

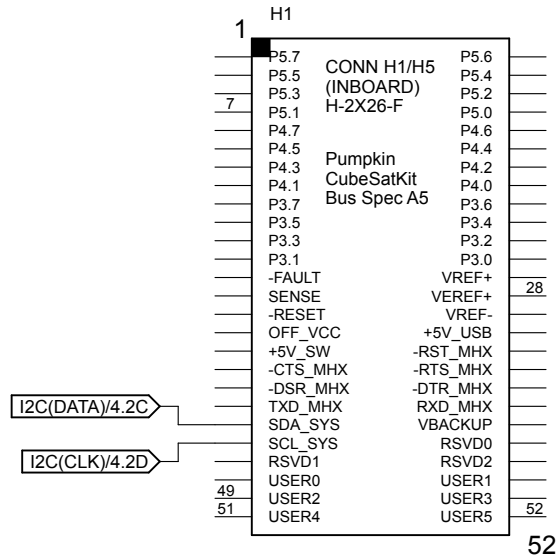
MCAT-4CU-B
Micro-Cathode Arc Thruster Subsystem
4-Channel Unit Controller PCB
Rev. 2K1 | Datecode 201407141434
Warning: Access restricted to permitted users only.
Subject to applicable ITAR regulations, if any.

Designer: Samudra N3RDX, G19124781
Designer Contact: (202) 812-3325
4-layer PCB, 0.062 inches (1.5748 mm), double sided construction.
For use in US Naval Academy spacecraft BRICSat-P

Use in conjunction with MCAT-1C-TBT-xxx and MCAT-1C-TBB-xxx by TEEL

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Cover Sheet		
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Rev 2K2 TO DO LIST

// I2C section incomplete //

Missing +5V supply

Missing Pullup resistors

(2 x 10K resistors)

http://www.robot-electronics.co.uk/acatalog/I2C_Tutorial.html

// Incorrect pad for R31-R34 //

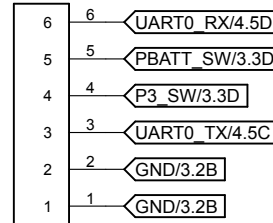
ON PCB : Substitute (temp.) part CRL1206-FW-R100ELF 0.1R/0.25W 1% 1206 SMD

// FIX COMPONENT PIN #1 OUTLINES //

Q1-Q8 lacks orientation mark.

Connections to/from BricSat-P Bus

J2 M80-6810642



Section Names:

CU - Control Unit

PM - Power Management

PD - Power Distribution

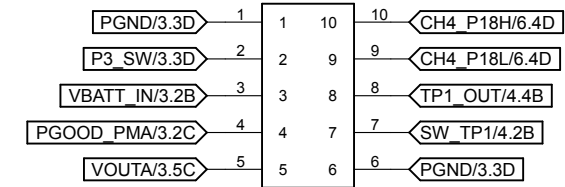
I/F - Interface

TU - Thruster/PPU PCB Upper

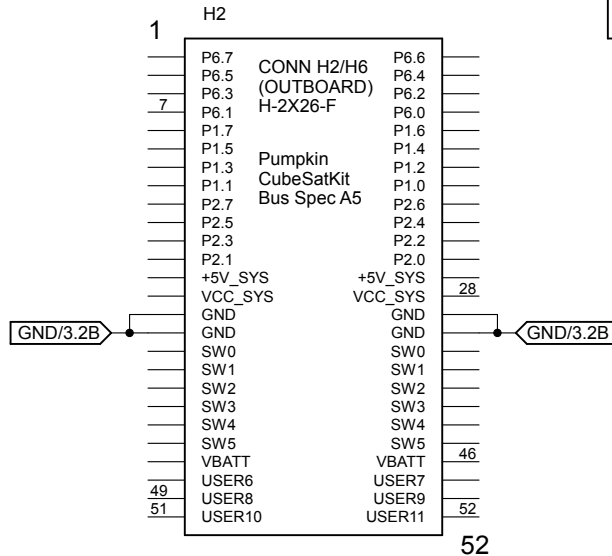
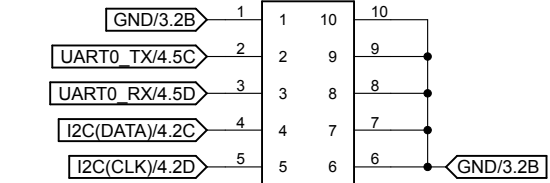
TL - Thruster/PPU PCB Lower

Subsystem Test Points

J3 AMPMODU5X2SMTHDR

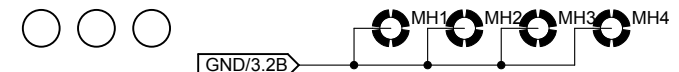


J6 AMPMODU5X2SMTHDR



FIDUCIALS FOR PCB PICK AND PLACE
Do Not Delete from schematic

CSK Bus Frame Mounting Holes
Do Not Delete from schematic



I/F - CubeSatKit Bus Interface Section

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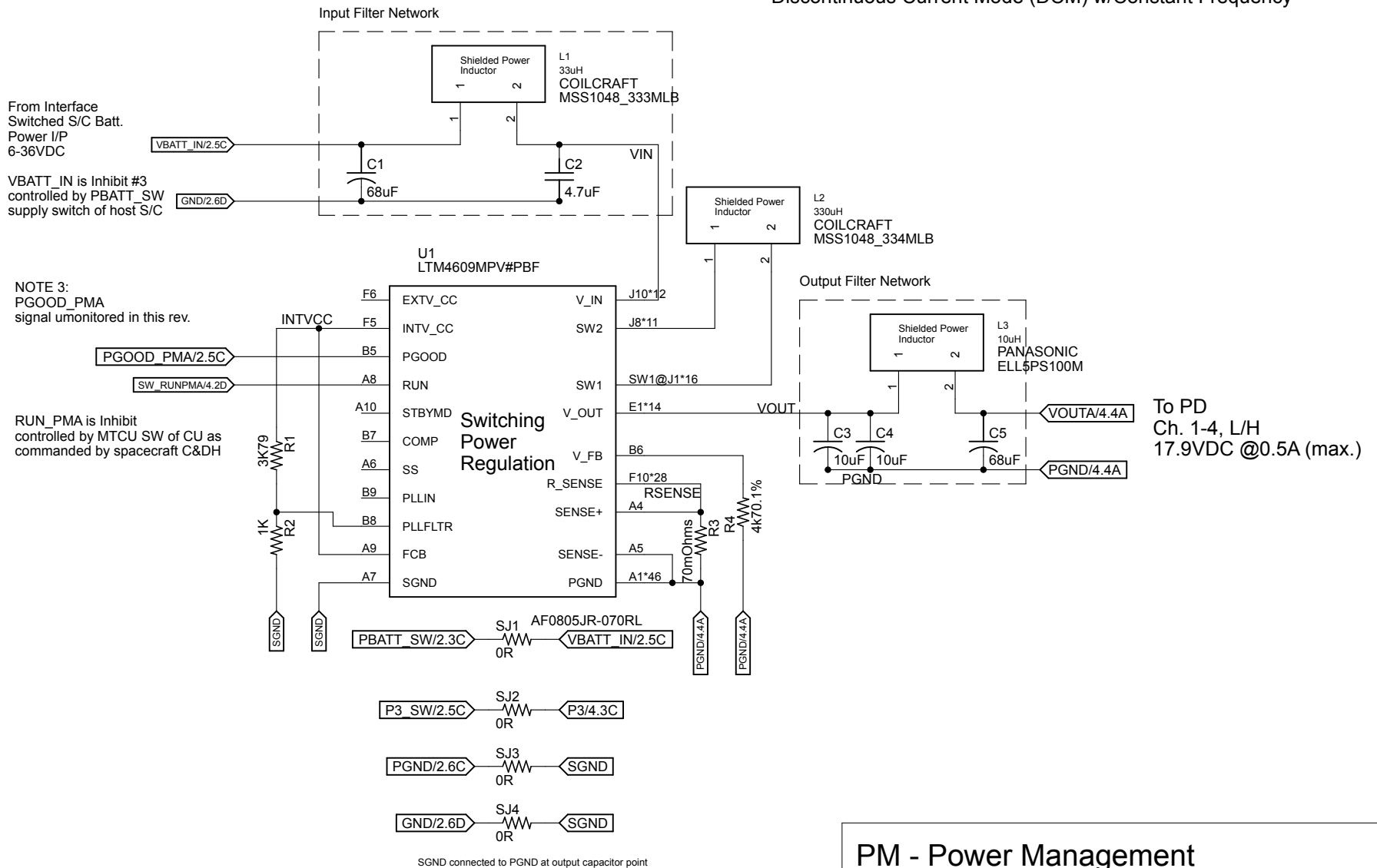
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Switching Regulator
f = 300 kHz
Input = 6-36VDC (nom @7.2V, 1.56A)
Output = 17.82VDC (@17.82VDC, 0.5A, max.)
Ripple = 0.05 mVpp
Discontinuous Current Mode (DCM) w/Constant Frequency



PM - Power Management

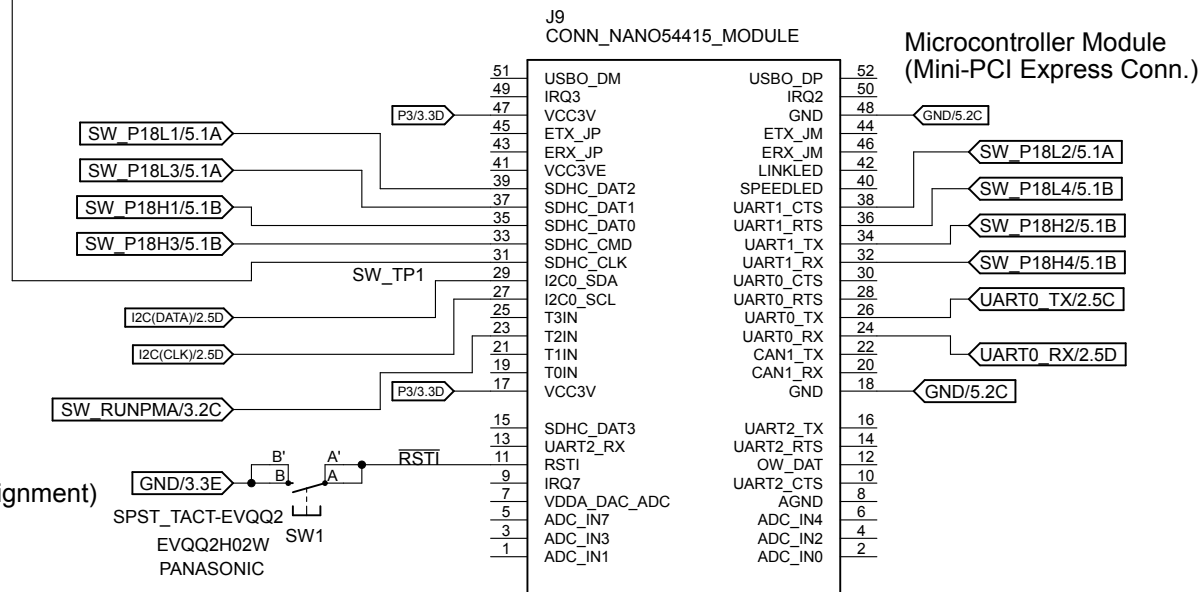
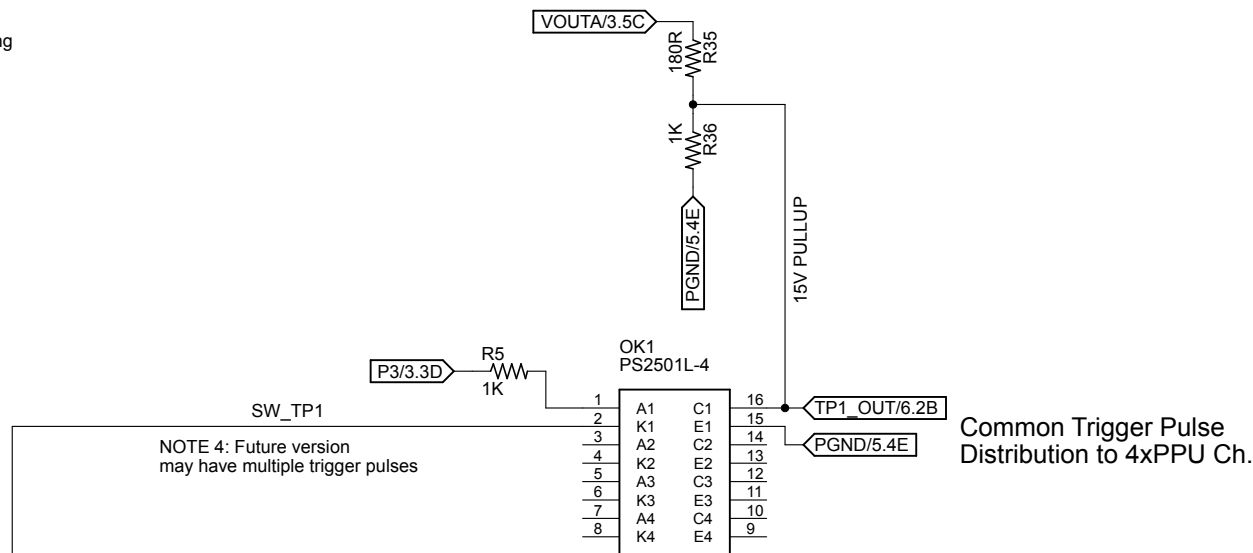
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CU - Control Unit Section

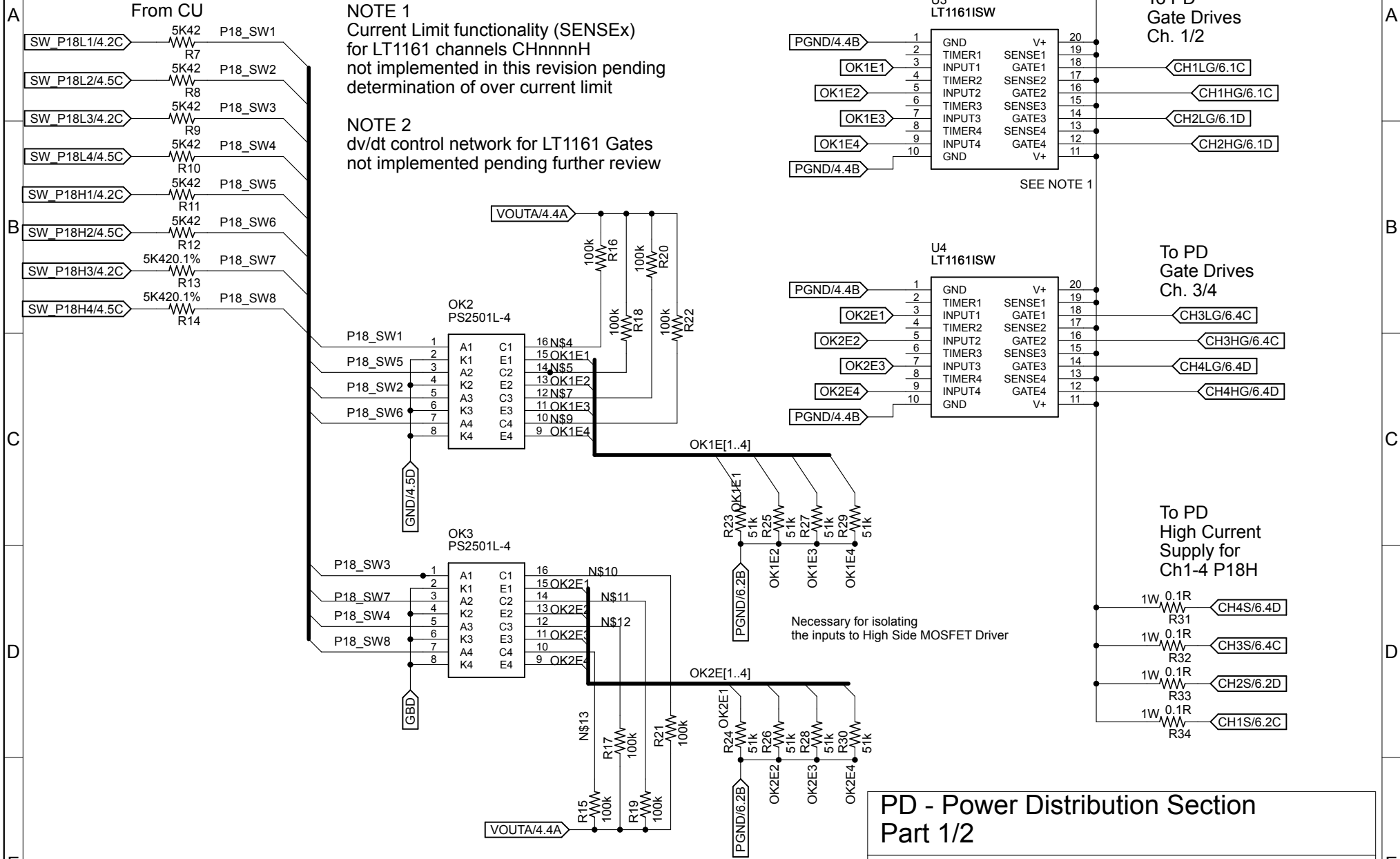
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PD - Power Distribution Section Part 1/2

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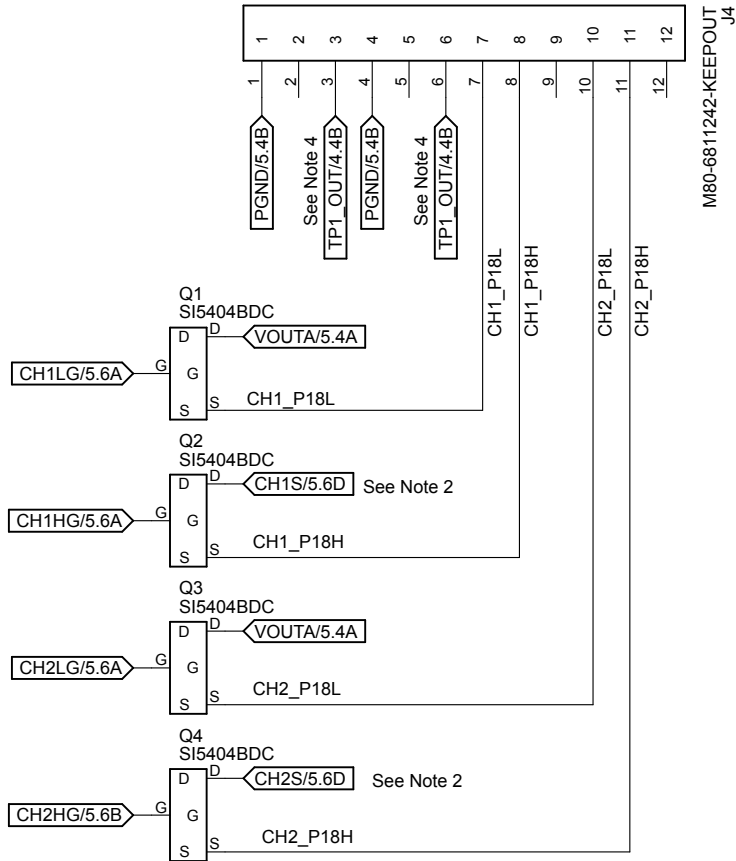
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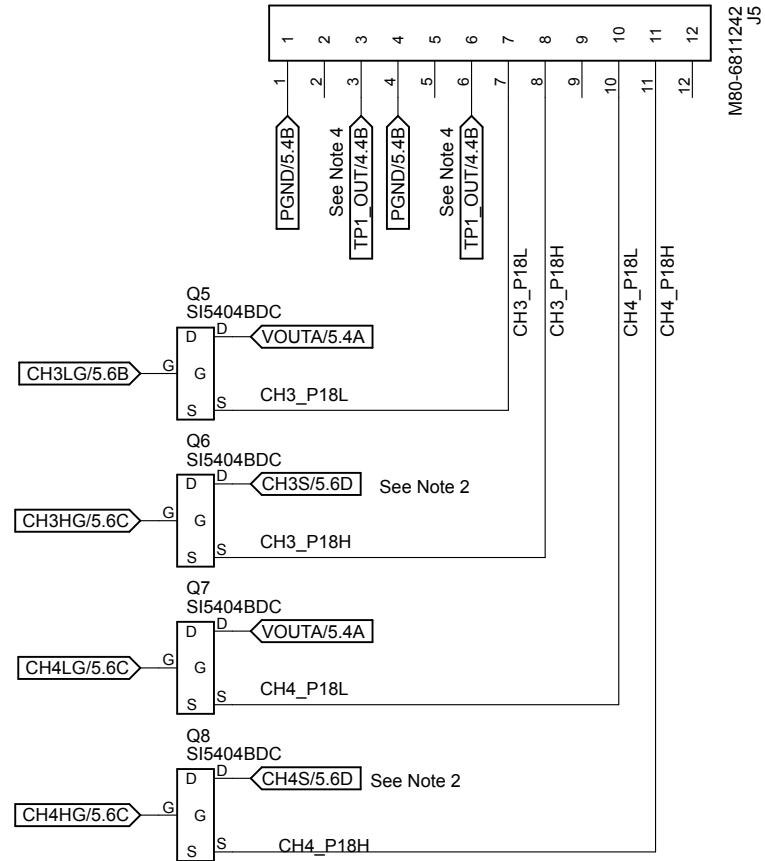
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To Thruster/PPU PCB Upper (TU)
Ch. 1/2



To Thruster/PPU PCB Lower (TL)
Ch. 3/4



PD - Power Distribution Section
Part 2/2

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