3 to no bottom-shorting headers and added R73 & R74 0-ohm instead, along with R81 for current measuring Added USB host functionality without electrical protection by placing J21 and R82 options. Updated KL25 symbol TPM to FTM function misnaming	01/22/13	M. NORMAN
E	Production Re-spin release. Adding 5V buck-boost VR support by 1x3 pin header J22 and C26-29 10uF capacitors	01/30/13	M. NORMAN

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Automotive, Industrial & Multi-Market Solutions Group

6501 William Cannon Drive West Austin, TX 78735-8598

ICAP Classification: FCP: FIUO: PUBI: X

Designer: RAFAEL DEL REY	Drawing Title: FRDM-KL25Z	
Drawn by: RAFAEL DEL REY	Page Title: TITLE PAGE	
Approved: MICHAEL NORMAN	Size C / Document Number SCH-27556 | PDF: SPF-27556	Rev E
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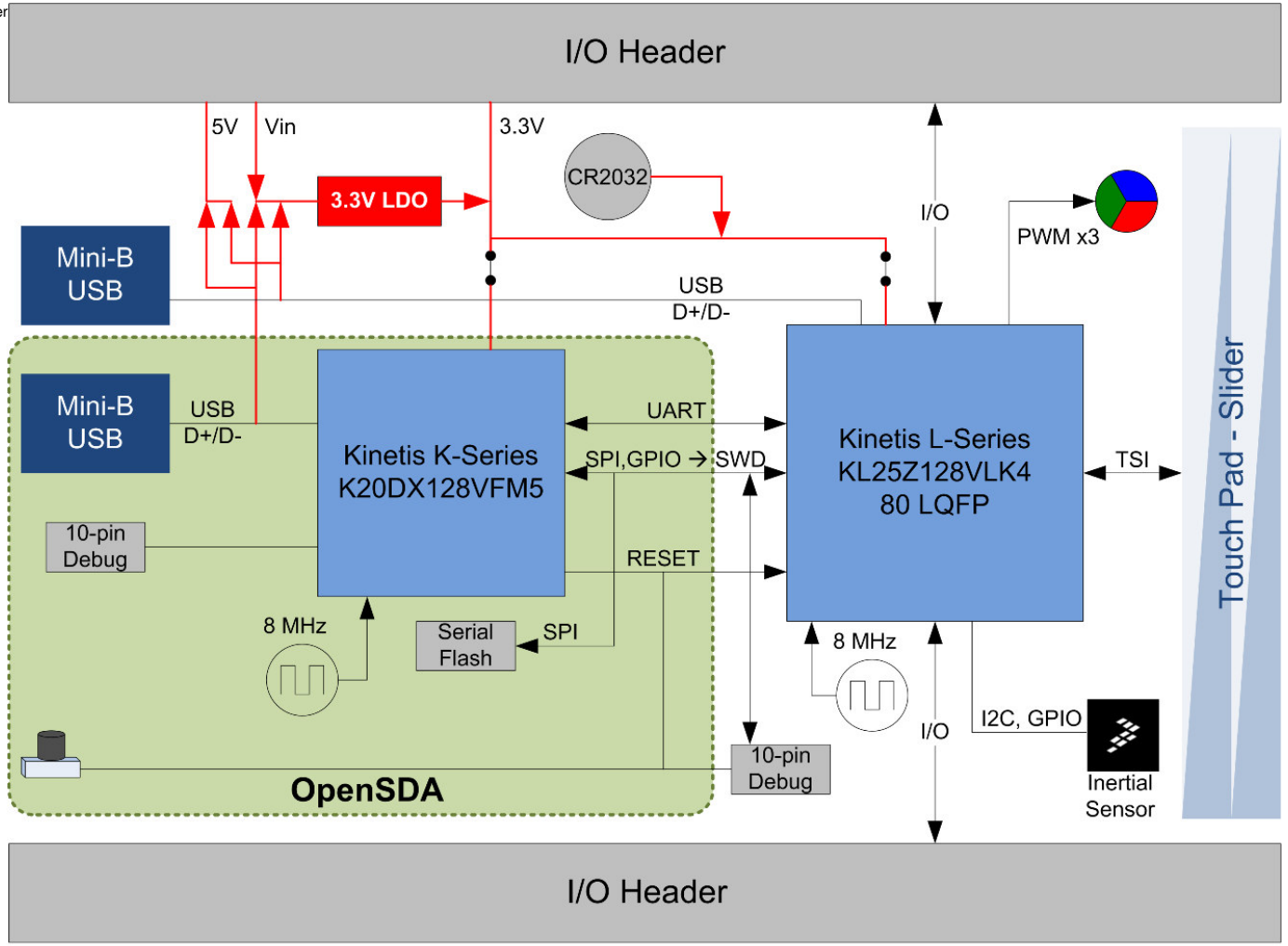
1. Unless Otherwise Specified:
   All resistors are in ohms, 5%, 1/8 Watt
   All capacitors are in uF, 20%, 50V
   All voltages are DC
   All polarized capacitors are aluminum electrolytic

2. Interrupted lines coded with the same letter or letter combinations are electrically connected.

3. Device type number is for reference only. The number varies with the manufacturer.

4. Special signal usage:
   _B Denotes - Active-Low Signal
   <> or [] Denotes - Vectored Signals

5. Interpret diagram in accordance with American National Standards Institute specifications, current revision, with the exception of logic block symbology.



— Indicates optional items that will **not** be populated by default

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Page Title: **BLOCK DIAGRAM**

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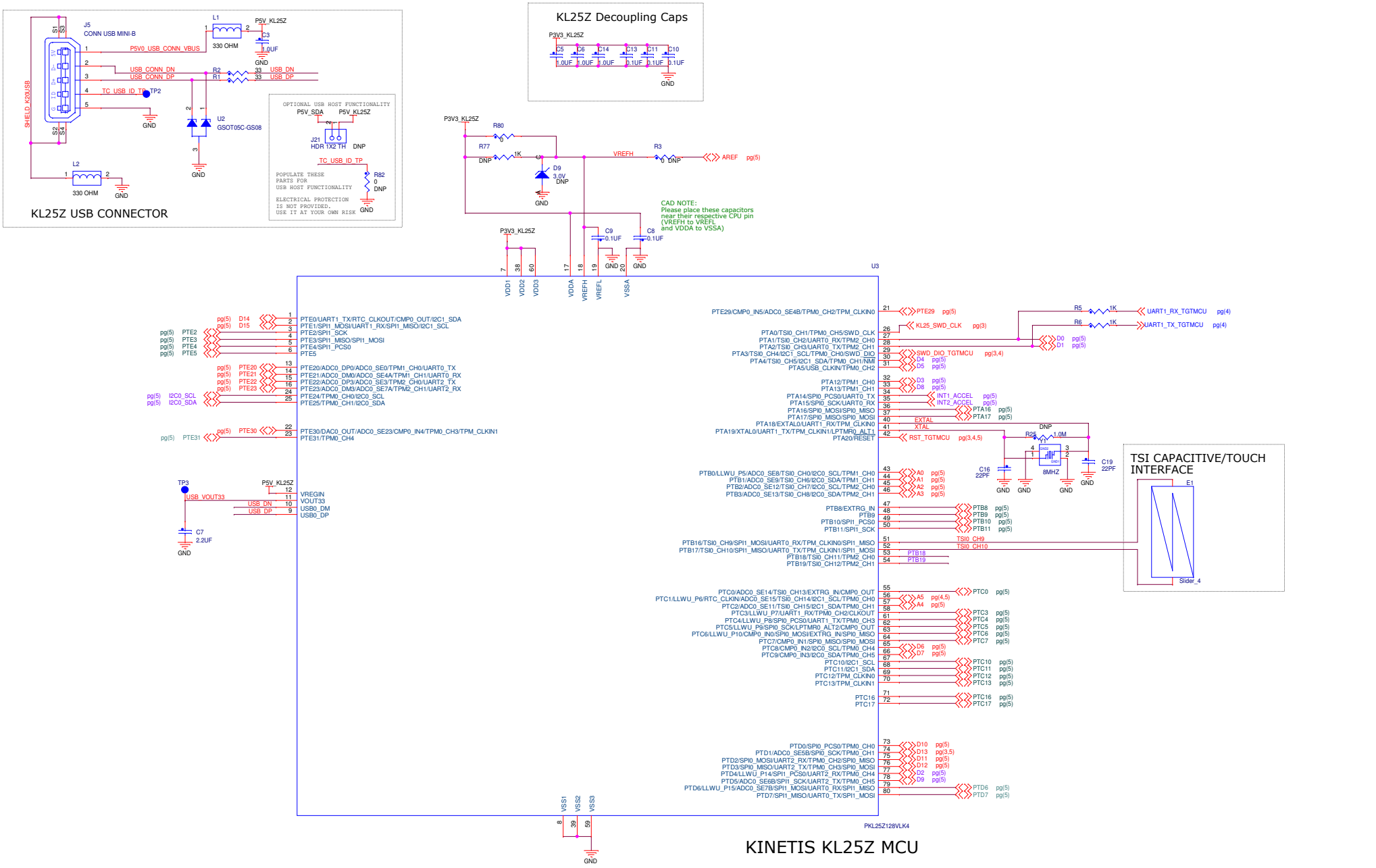
KL25Z USB CONNECTOR
KL25Z Decoupling Caps
TSI CAPACITIVE/TOUCH INTERFACE
KINETIS KL25Z MCU
RGB LED FEATURE
SWD CONNECTOR
CAD NOTE:
Please place these capacitors near their respective CPU pin (VREFH to VREFL and VDDA to VSSA)
SHORTING HEADER ON BOTTOM LAYER
Jumper is shorted by a cut-trace on bottom layer. Cutting the trace will effectively isolate the on-board MCU from the OpenSDA debug interface.
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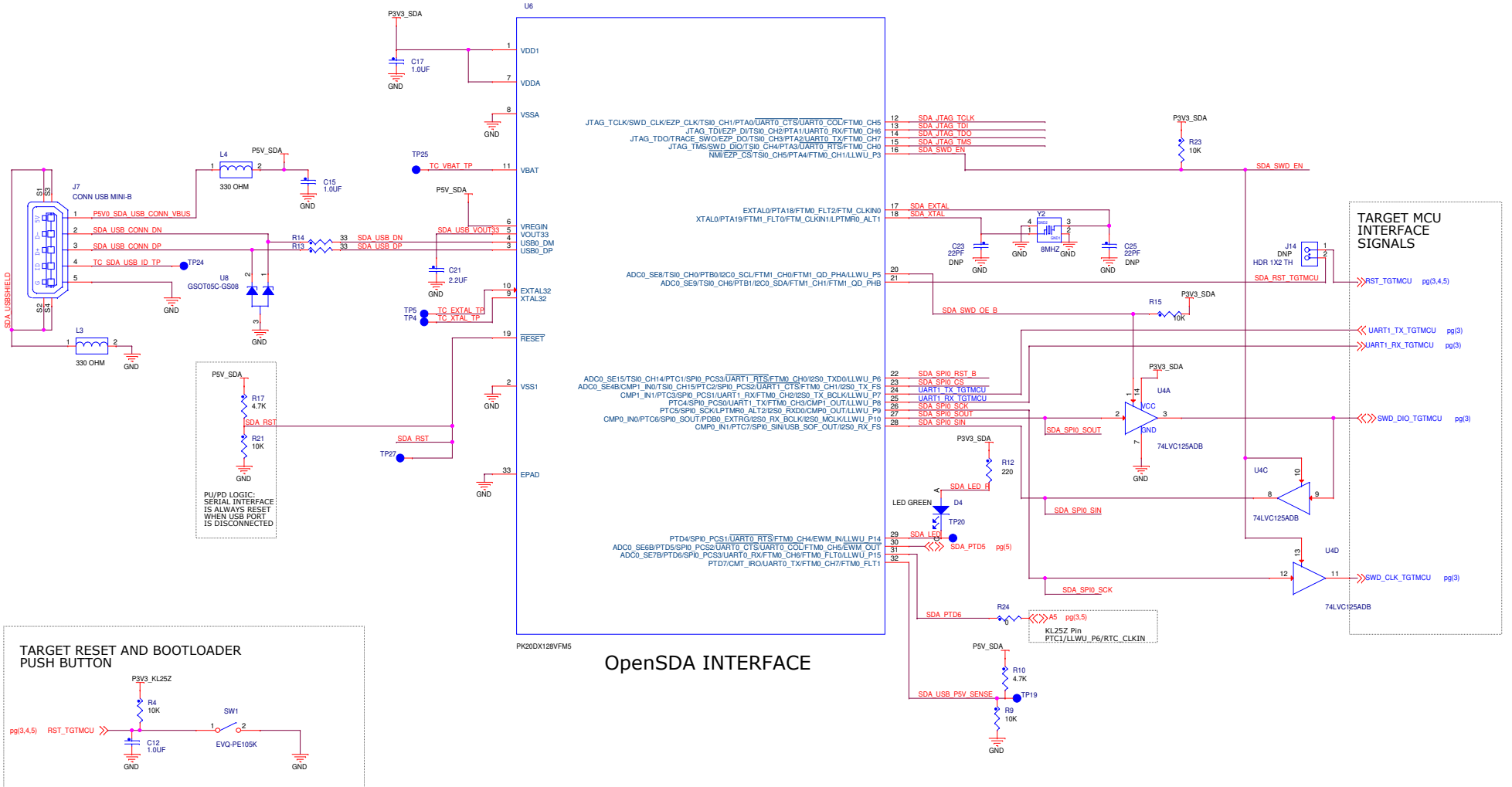
U6
PK20DX128VFM5
OpenSDA INTERFACE
TARGET MCU INTERFACE SIGNALS
J7
CONN USB MINI-B
U8
GSOT05C-GS08
L4
330 OHM
L3
330 OHM
PU/PD LOGIC:
SERIAL INTERFACE
IS ALWAYS RESET
WHEN USB PORT
IS DISCONNECTED
TARGET RESET AND BOOTLOADER PUSH BUTTON
EVQ-PE105K
SPARE 74HC125 buffer
74LVC125ADB
SPI FLASH MEMORY
AT45DB161D-S
OR
AT45DB161E-SSHD
OpenSDA INTERFACE JTAG CONNECTOR
HDR 2X5
DNP
KL25Z Pin
PTC1/LLWU_P6/RTC_CLKIN
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ICAP Classification:
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FIUO:
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OpenSDA interface
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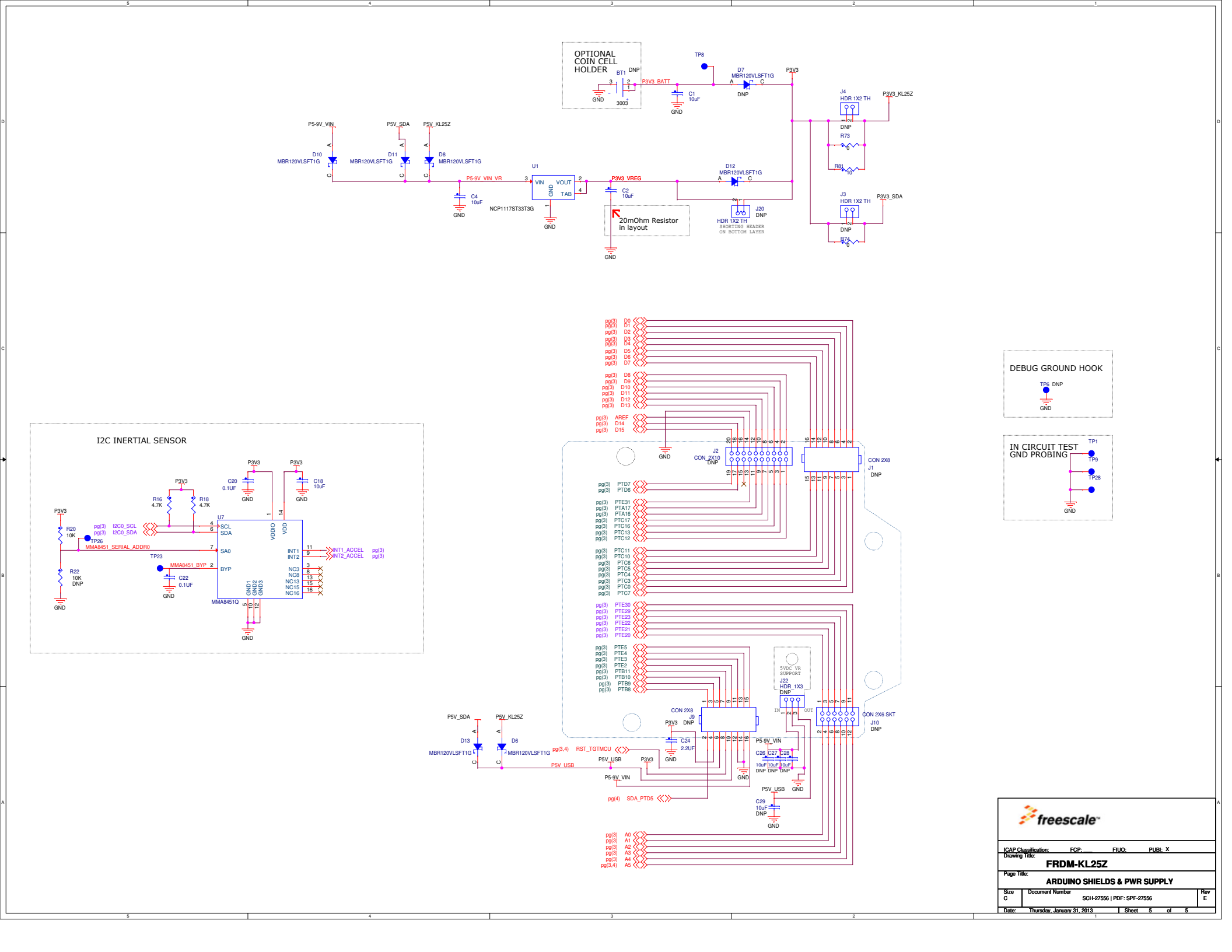

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Page Title: **ARDUINO SHIELDS & PWR SUPPLY**

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