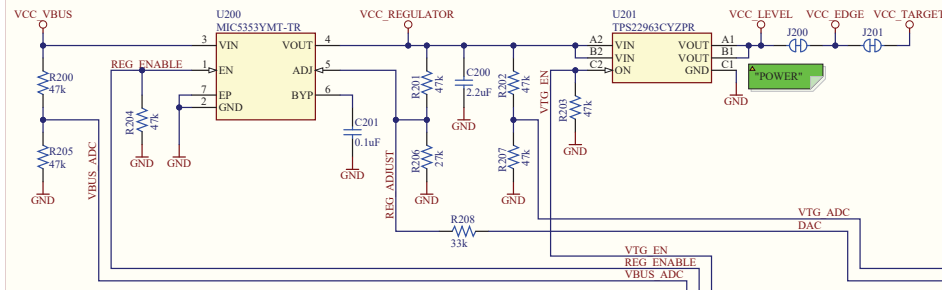


TARGET ADJUSTABLE REGULATOR

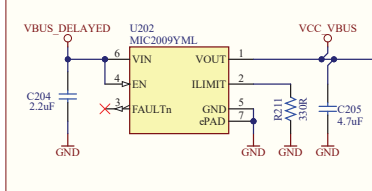


J200:
- Cut-strap used for full separation of target power from the level shifters and on-board regulators.
- For current measurements using an external power supply, this strap could be cut for more accurate measurements. Leakage back through the switch is in the micro ampere range.
J201:
- For current measurements using the on-board power supply, this strap must be cut and an ammeter connected across.

MIC5353:
Vin: 2.6V to 6V
Vout: 1.25V to 5.1V
Imax: 500mA
Dropout (typical): 50mV @ 150mA, 160mV @ 500mA
Accuracy: 2% initial
Thermal shutdown and current limit
Maximum output voltage is limited by the input voltage and the dropout voltage in the regulator. ($V_{max} = V_{in} - \text{dropout}$)

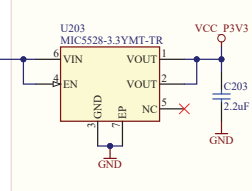
ADJUSTABLE OUTPUT AND LIMITATIONS:
- The DEBUGGER can adjust the output voltage of the regulator between 1.25V and 5.1V to the target.
- The voltage output is limited by the input (USB), which can vary between 4.40V to 5.25V.
- The level shifters have a minimal voltage level of 1.2V and supports the entire range of the voltage regulator set by the debugger.
- The TPS22963CYZPR has a minimal voltage level of 1V and supports the entire range of the voltage regulator set by the debugger.
- Firmware configuration will limit the voltage range to be within the target specification.

VBUS CURRENT-LIMIT



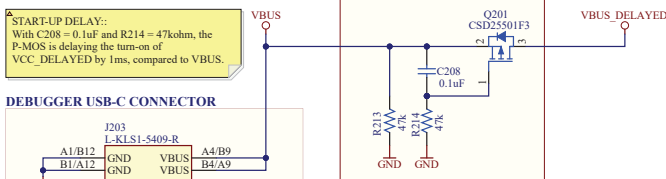
CURRENT LIMIT:
- With R211 = 330ohm, the current through the power switch MIC2009 is limited to: 509mA (min) - 712mA (typ) - 903mA (max).

DEBUGGER REGULATOR

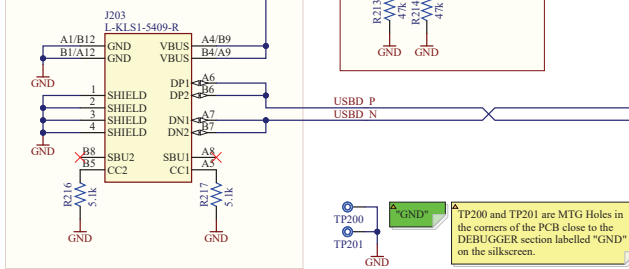


MIC5528:
Vin: 2.5V to 5.5V
Vout: Fixed 3.3V
Imax: 500mA
Dropout: 260mV @ 500mA

VBUS START-UP DELAY

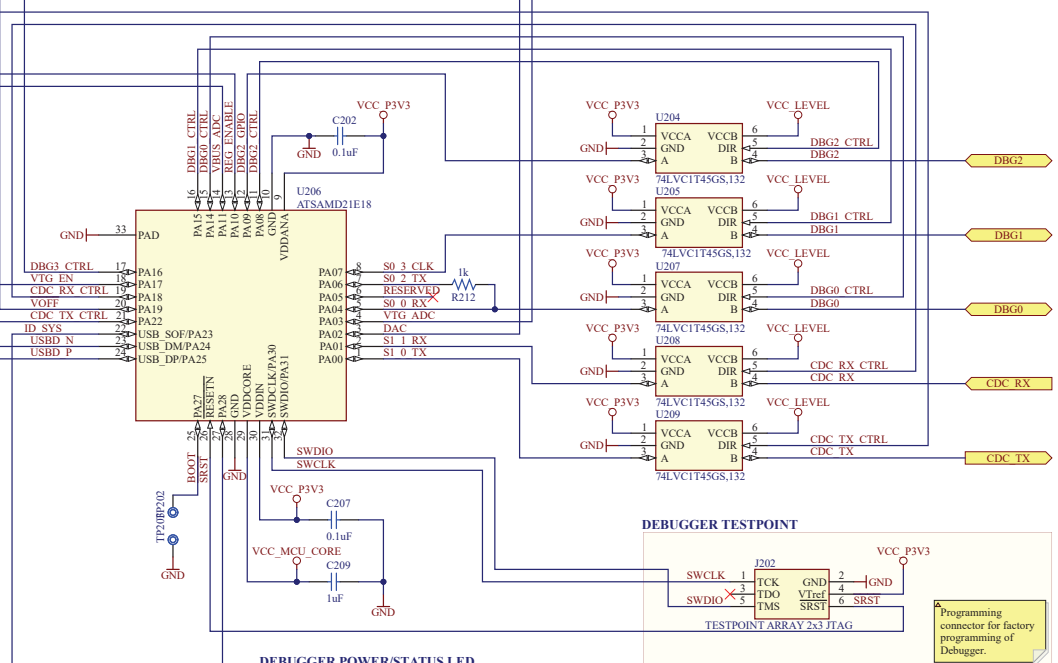


DEBUGGER USB-C CONNECTOR

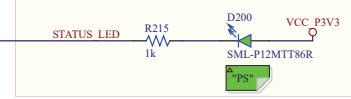


TP200 and TP201 are MTG Holes in the corners of the PCB close to the DEBUGGER section labelled "GND" on the silkscreen.

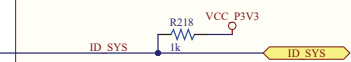
DEBUGGER



DEBUGGER POWER/STATUS LED



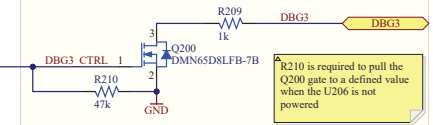
ID PIN



Interface Signal	ICSP™ TARGET	UPDI TARGET	SWD TARGET
CDC TX	UART RX	UART RX	UART RX
CDC RX	UART TX	UART TX	UART TX
DBG0	DAT	UPDI	SWDAT
DBG1	CLK	GPIO	SWCLK
DBG2	GPIO	GPIO	SWO/GPIO
DBG3	MCLR	RESET	RESET
VCC	-	-	-

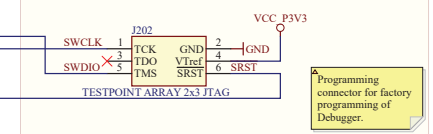
VOFF

DBG3 OPEN DRAIN



R210 is required to pull the Q200 gate to a defined value when the U206 is not powered

DEBUGGER TESTPOINT



Programming connector for factory programming of Debugger.

Project Owner:
SLT

PCB Layout Contact:
SHG, TL

PartNumber:
EV52Z72A

PCB #:
04-12634

Project Title:
PIC32CM Px DIP-28 Curiosity Nano

Variant:
Default Assembly

Sheet Title:
Debugger

Size:
A3

Date:
05.08.2026

Rev:
2

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