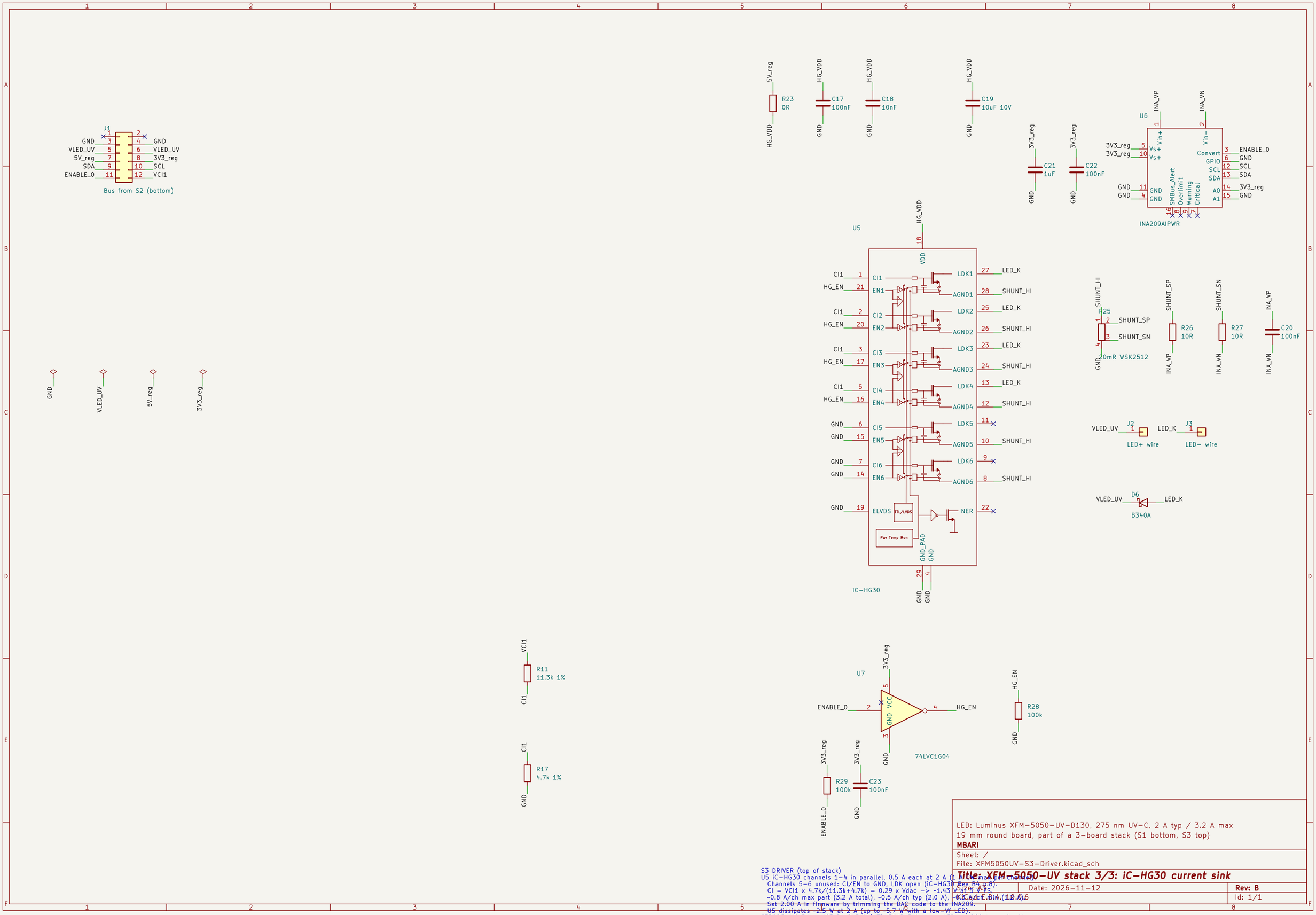

LED: Luminus XFM−5050−UV−D130, 275 nm UV−C, 2 A typ / 3.2 A max
19 mm round board, part of a 3−board stack (S1 bottom, S3 top)

MBARI

Sheet: /
File: XFM5050UV−S3−Driver.kicad_sch

Title: XFM−5050−UV stack 3/3: iC−HG30 current sink

Size: A3 | Date: 2026−11−12 | **Rev: B**
KiCad E.D.A. (12.0.6) | Id: 1/1

S3 DRIVER (top of stack)
U5 iC−HG30 channels 1−4 in parallel, 0.5 A each at 2 A (1 A/ch max pen channel).
Channels 5−6 unused: CI/EN to GND, LDK open (iC−HG30 Rev B4 p.8).
CI = VCI1 x 4.7k/(11.3k+4.7k) = 0.29 x Vdac −> ~1.43 V at 5 V FS.
~0.8 A/ch max part (3.2 A total), ~0.5 A/ch typ (2.0 A), ~0.3 A/ch min (1.2 A).
Set 2.00 A in firmware by trimming the DAC code to the INA209.
U5 dissipates ~2.5 W at 2 A (up to ~5.7 W with a low−Vf LED).
STROBE: HG_EN = NOT ENABLE_0 (U7). ENABLE_0 low = LED on. R29 keeps it off.
D6 free−wheels the LED cable inductance at turn−off (iC−HG30 Fig. 6).
J2 (LED+) / J3 (LED−): wire pads for ~20 AWG to LED board J1 / J3.
U6 INA209 (0x41): LED current on R25 20 mOhm, +/−80 mV range. Kelvin via R26/R27.