
Product Catalog



FOR EDUCATIONAL USE ONLY



www.minipcb.com

<https://github.com/miniPCB>

<https://www.youtube.com/@minipcb>

1. INTRODUCTION

The **miniPCB™ Product Catalog** offers a selection of panelized printed circuit boards (PCBs) designed for lab instruction, circuit prototyping, and hands-on electronics education. These are unpopulated boards—no components are included—allowing students to practice component selection, soldering, circuit assembly, and testing from the ground up.

Each miniPCB board follows the **miniPCB™ Design Standard**, which ensures consistent part numbering, board outlines, connector placements and layout standards across all designs. Boards are grouped into functional categories and support a wide range of educational applications.

All boards are supplied in panels, typically with four or more identical PCBs per panel, separated by v-score lines for easy breaking before or after assembly.

Whether you're running an introductory electronics course or an advanced prototyping lab, the miniPCB™ ecosystem gives you a consistent, scalable, and instructor-friendly toolkit for practical learning.

1.1. PART NUMBERS

As specified in the **miniPCB™ Design Standard**, all miniPCBs have a part number consistent with the below format. The part identification may be two or three digits.

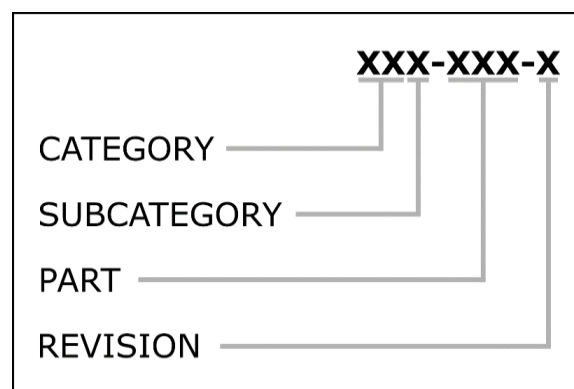


Figure 1 – Part Identification Number

1.2. CIRCUIT CATEGORIES

As specified in the **miniPCB™ Design Standard**, all miniPCBs exist in one of the categories below. Multiple subcategories exist for each category.

CATEGORY ID	TITLE	NOTE
00X-XXX	Test Boards	
01X-XXX	Components	
02X-XXX	Sensors	
03X-XXX	Actuators	
04X-XXX	Amplifiers	
05X-XXX	Filters	
06X-XXX	Oscillators	
07X-XXX	Radio	
08X-XXX	Signal Converters	
09X-XXX	Power	
10X-XXX	Digital	
11X-XXX	Computing	
12X-XXX	Communication	
13X-XXX	Games	
14X-XXX	Home Automation	
15X-XXX	Wearables	
16X-XXX	Instruments	

1.3. HOW TO GO FURTHER

Ready to explore miniPCBs in your lab or classroom? Here are a few ways to get started:

1. **Request Free Samples (LIMITED TIME ONLY)**

Email me, nolan@minipcb.com, a list of the boards you'd like to try, along with a shipping address. I'll send sample panels at no cost—shipping included.

2. **Request to Purchase**

Email me, nolan@minipcb.com, a list of the boards you'd like to buy, along with a shipping address. We'll figure out what payment option and price works for you.

3. **Suggest a New Design**

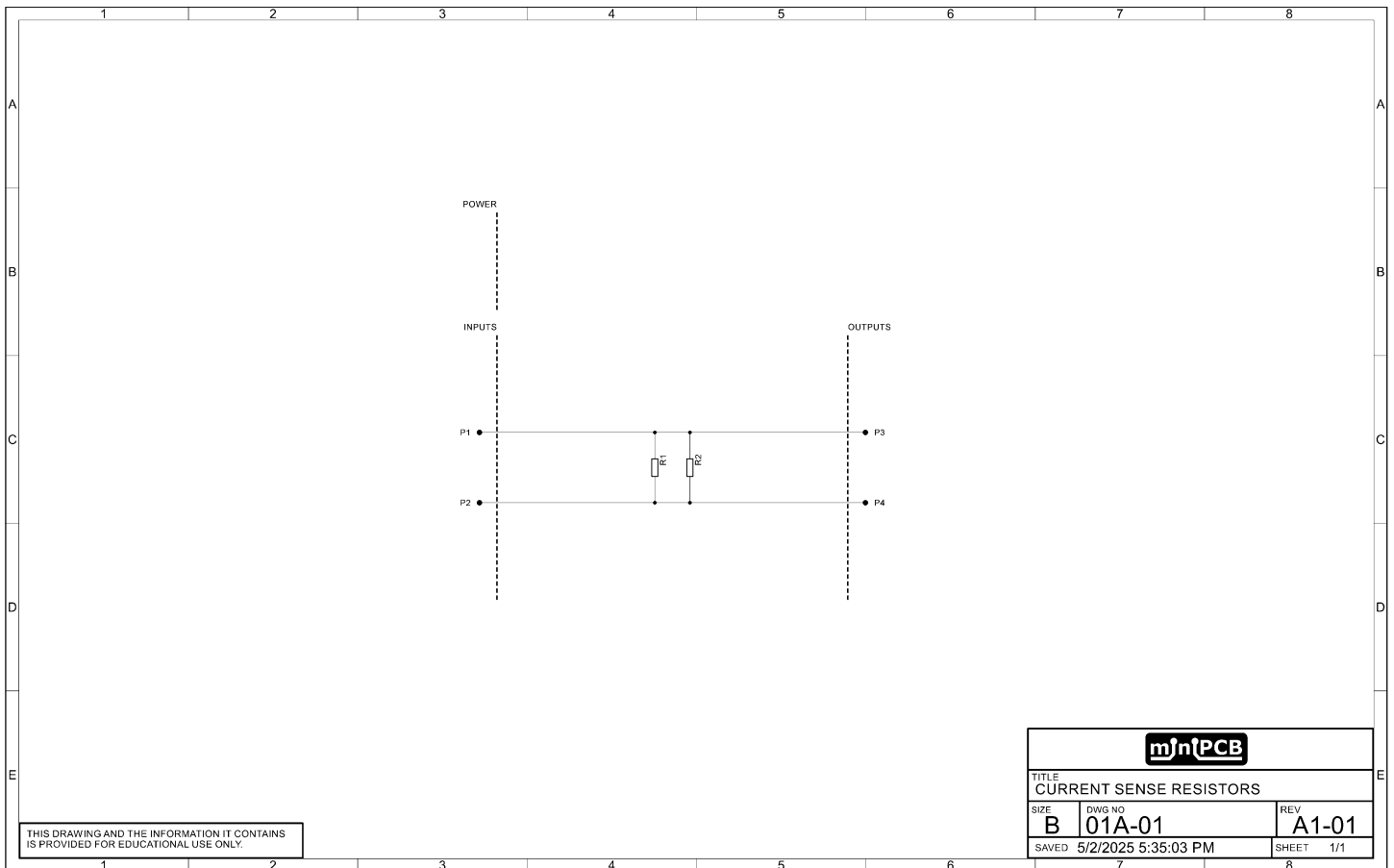
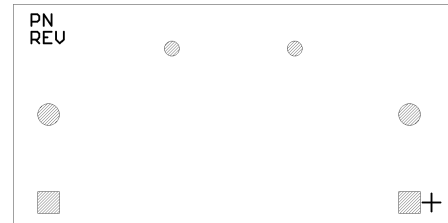
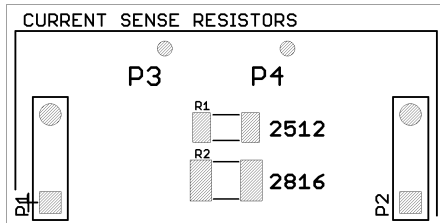
Have a circuit in mind that's not in the catalog? To be honest, many good circuits aren't captured yet. Email me, nolan@minipcb.com, and I'll work on turning it into a miniPCB.

4. **Share With Colleagues**

Know an educator who might benefit from these boards? Please forward this catalog to them—I'm always happy to support new classrooms.

2. PRODUCTS

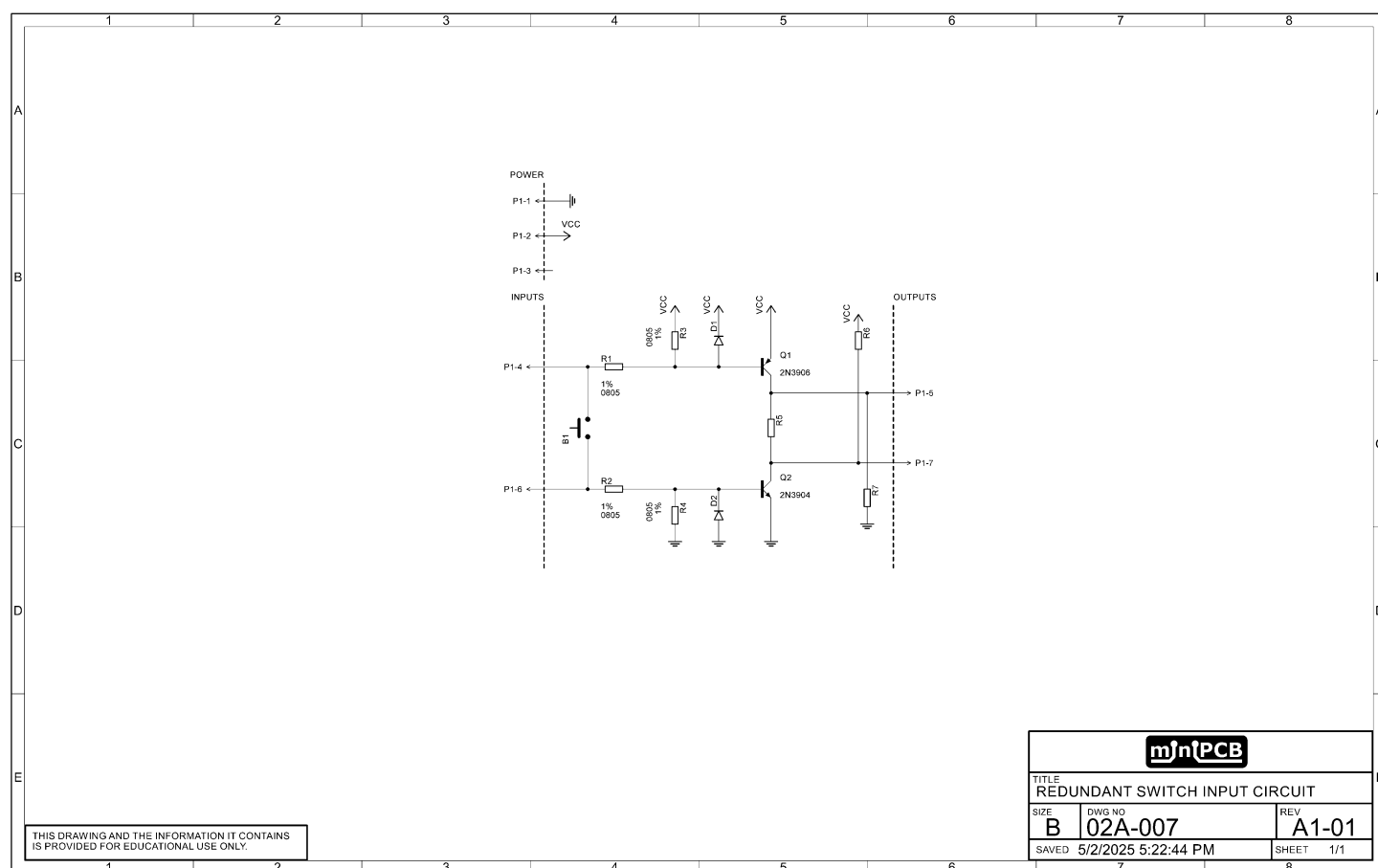
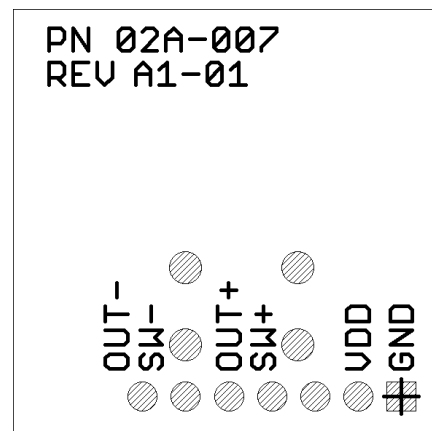
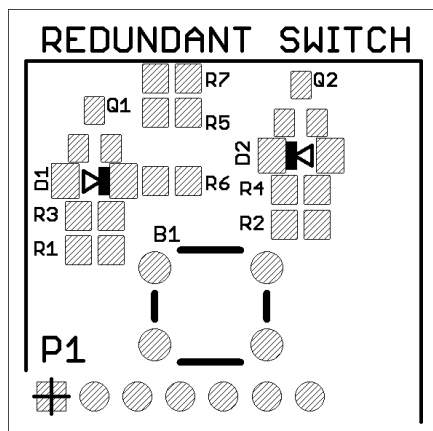
2.1. CURRENT SENSE RESISTORS, 01A-01



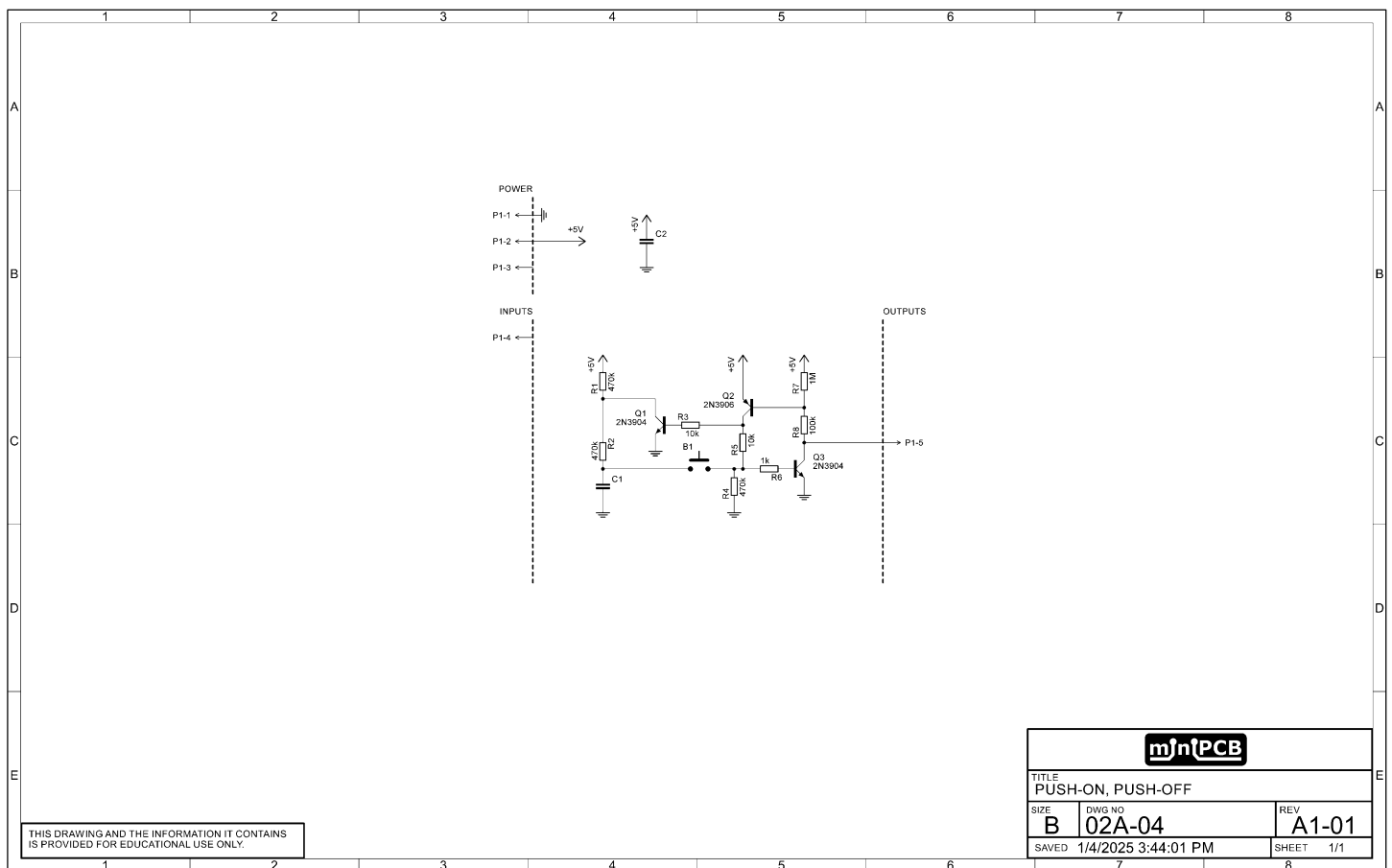
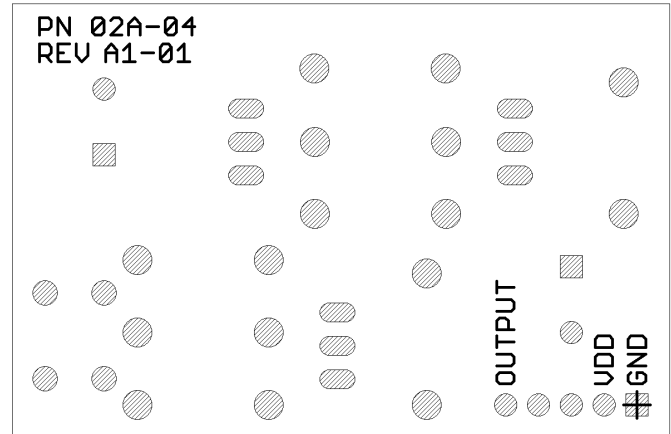
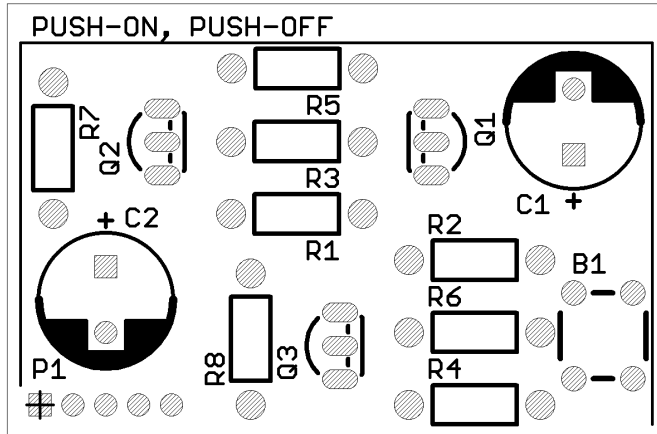
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miniPCB		
TITLE CURRENT SENSE RESISTORS		
SIZE B	DWG NO 01A-01	REV A1-01
SAVED 5/2/2025 5:35:03 PM		SHEET 1/1

2.2. REDUNDANT SWITCH INPUT CIRCUIT, 02A-007



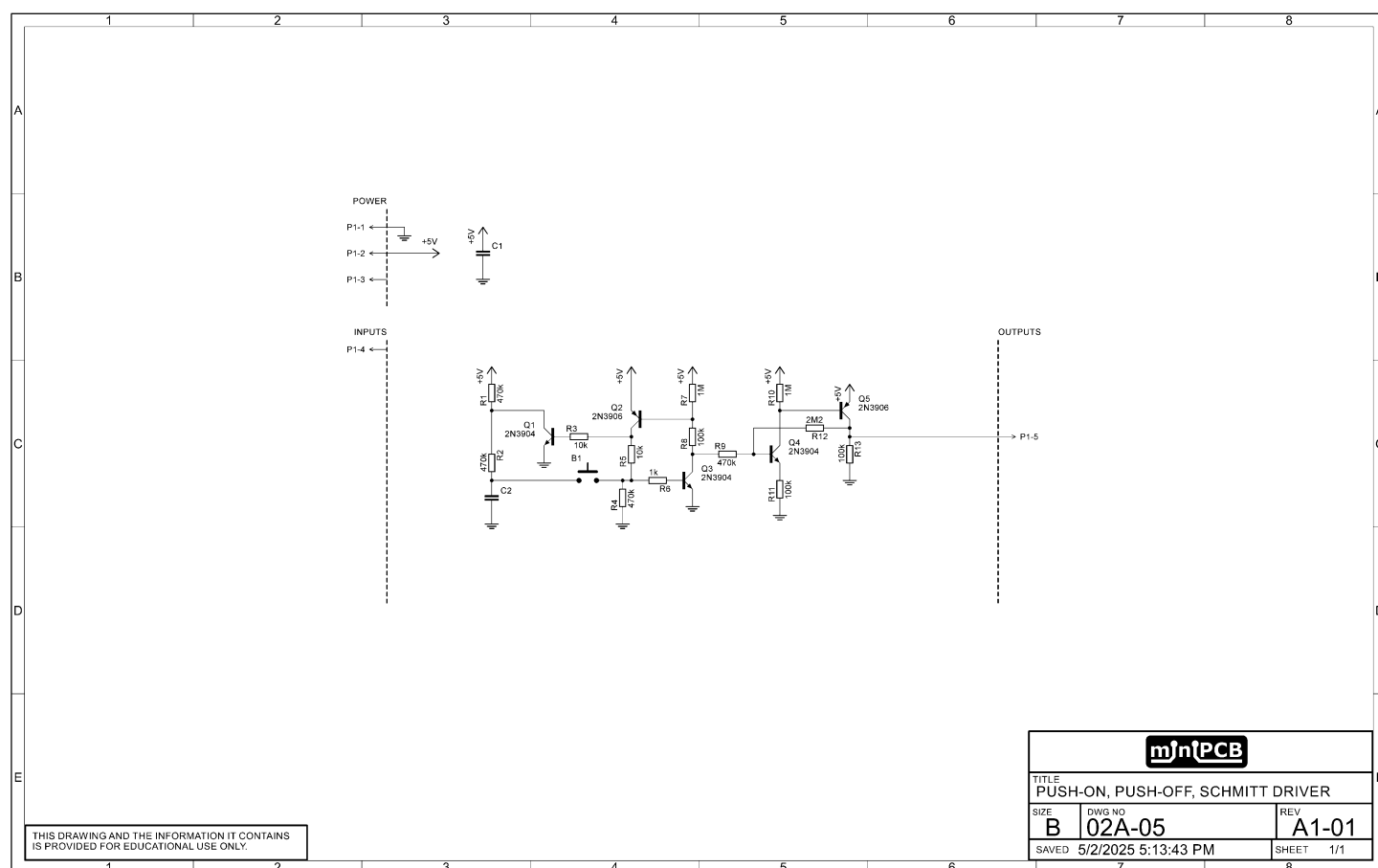
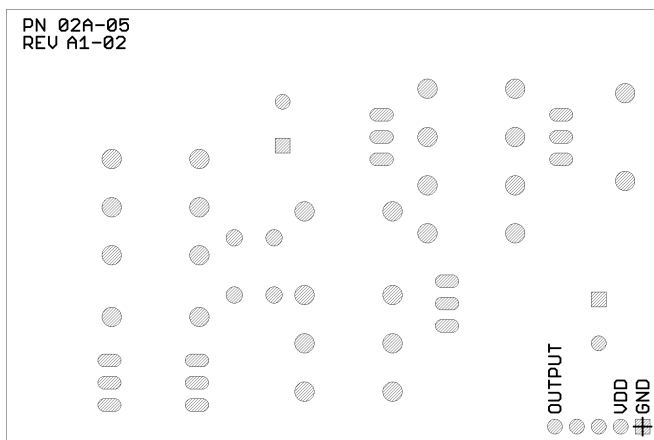
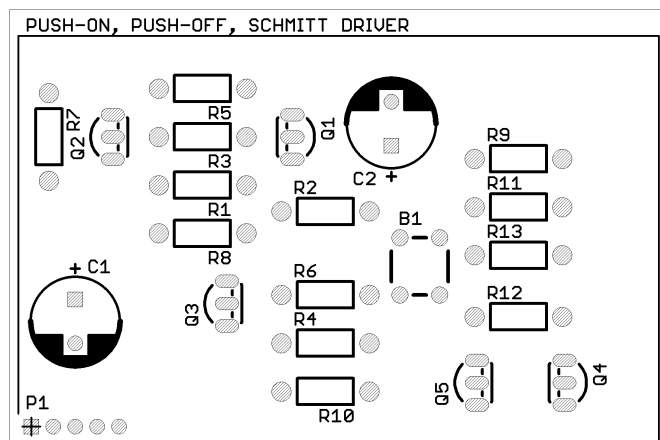
2.3. PUSH-ON, PUSH-OFF (SWITCH), 02A-04



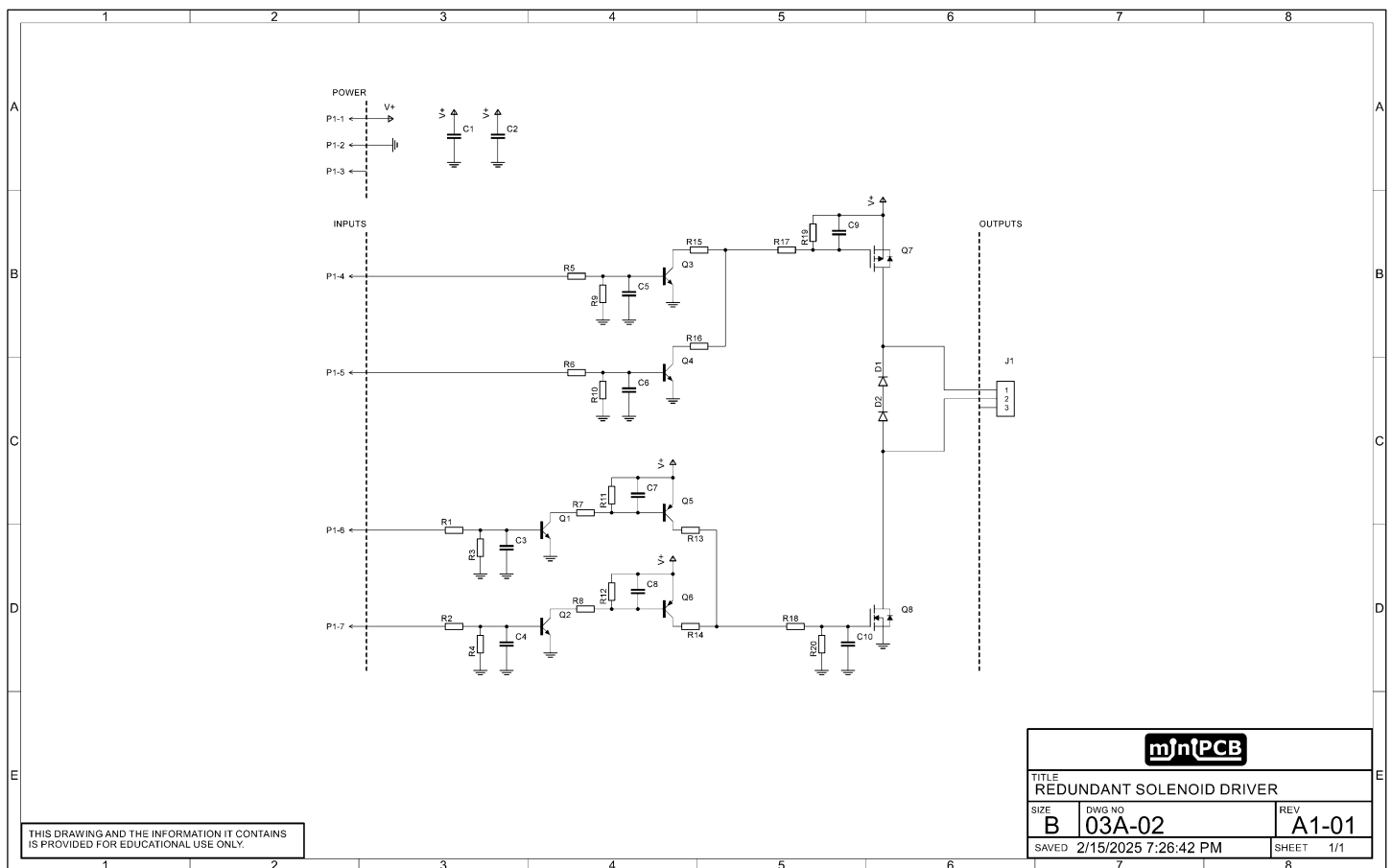
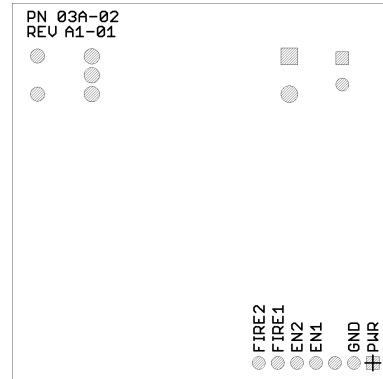
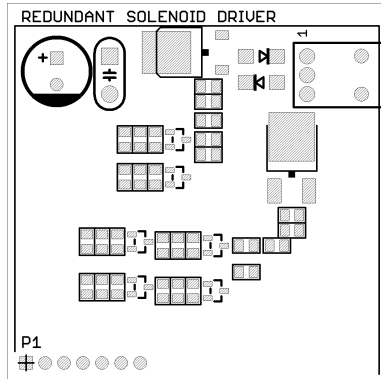
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IS PROVIDED FOR EDUCATIONAL USE ONLY.

miniPCB		
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SAVED 1/4/2025 3:44:01 PM		SHEET 1/1

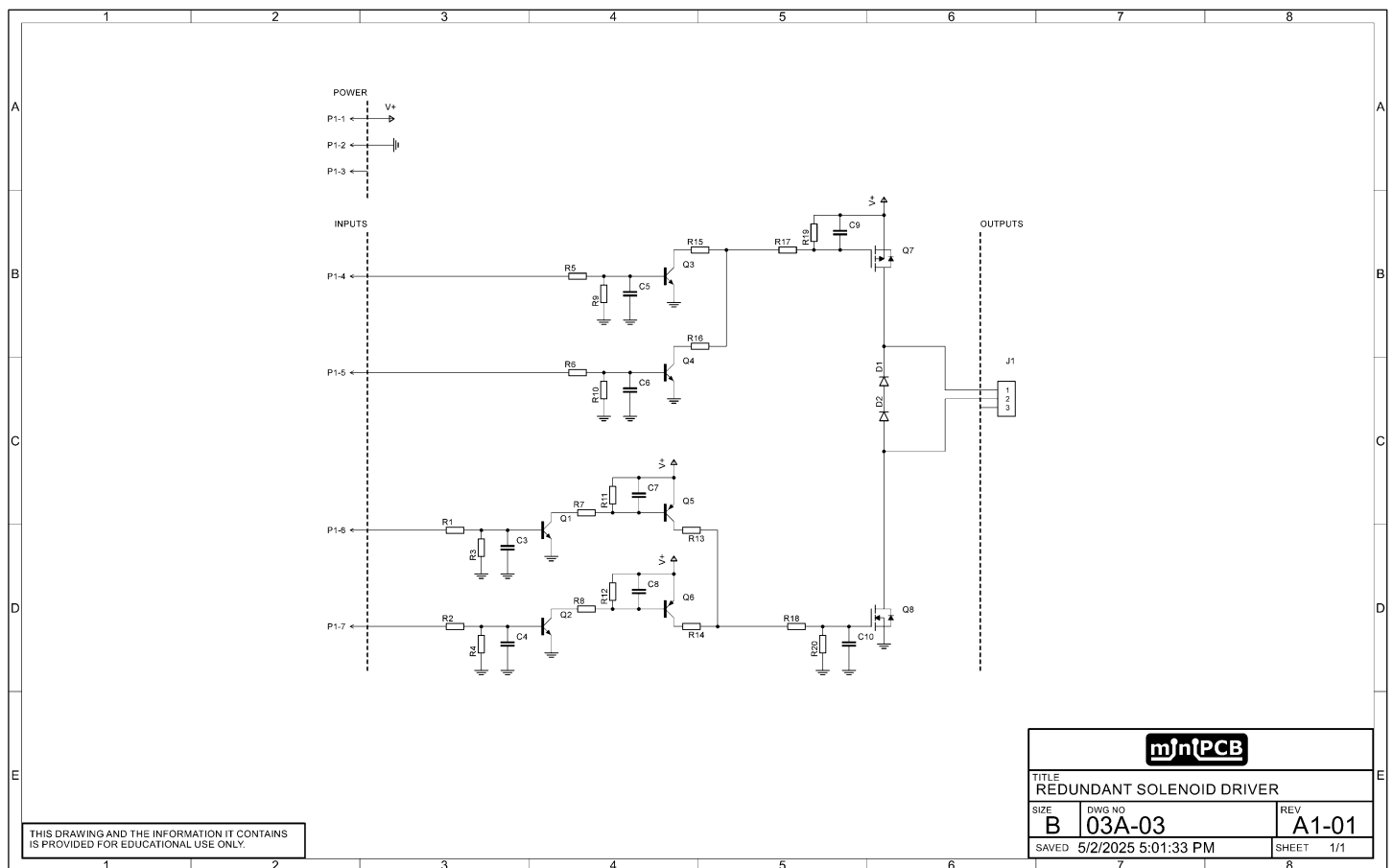
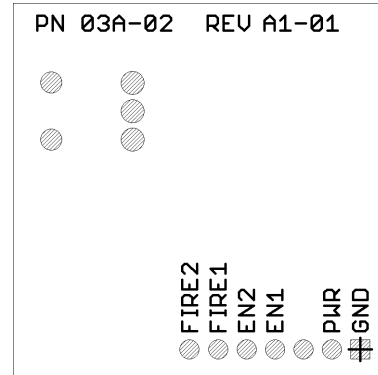
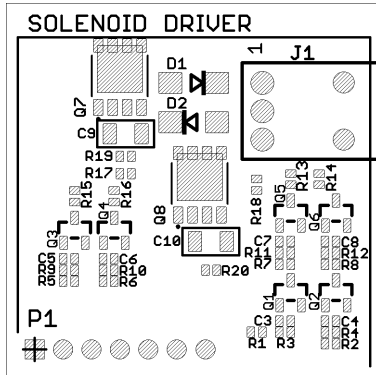
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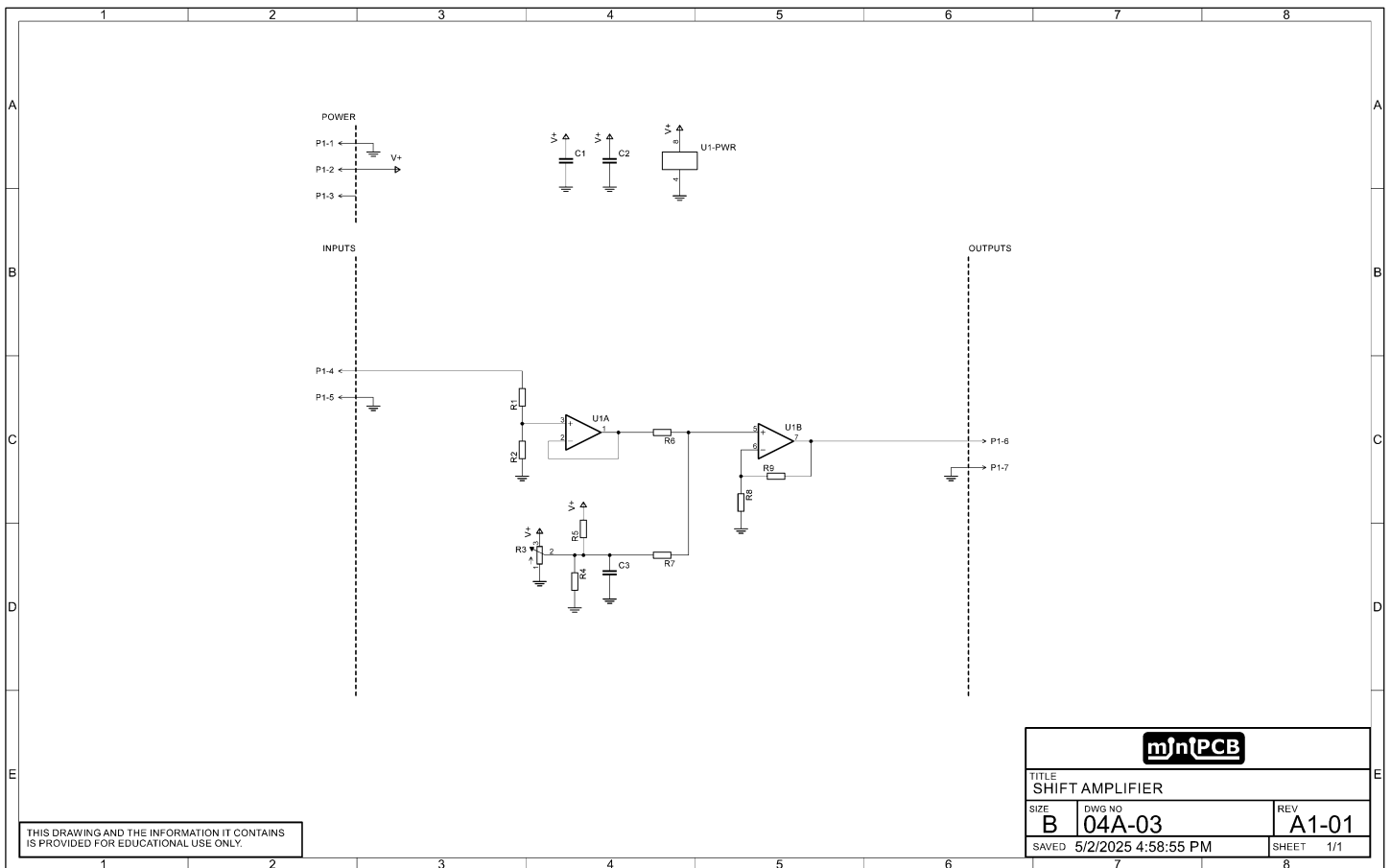
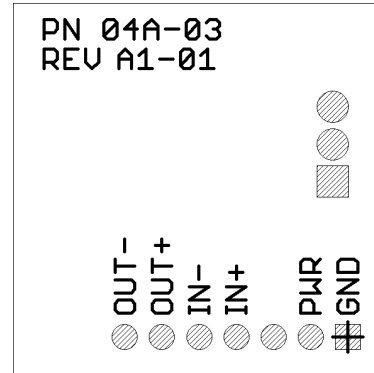
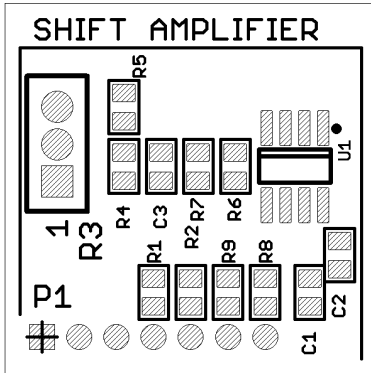
2.5. REDUNDANT SOLENOID DRIVER, 03A-02



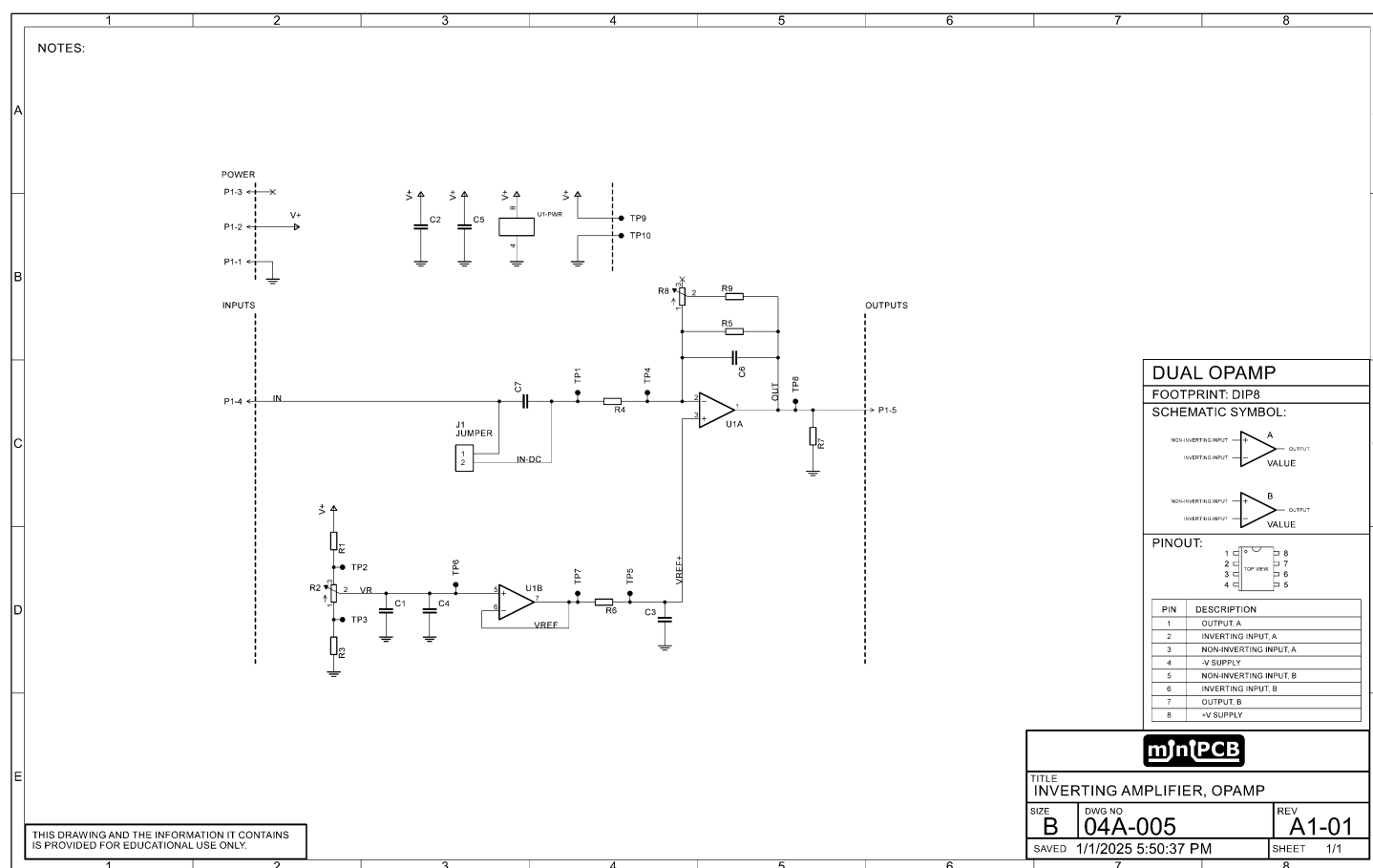
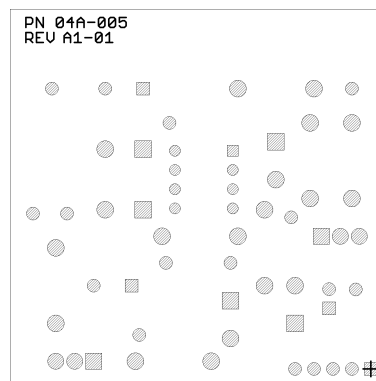
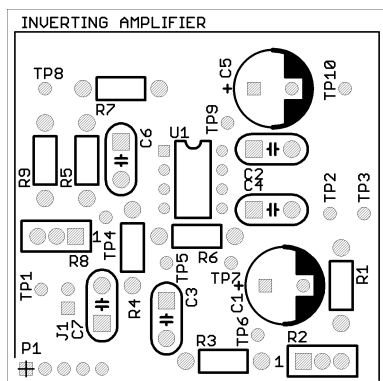
2.6. (REDUNDANT) SOLENOID DRIVER, 03A-03



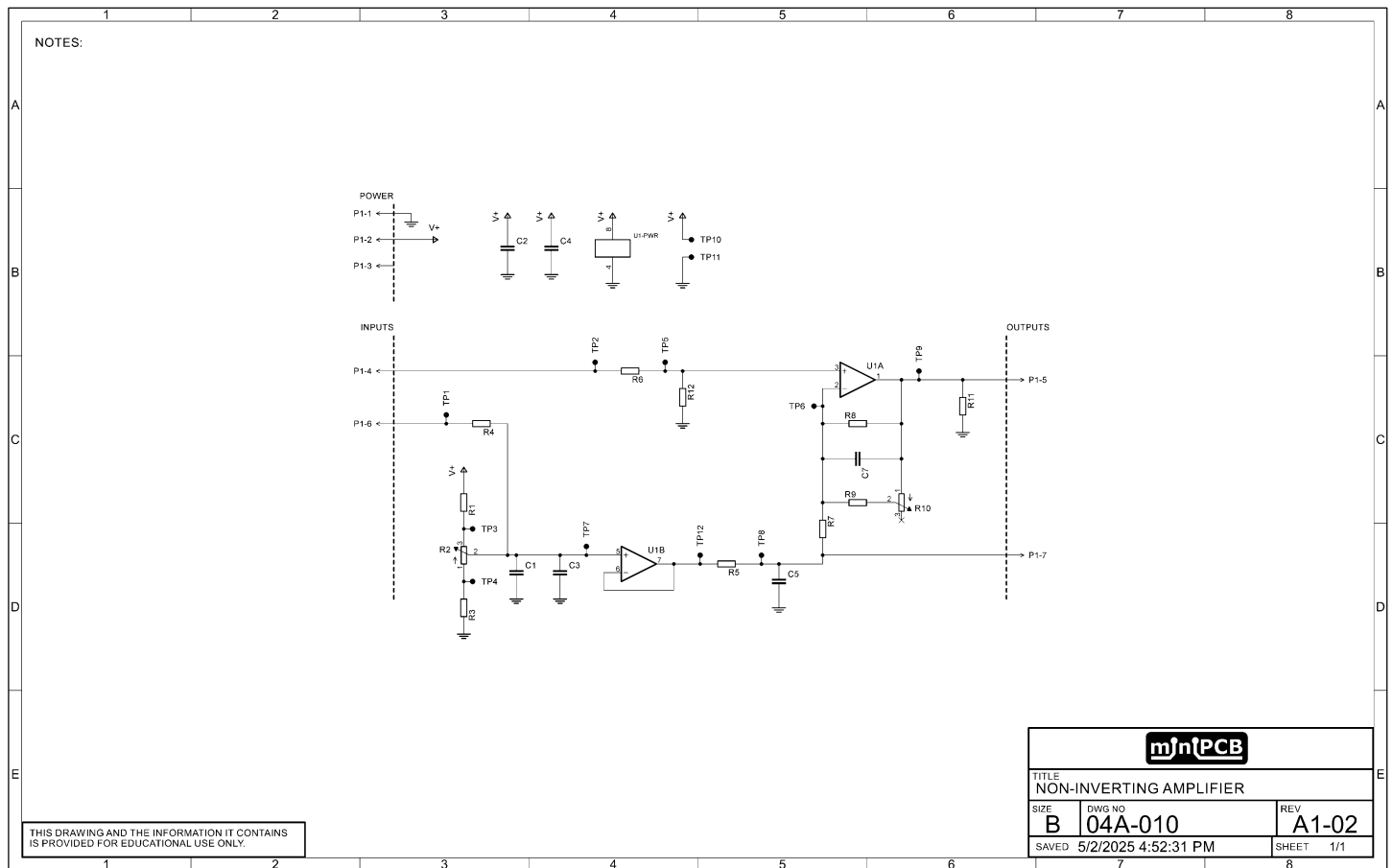
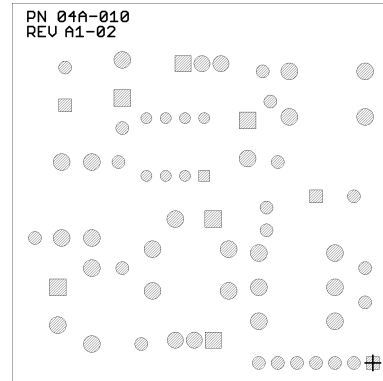
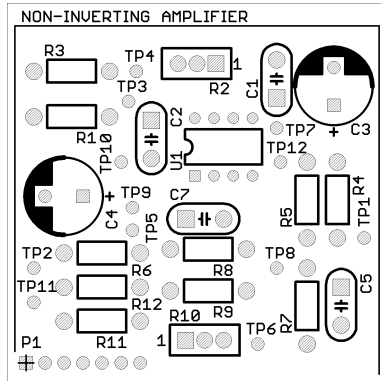
2.7. SHIFT AMPLIFIER, 04A-03



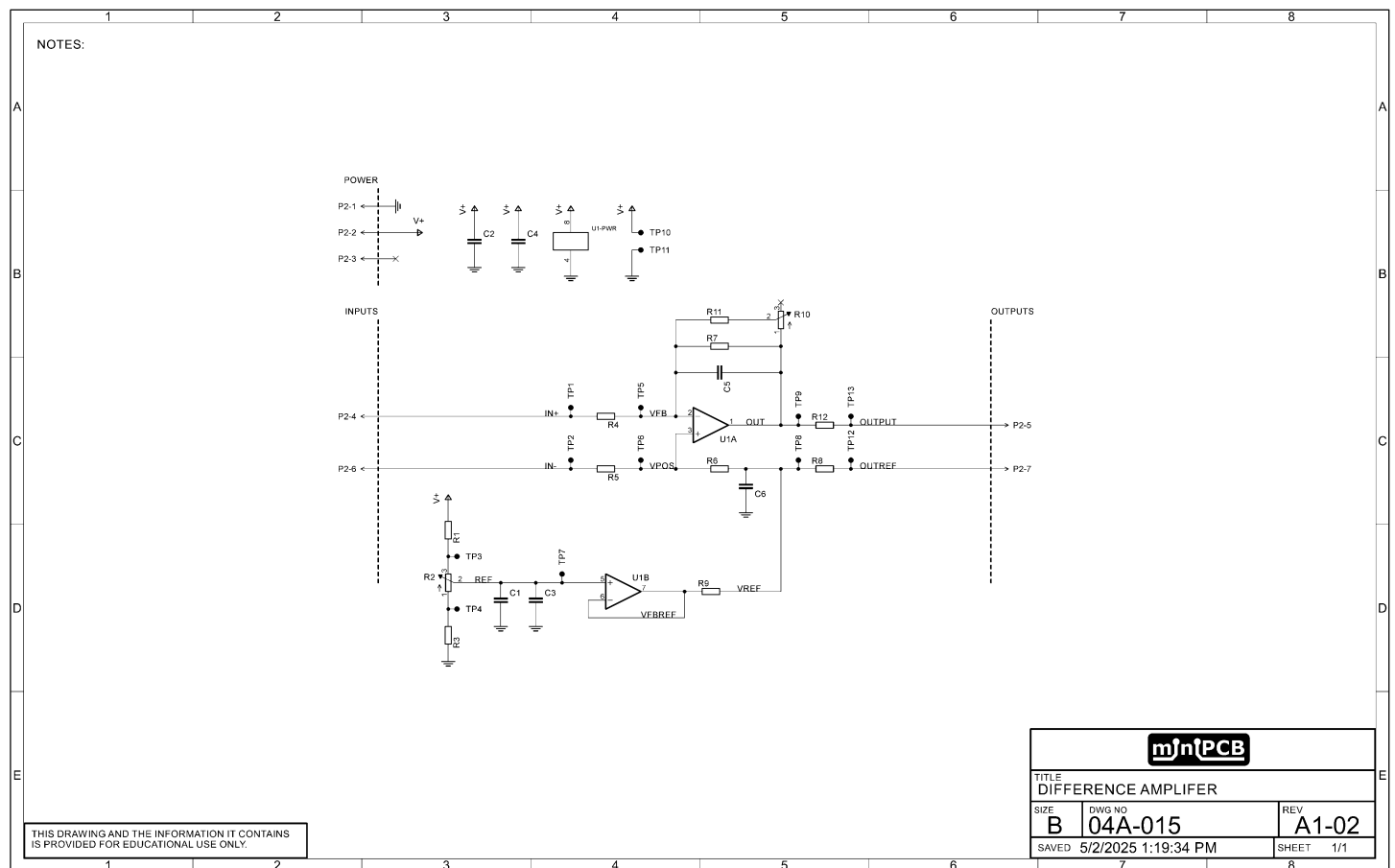
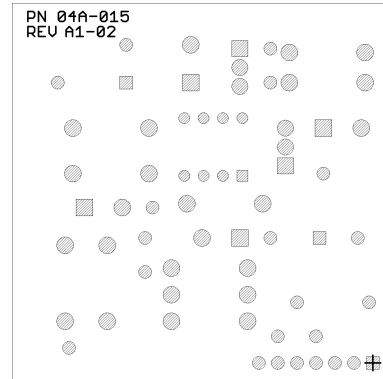
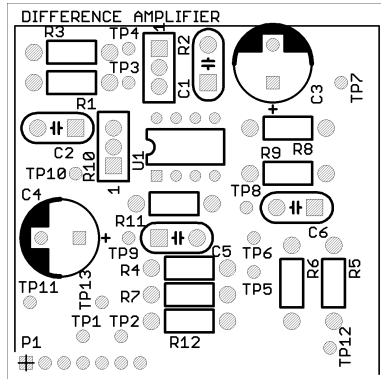
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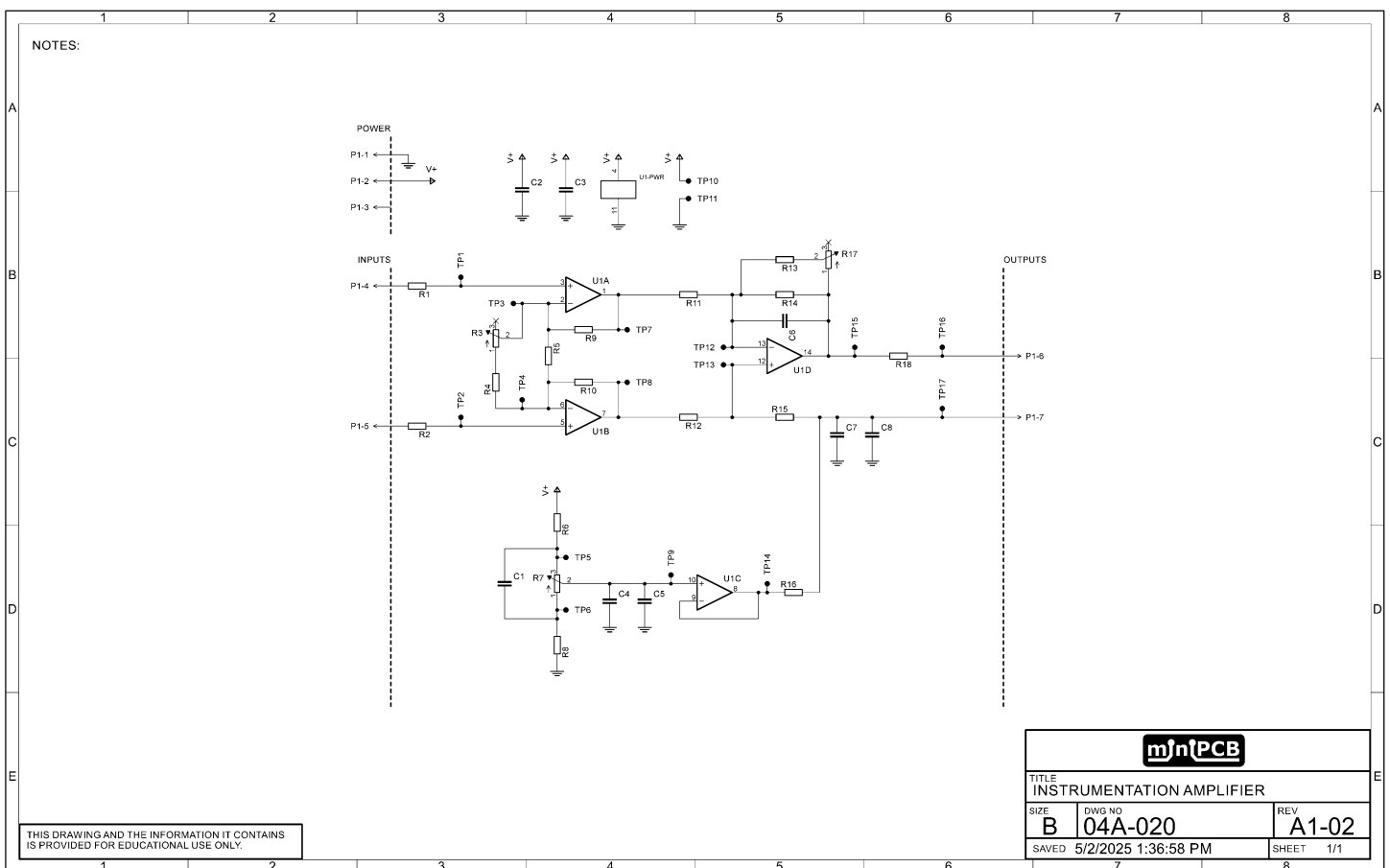
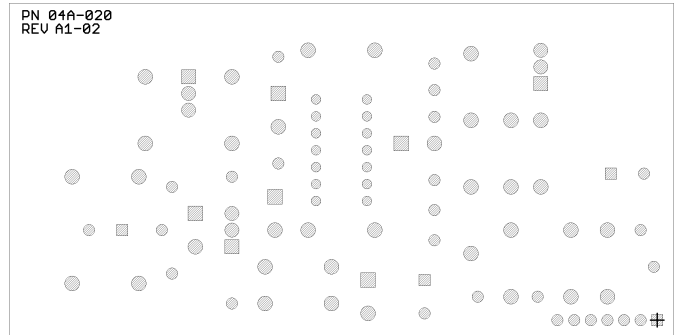
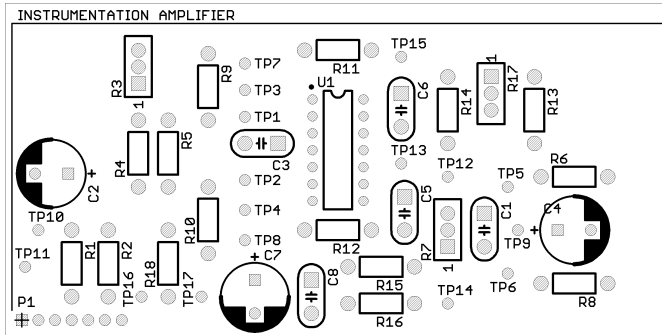
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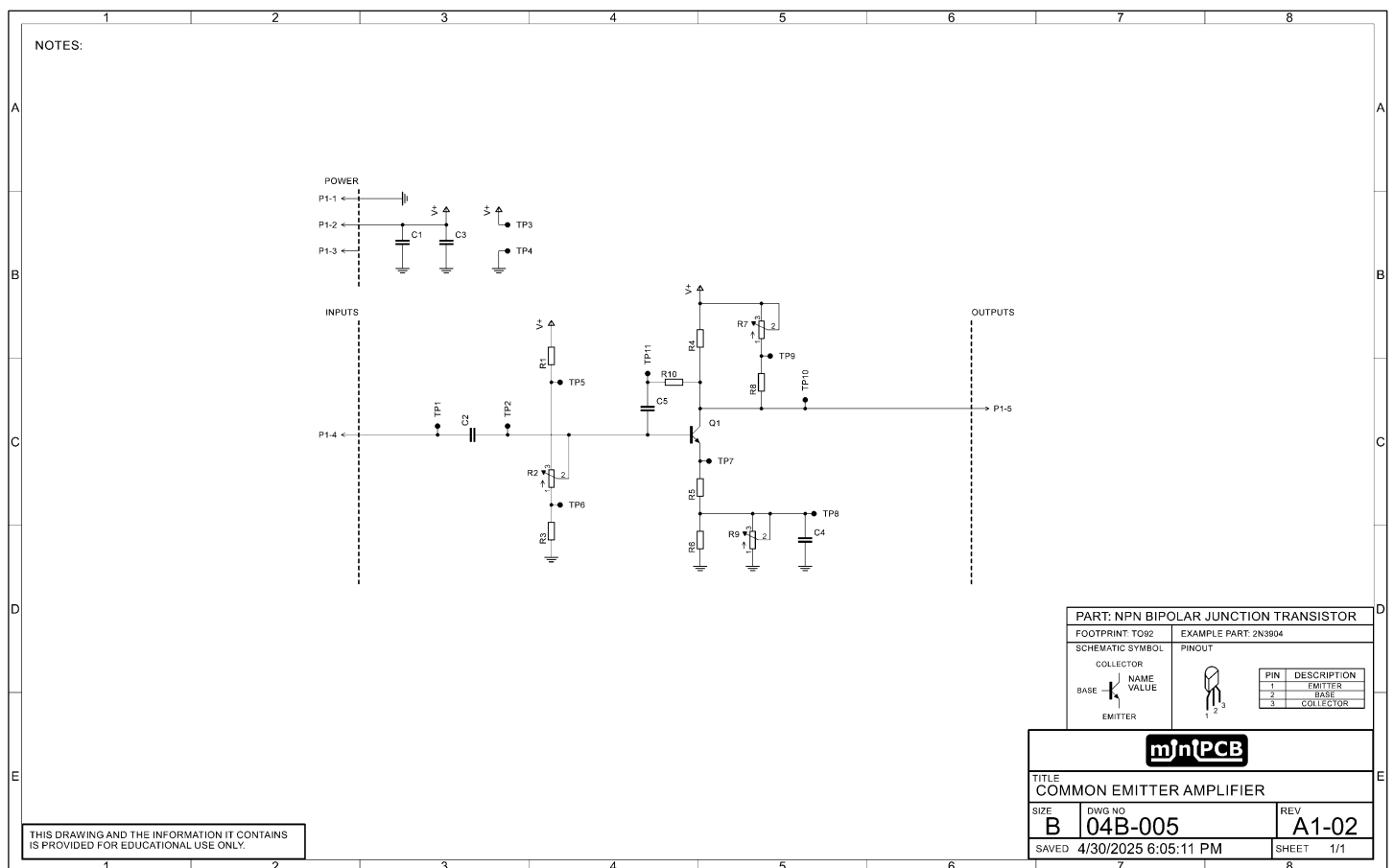
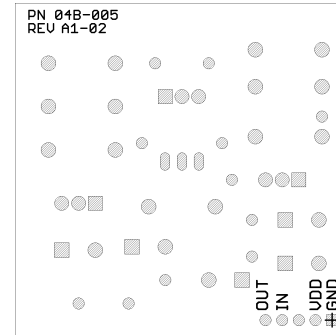
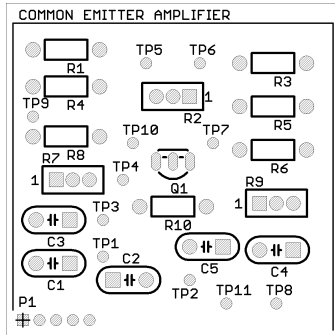
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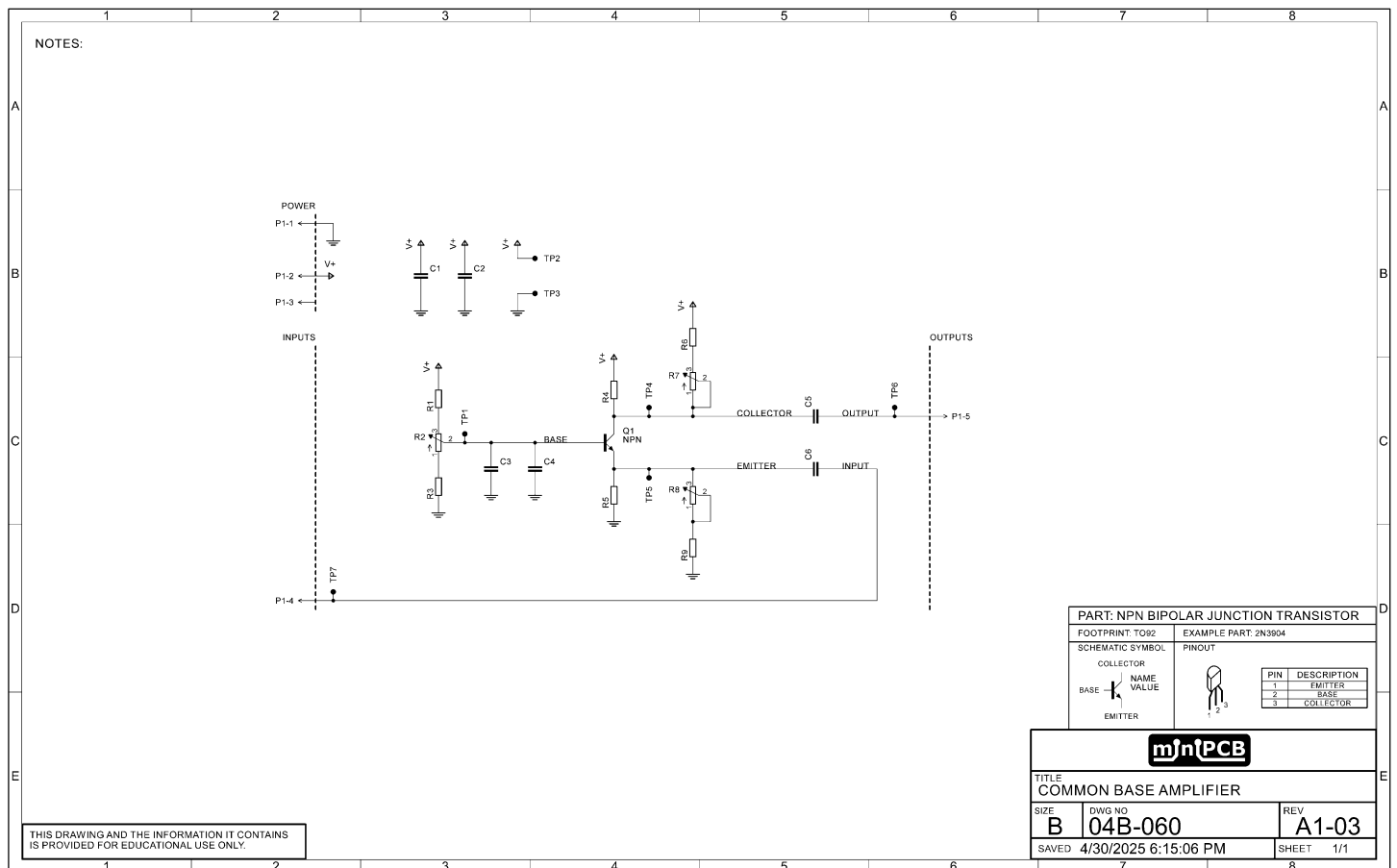
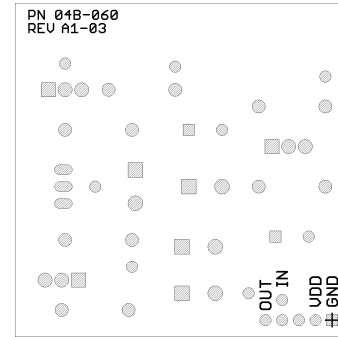
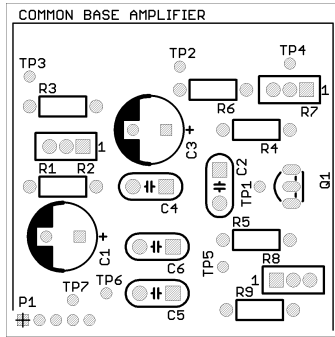
2.11. INSTRUMENTATION AMPLIFIER, 04A-020



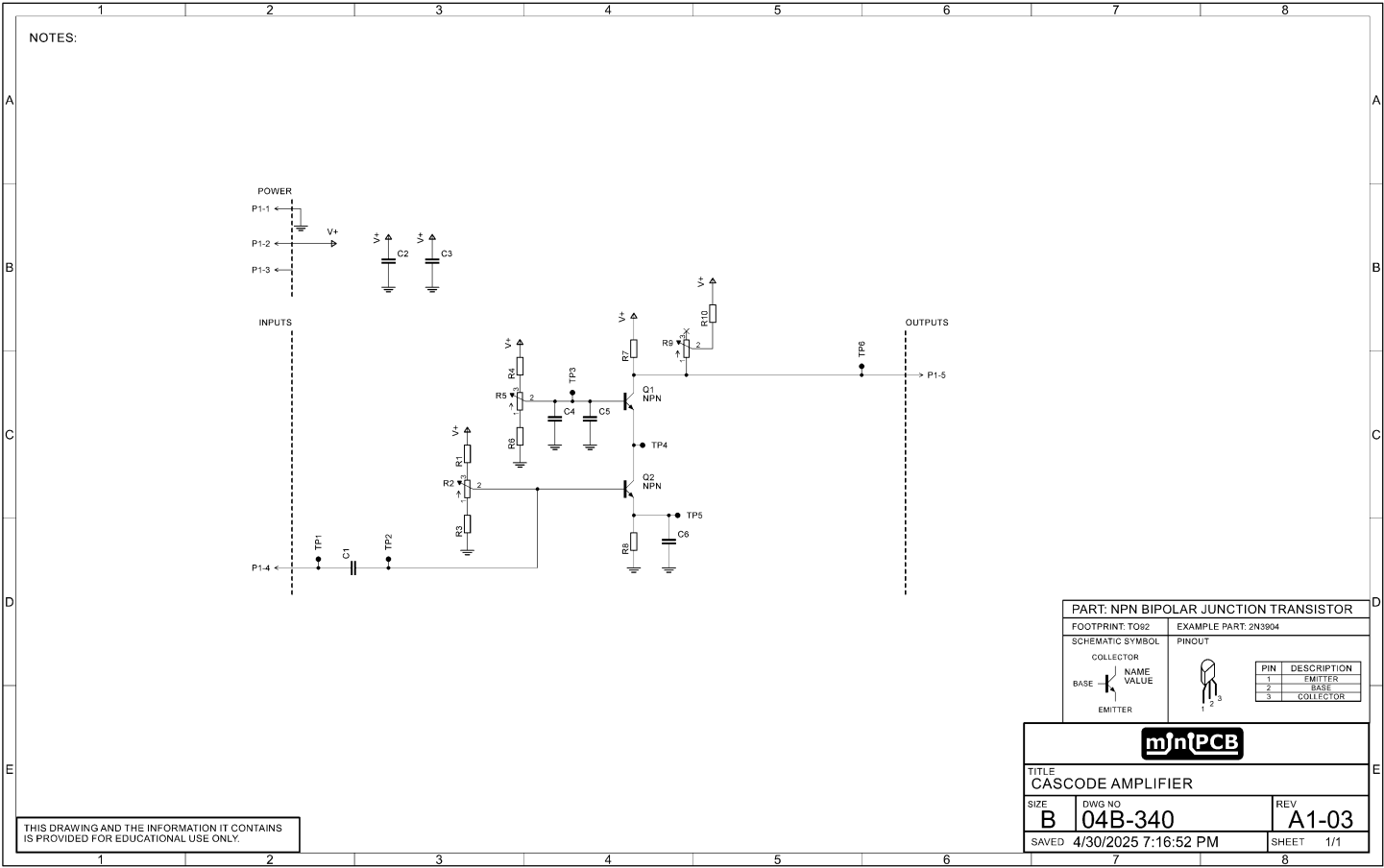
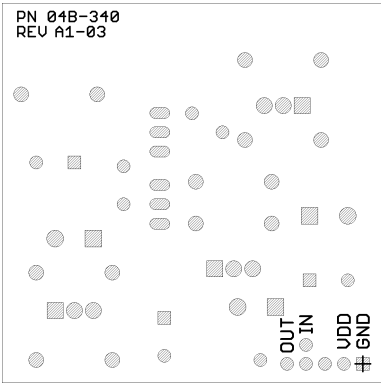
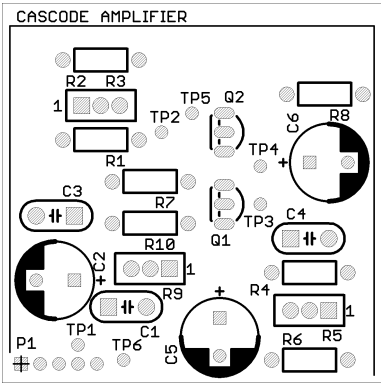
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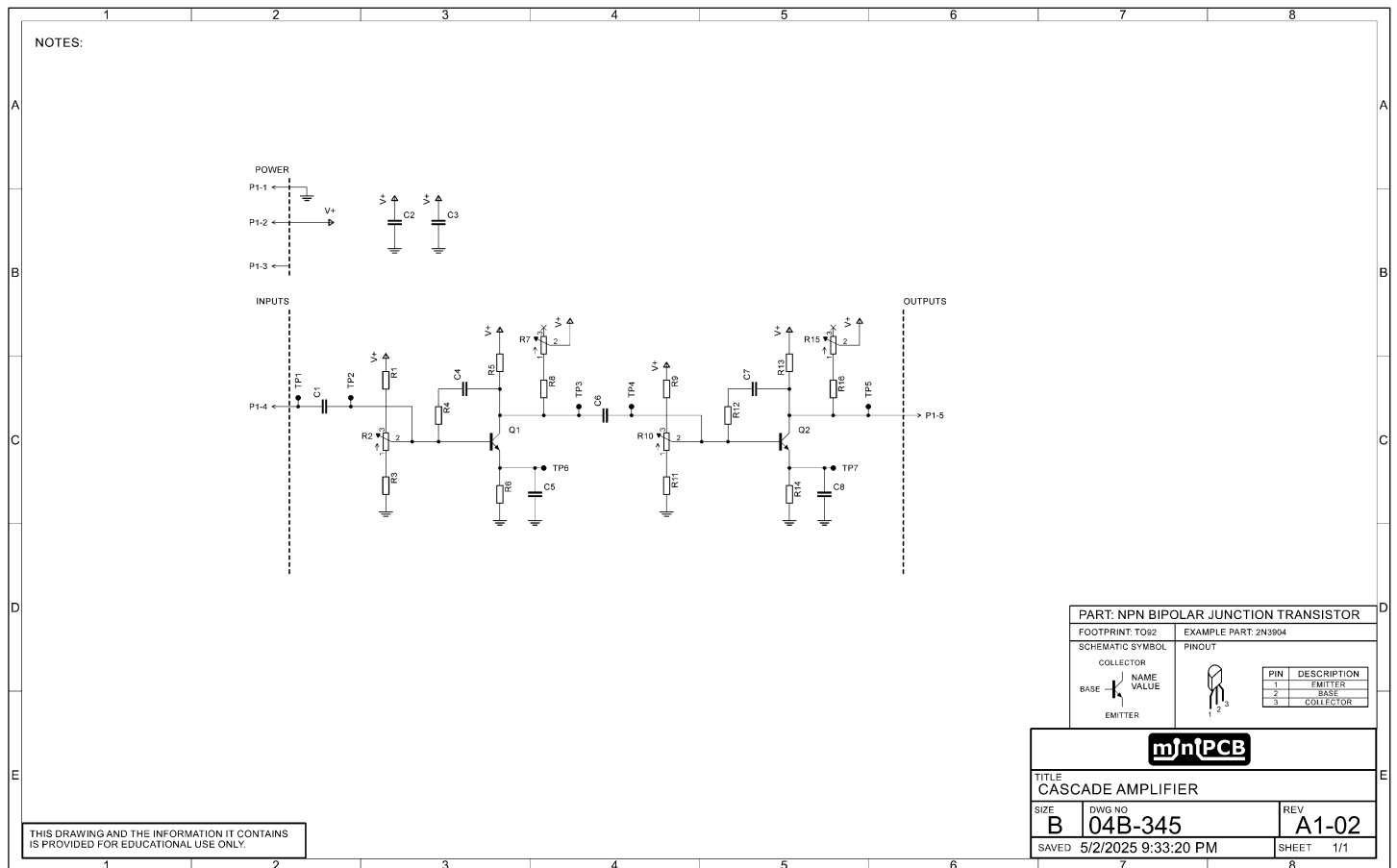
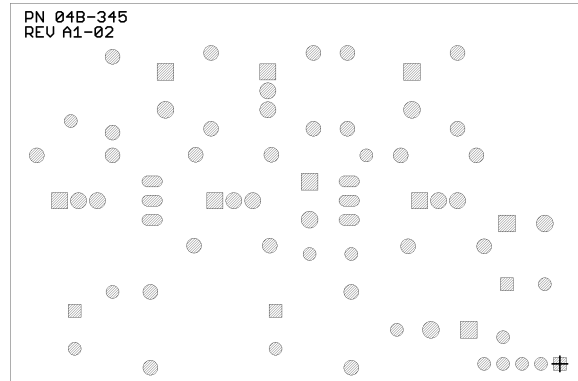
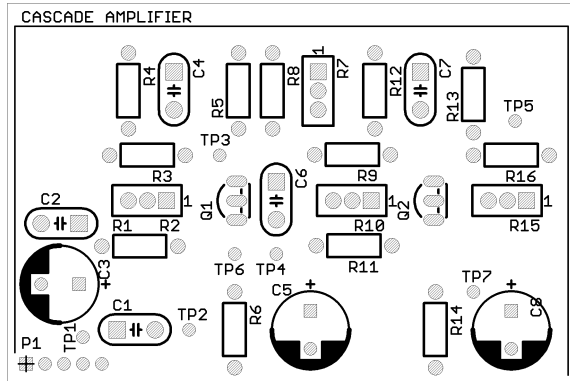
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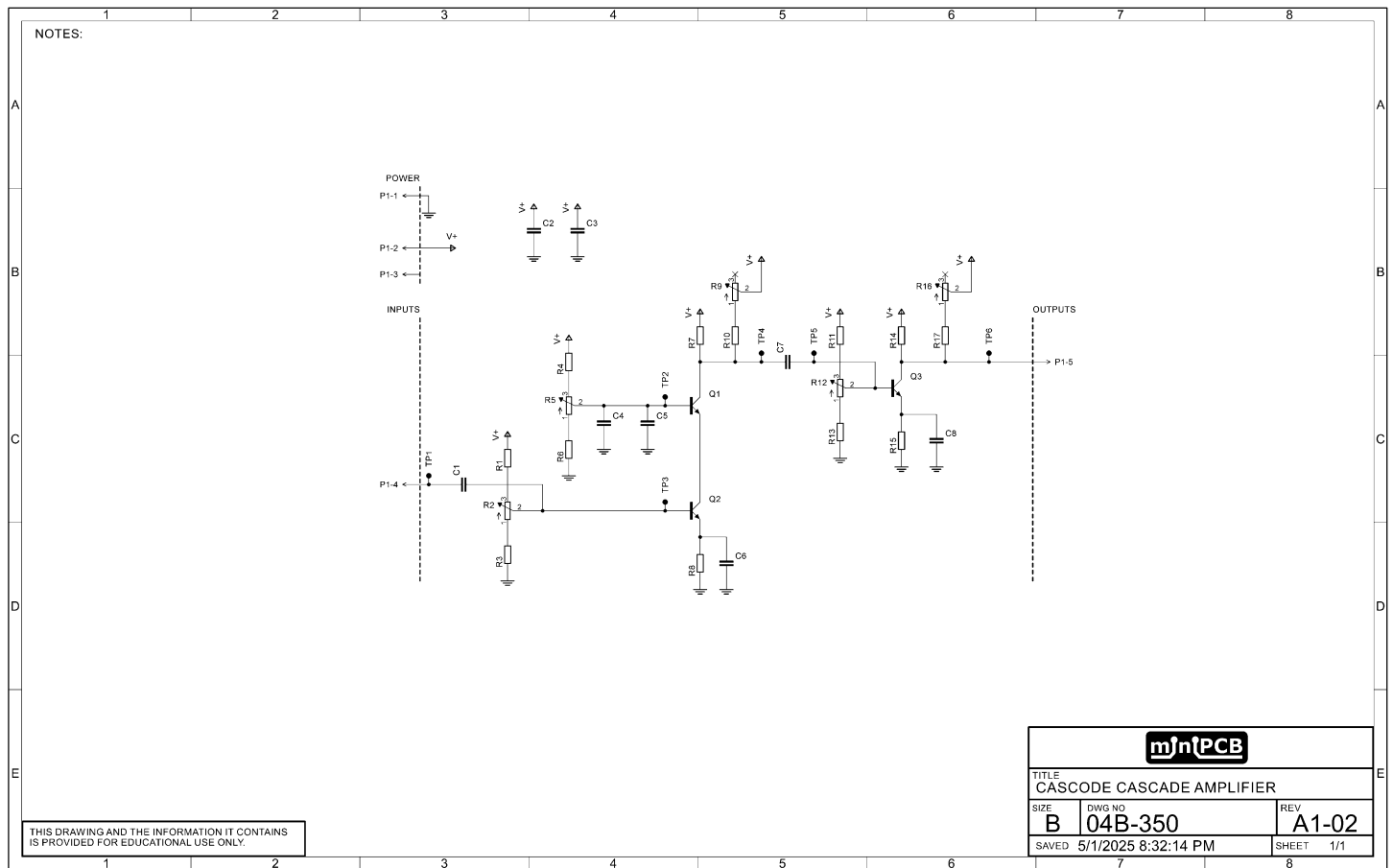
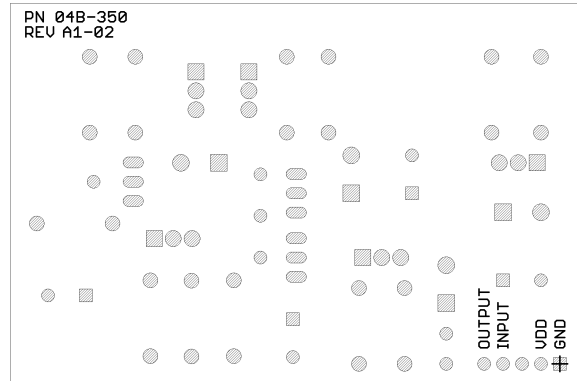
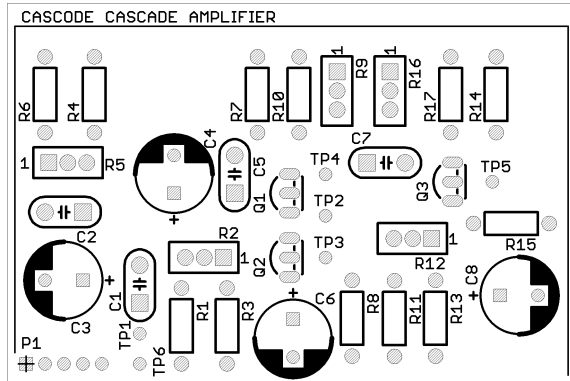
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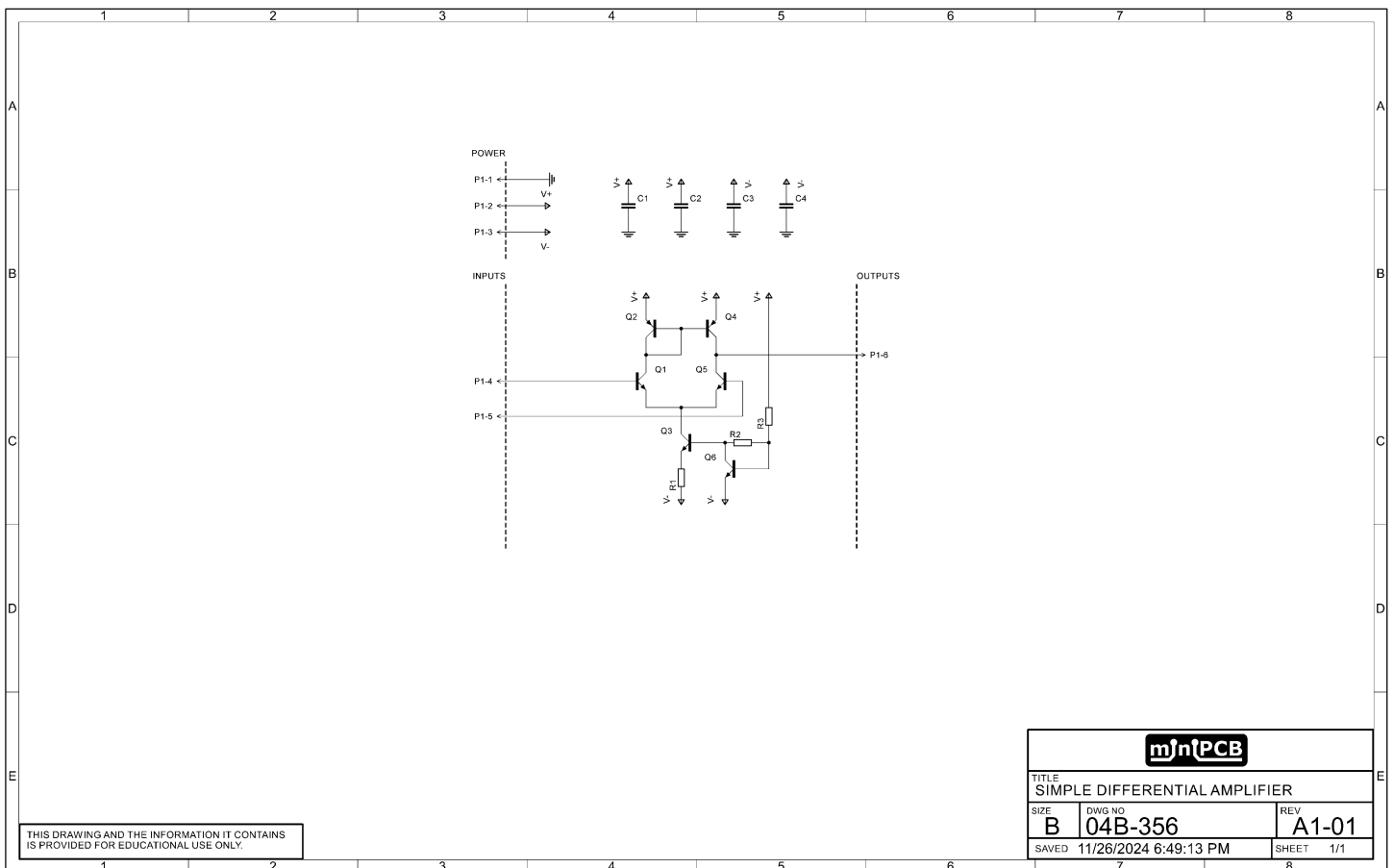
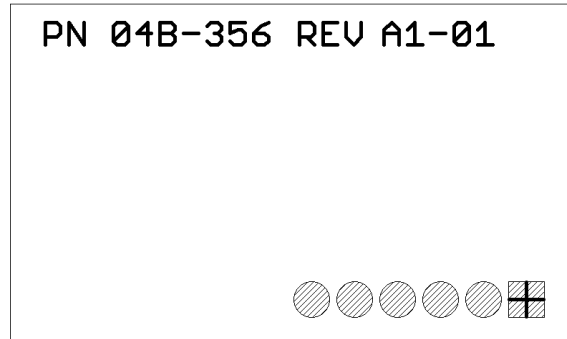
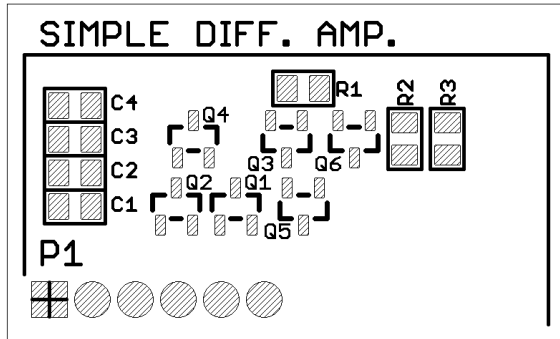
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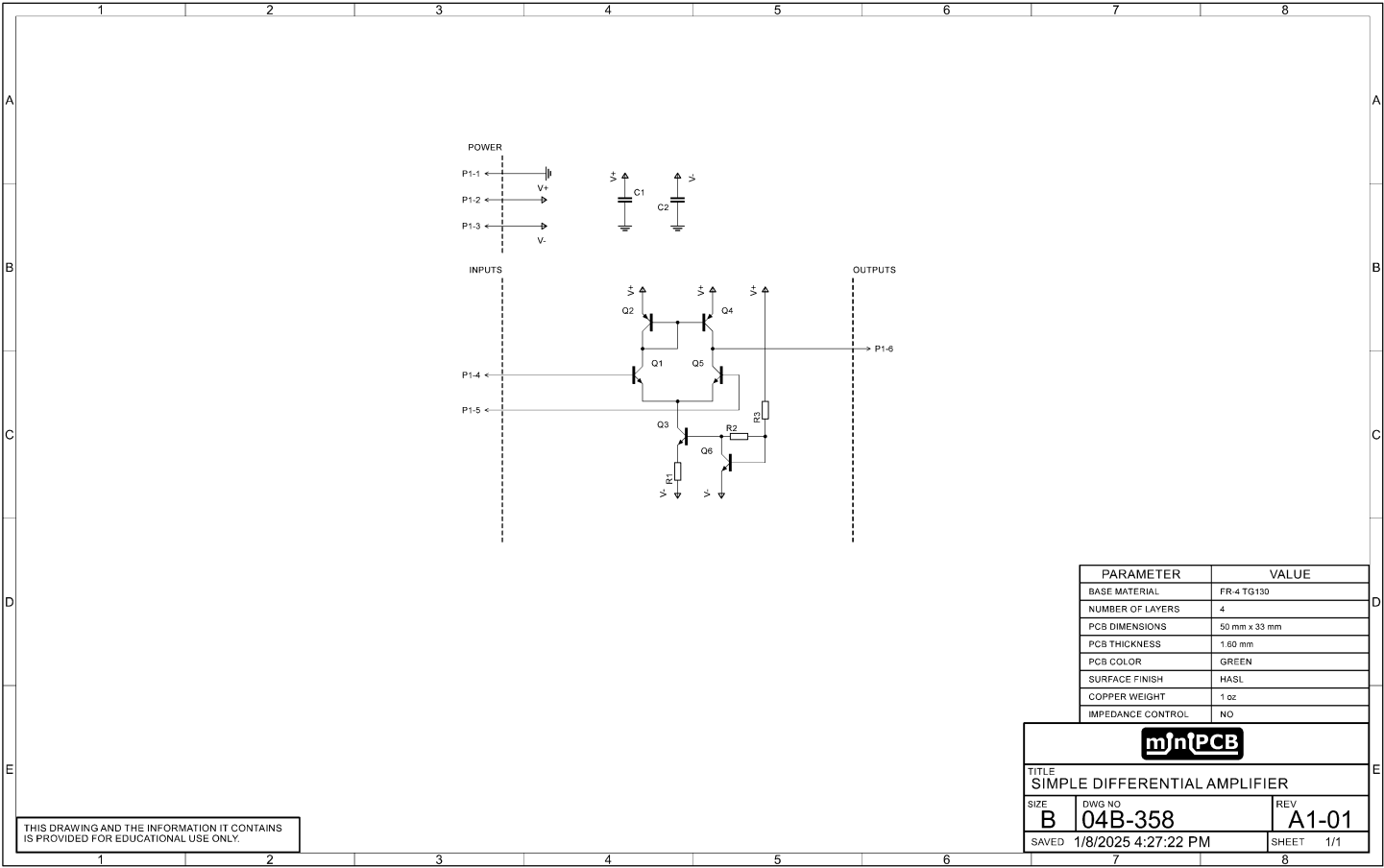
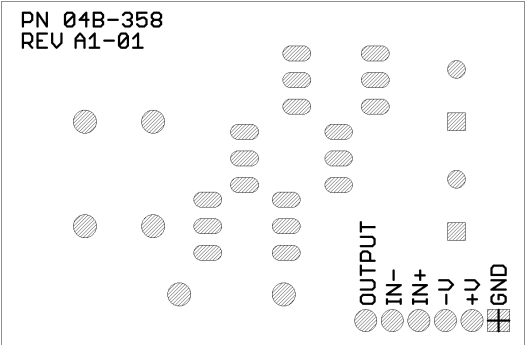
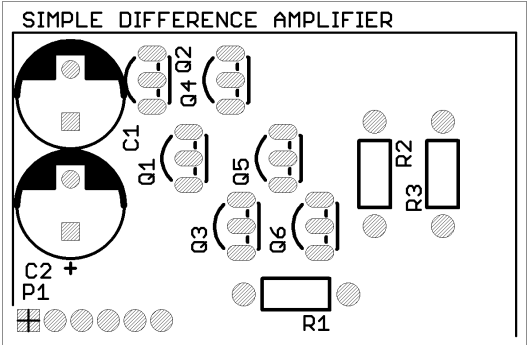
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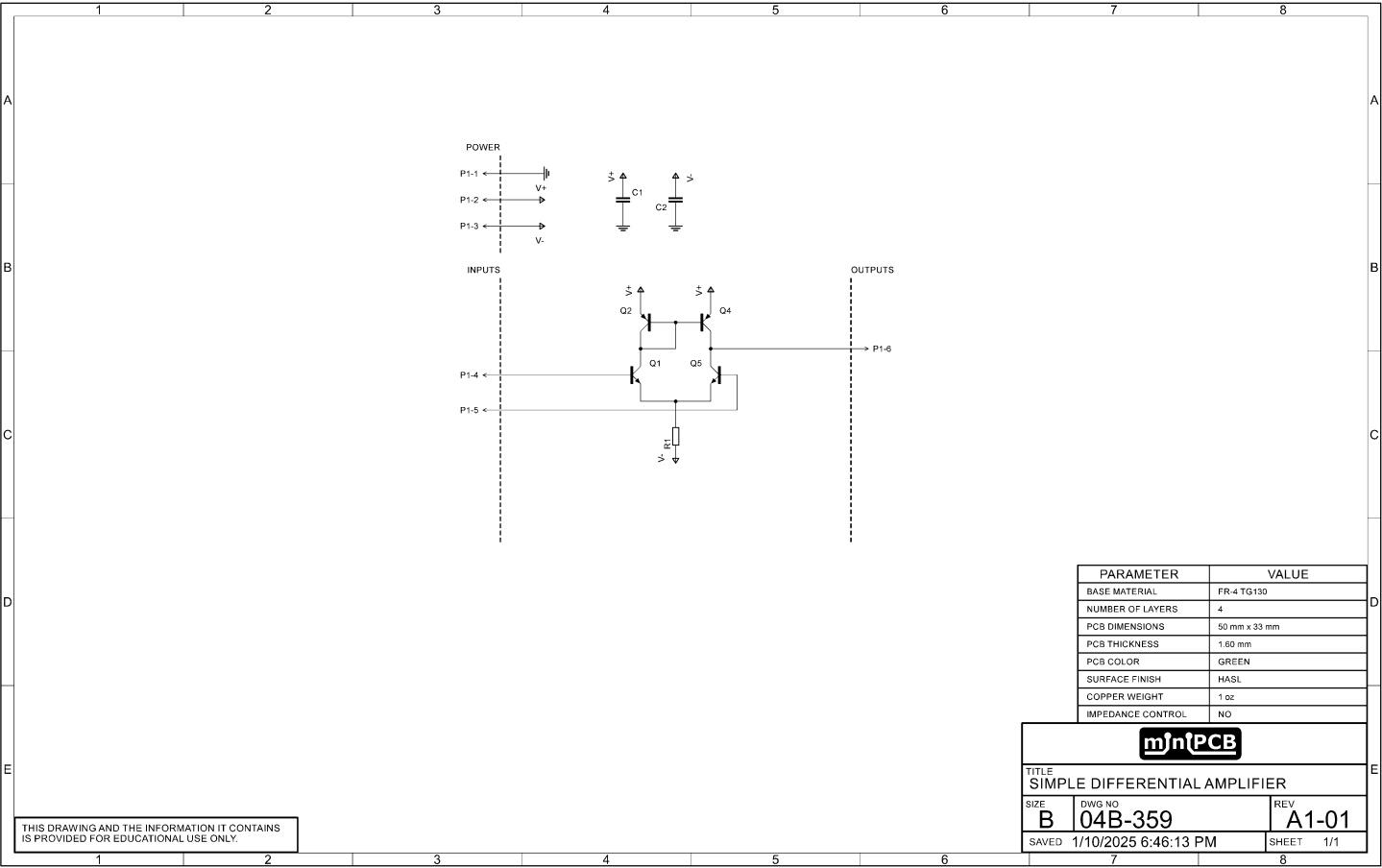
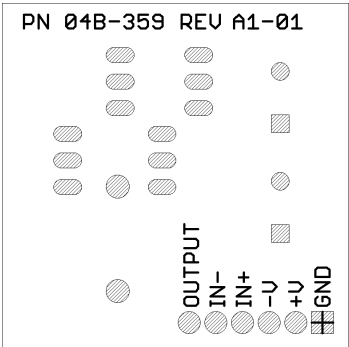
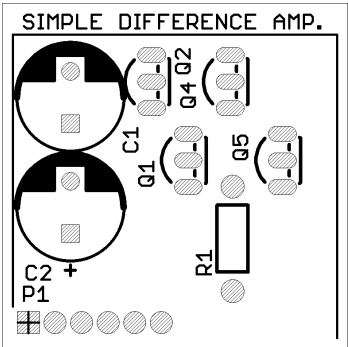
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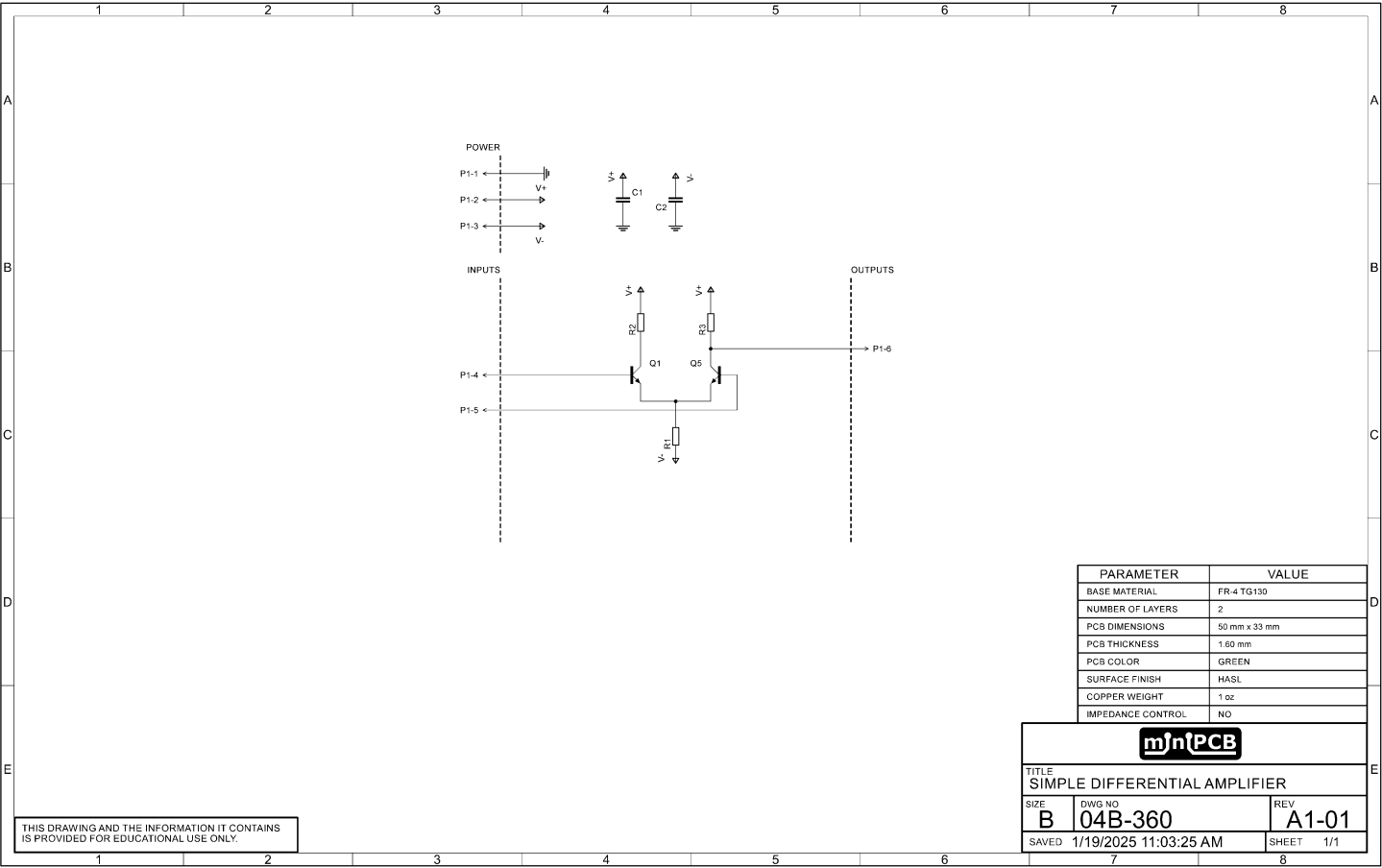
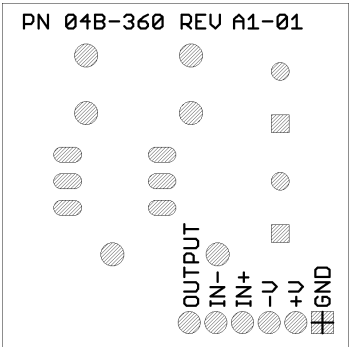
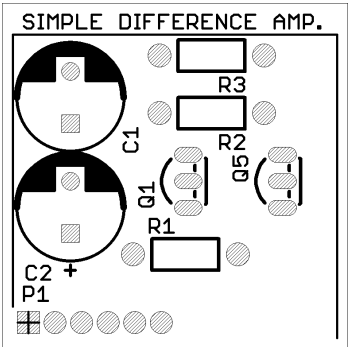
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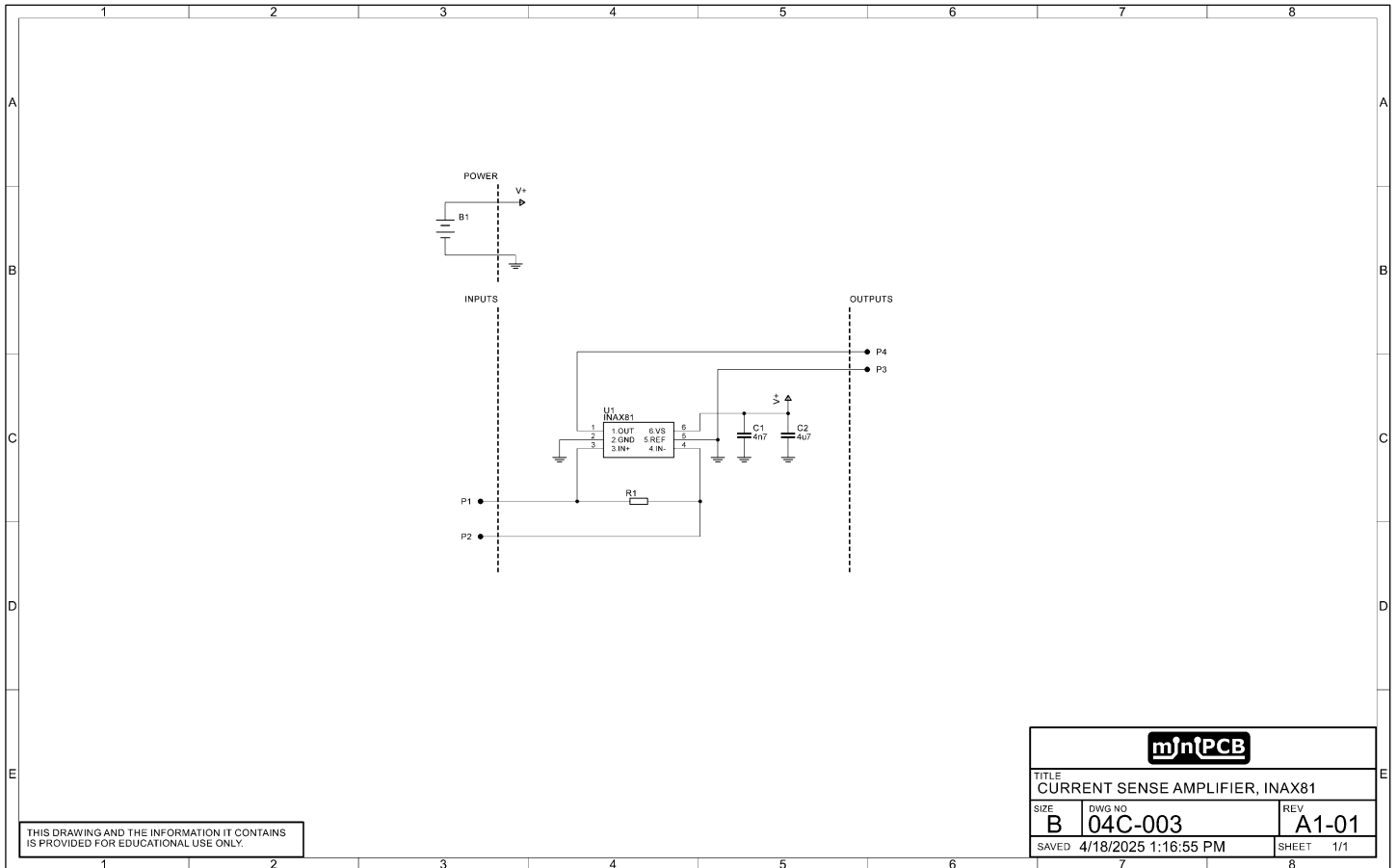
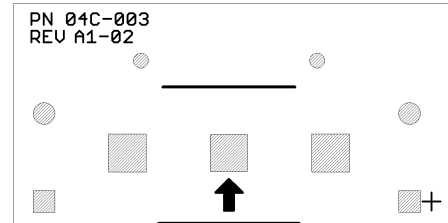
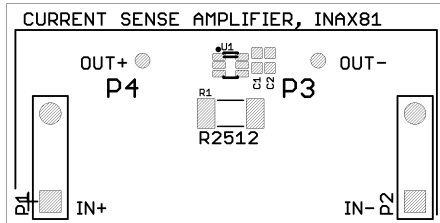
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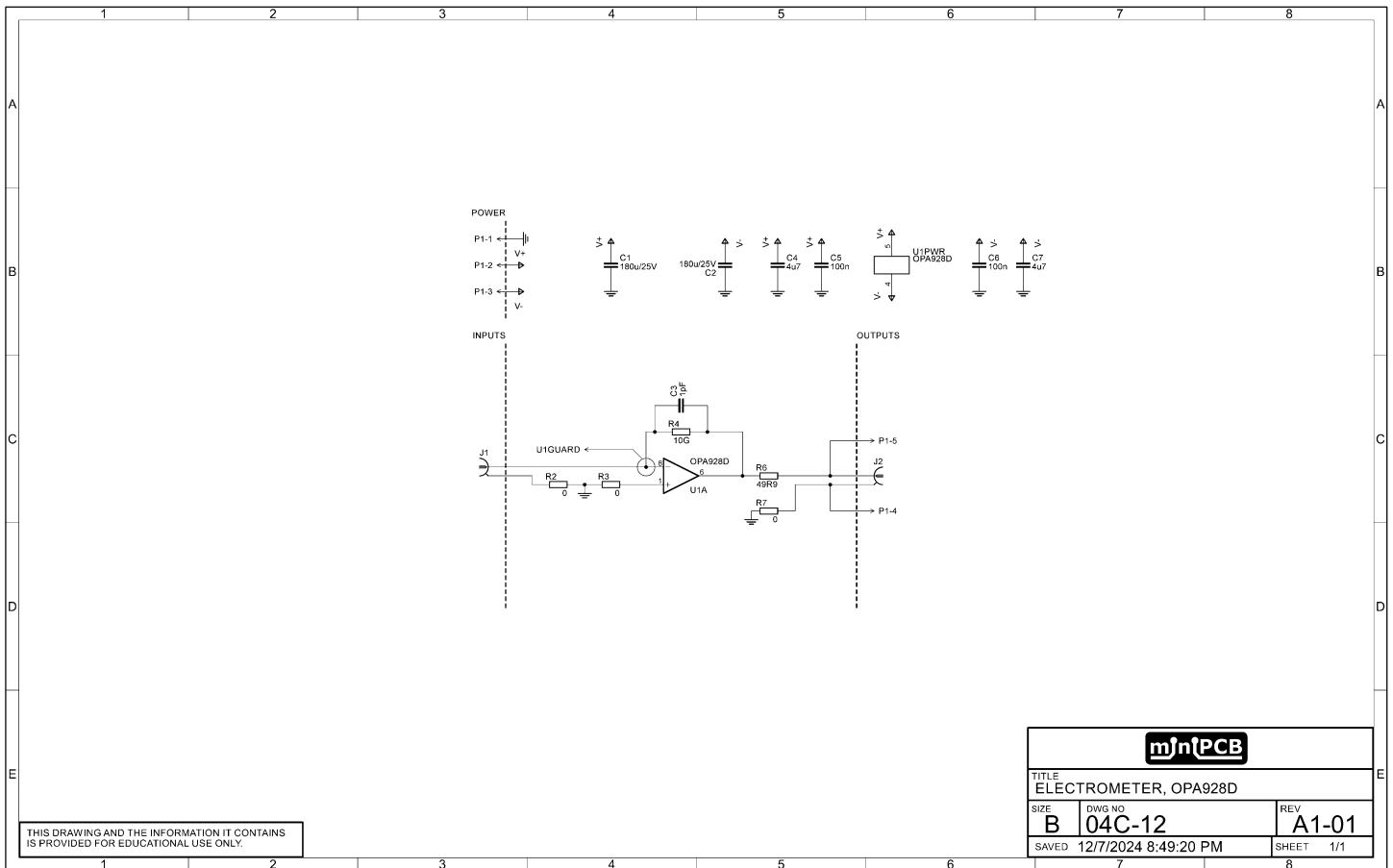
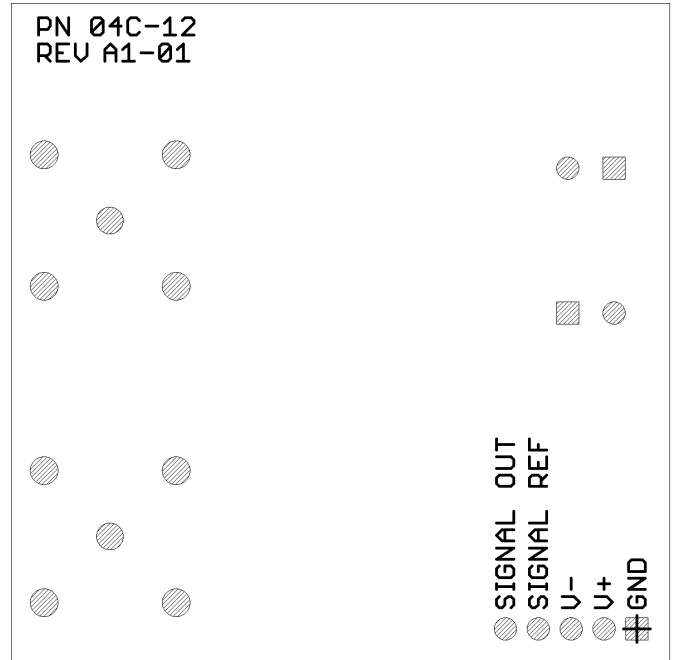
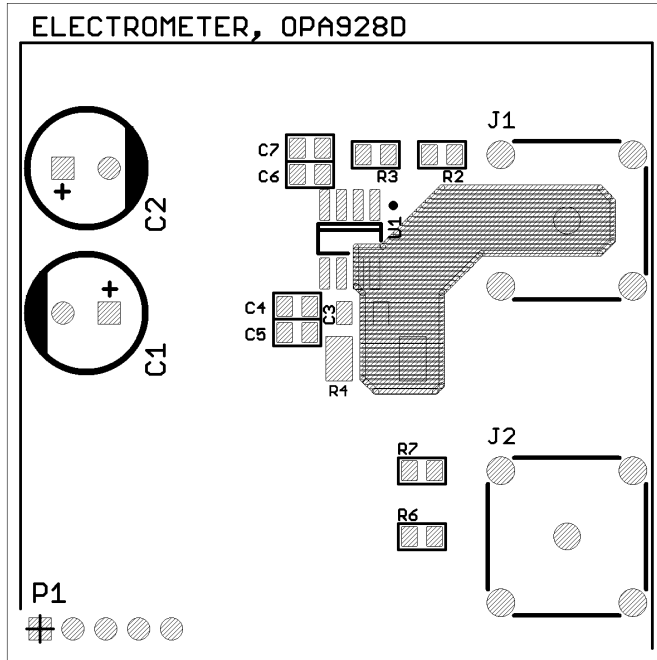
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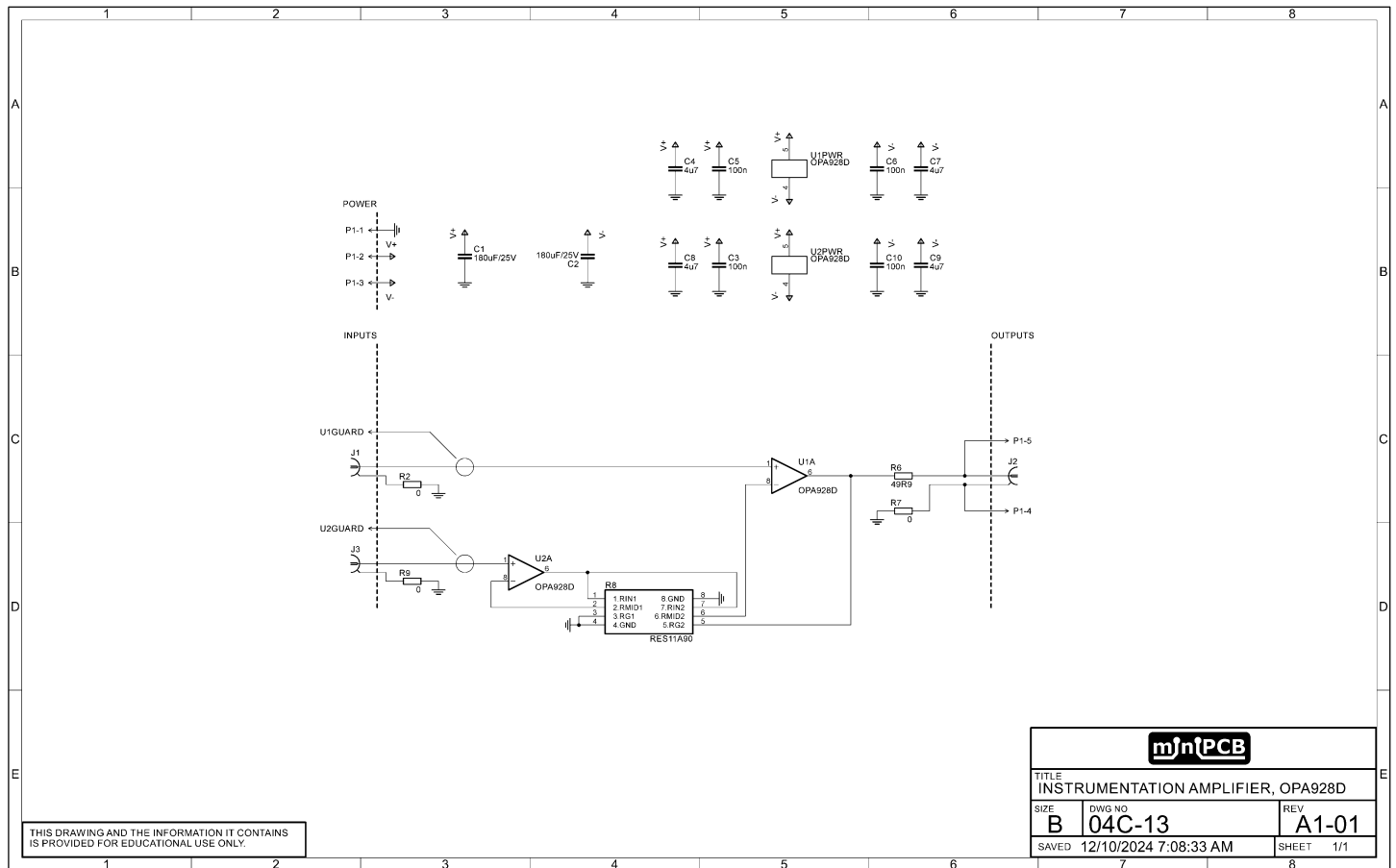
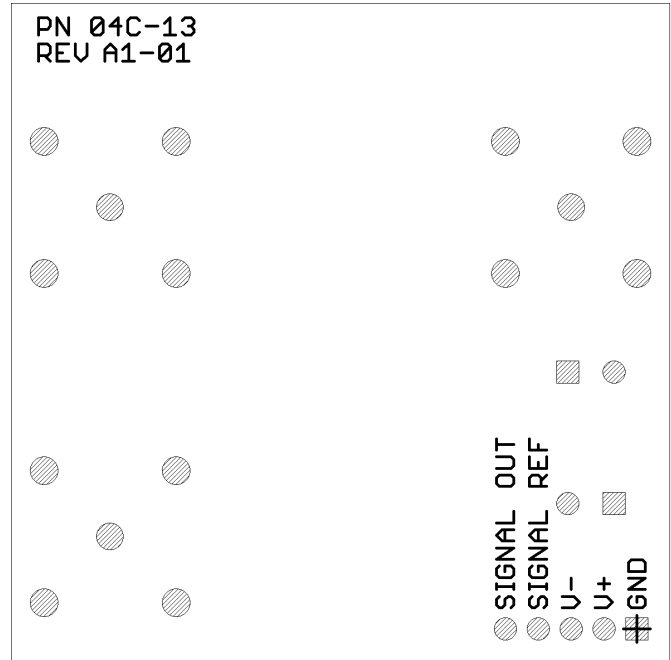
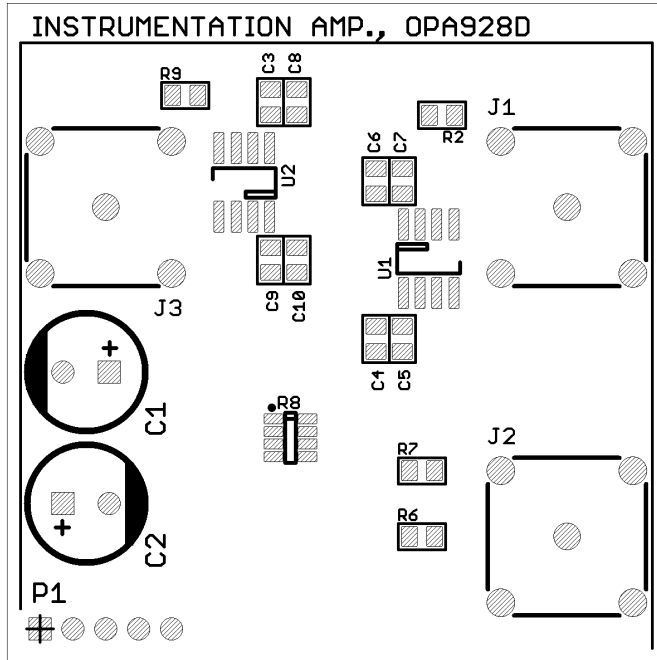
2.21. CURRENT SENSE AMPLIFIER, 04C-003



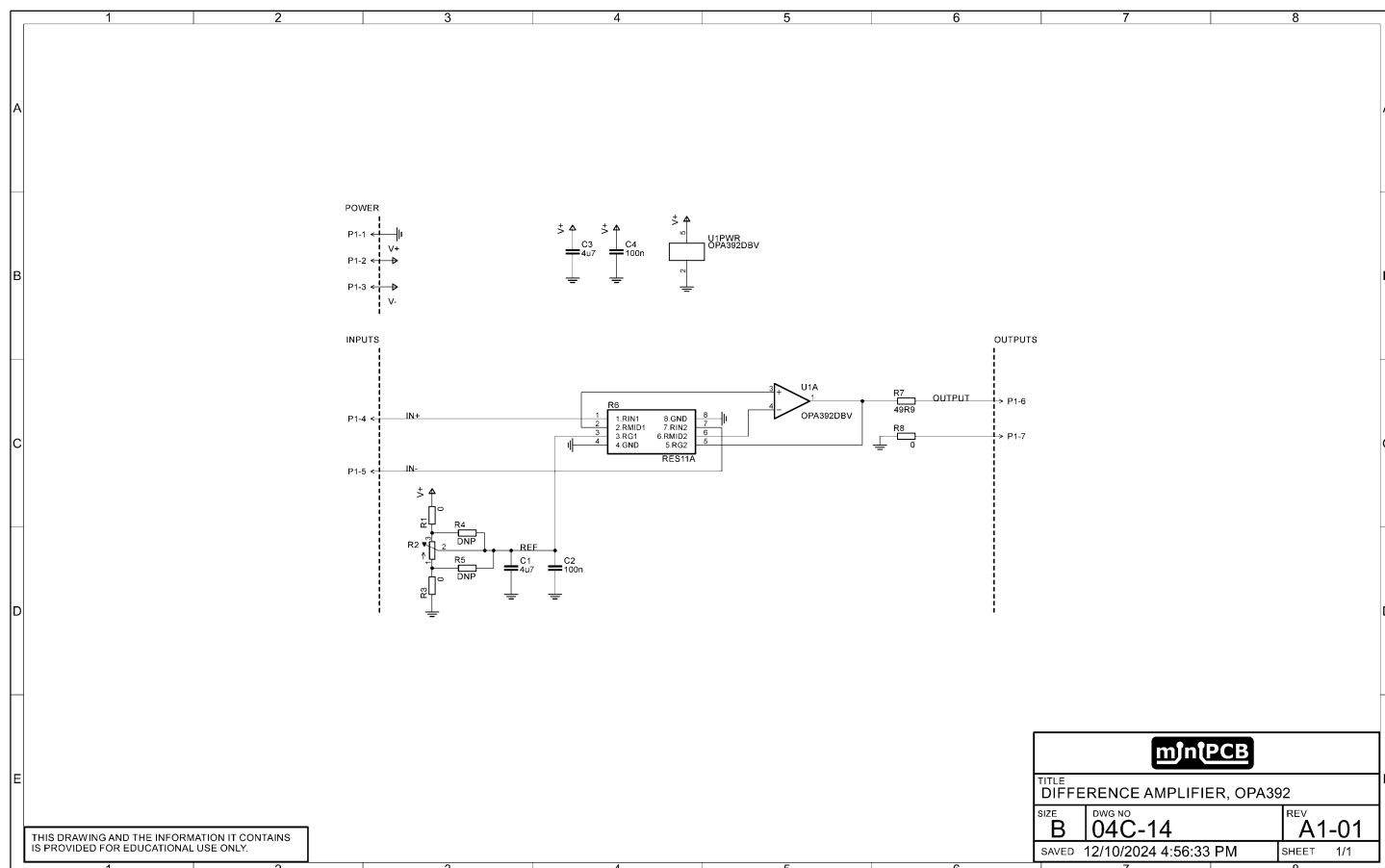
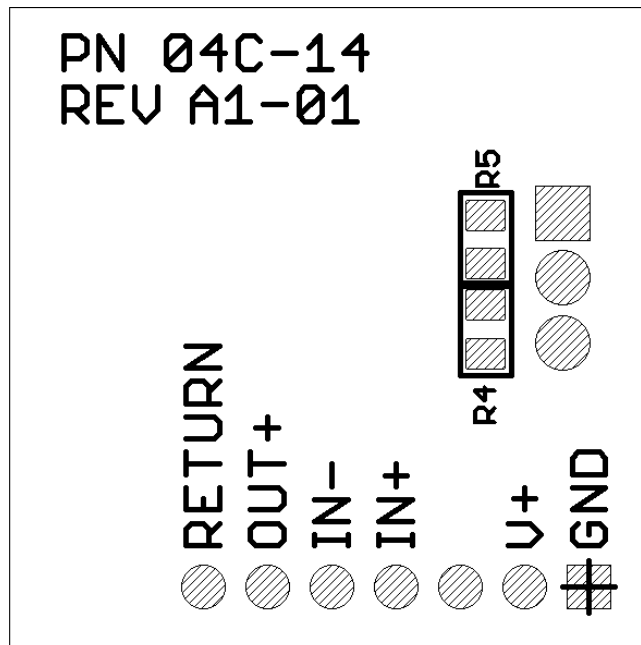
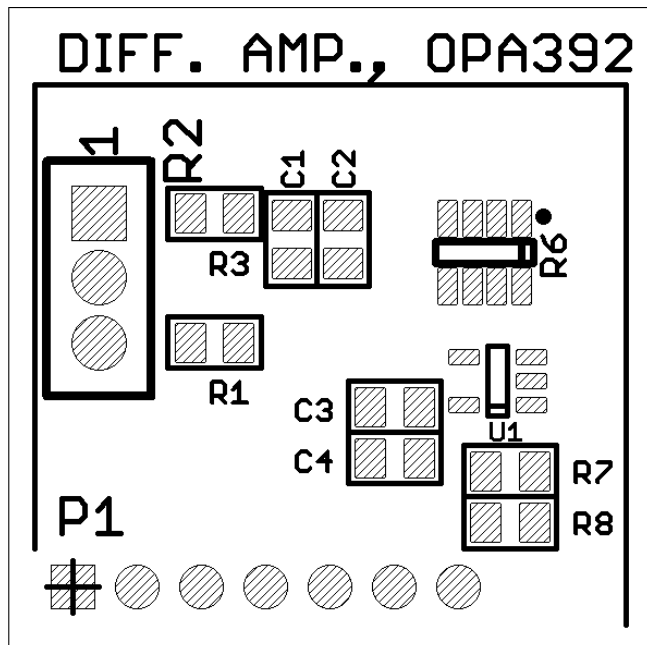
2.22. ELECTROMETER, OPA928D, 04C-12



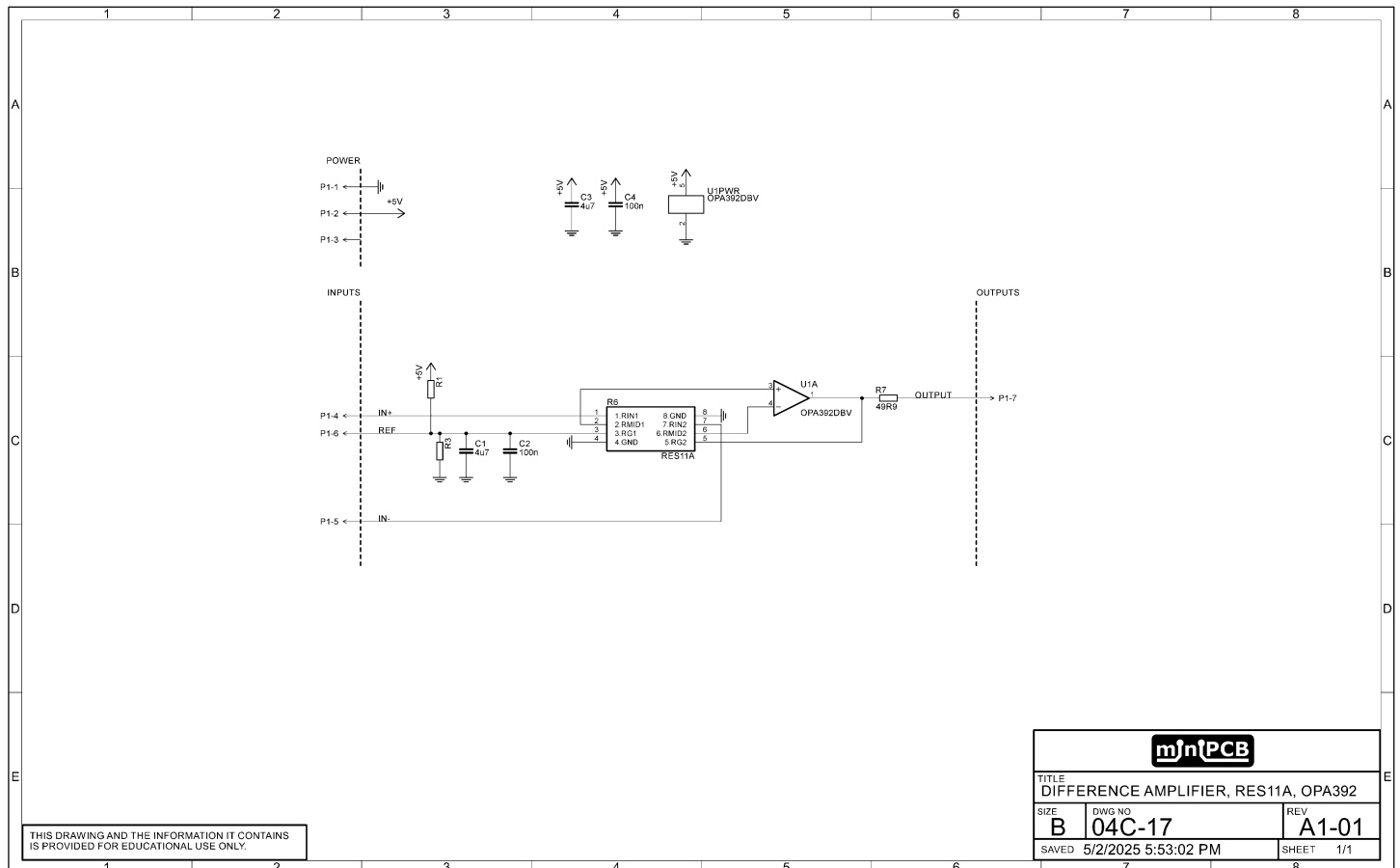
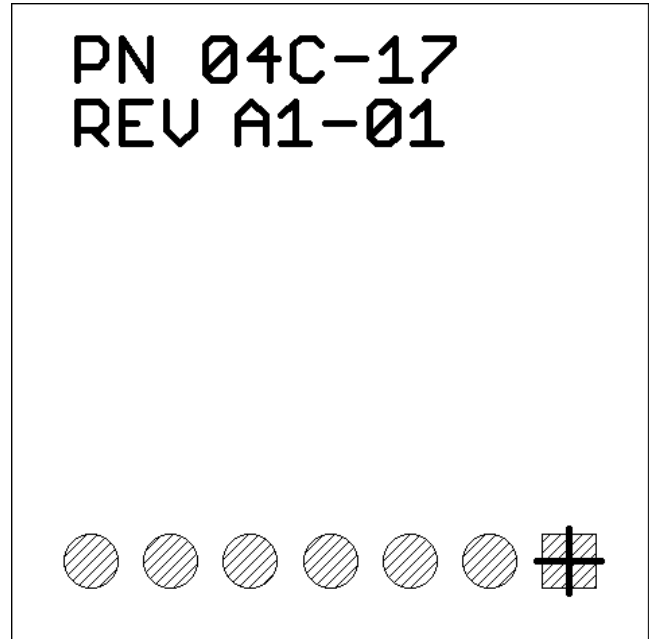
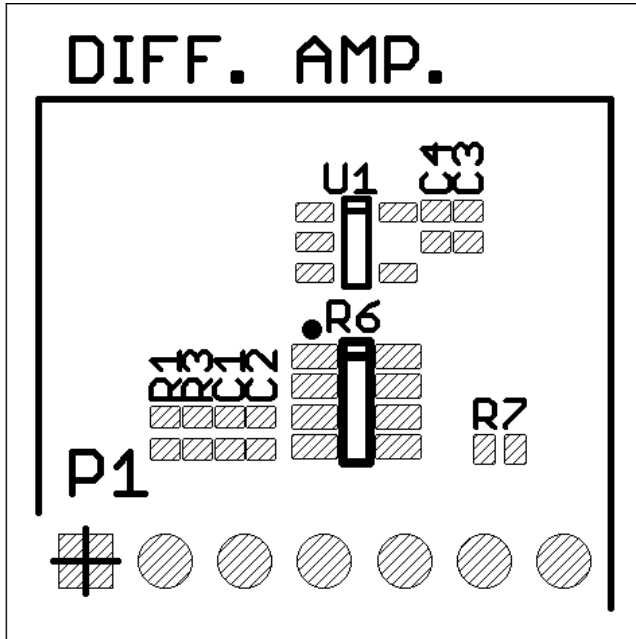
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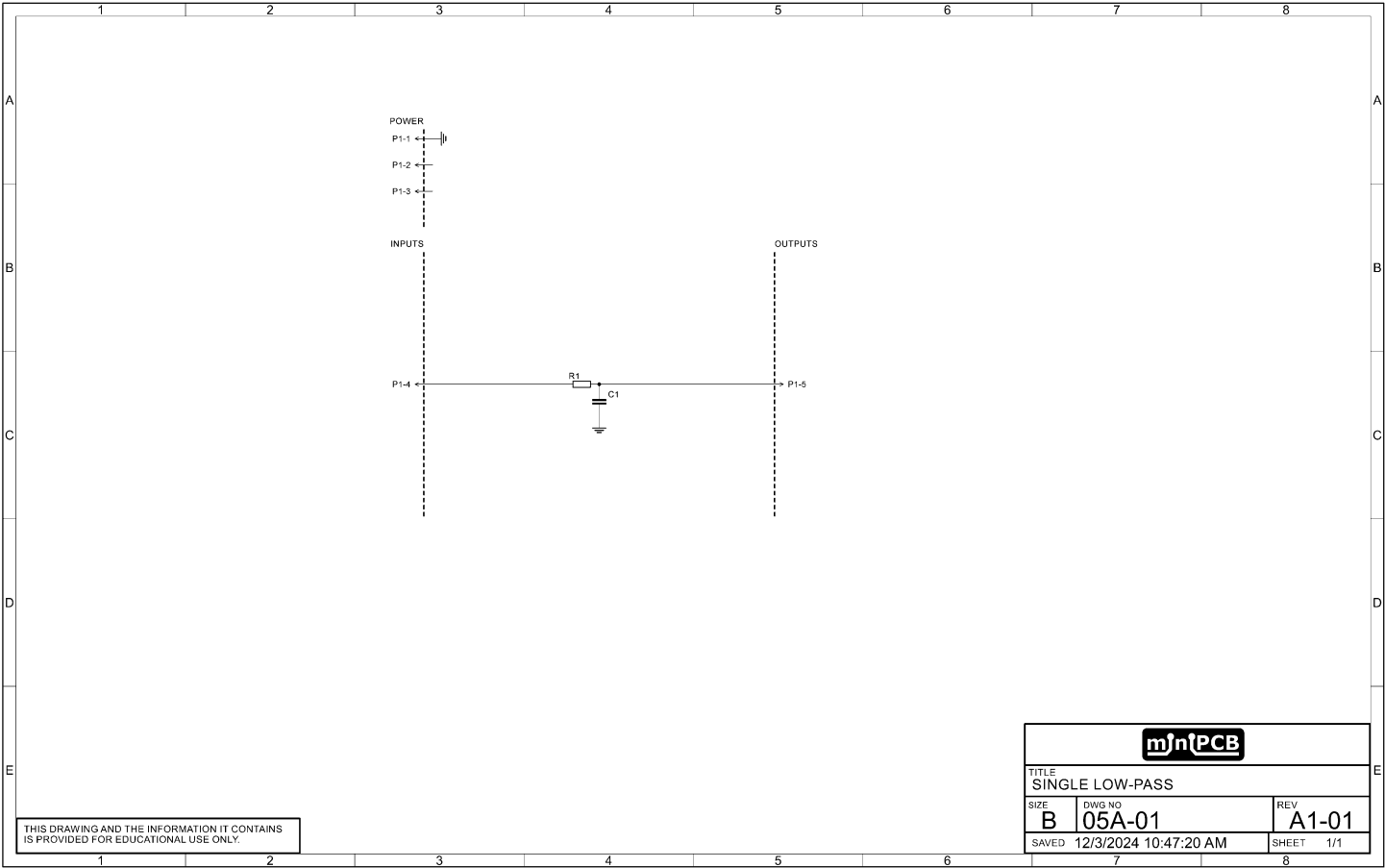
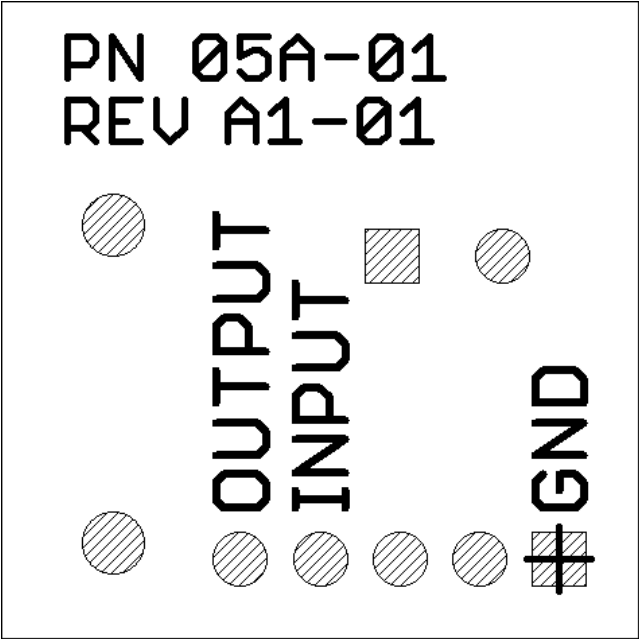
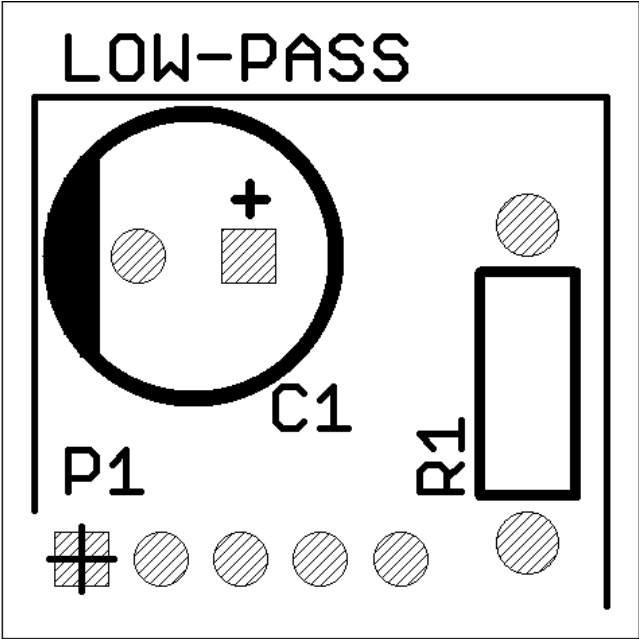
2.24. DIFFERENCE AMPLIFIER, OPA392, 04C-14



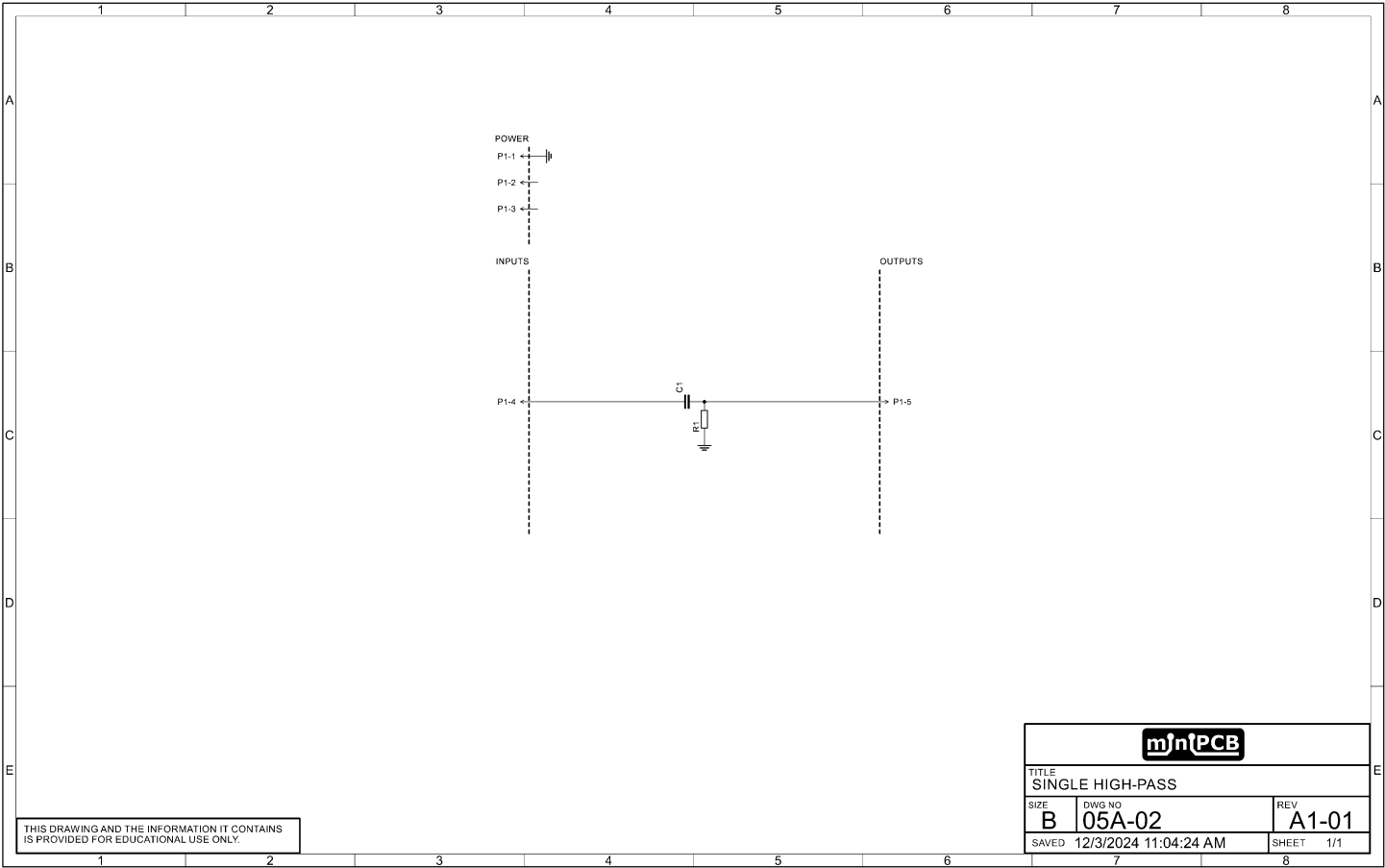
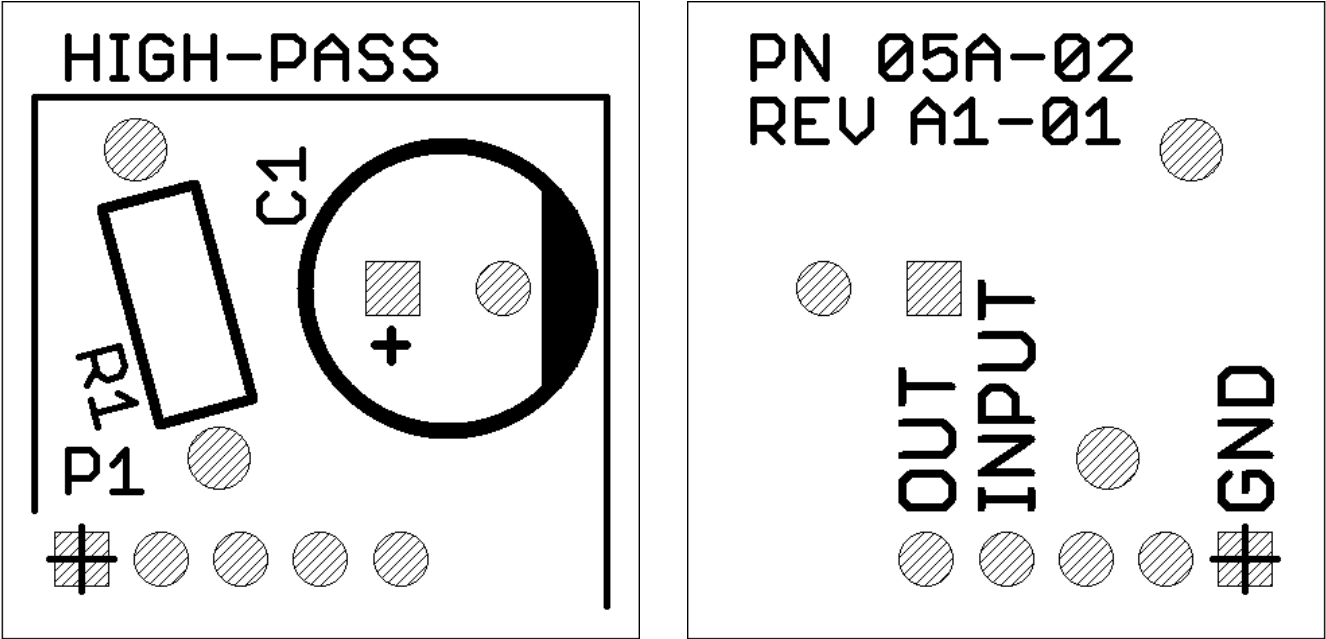
2.25. DIFFERENCE AMPLIFIER, RES11A, OPA392, 04C-17



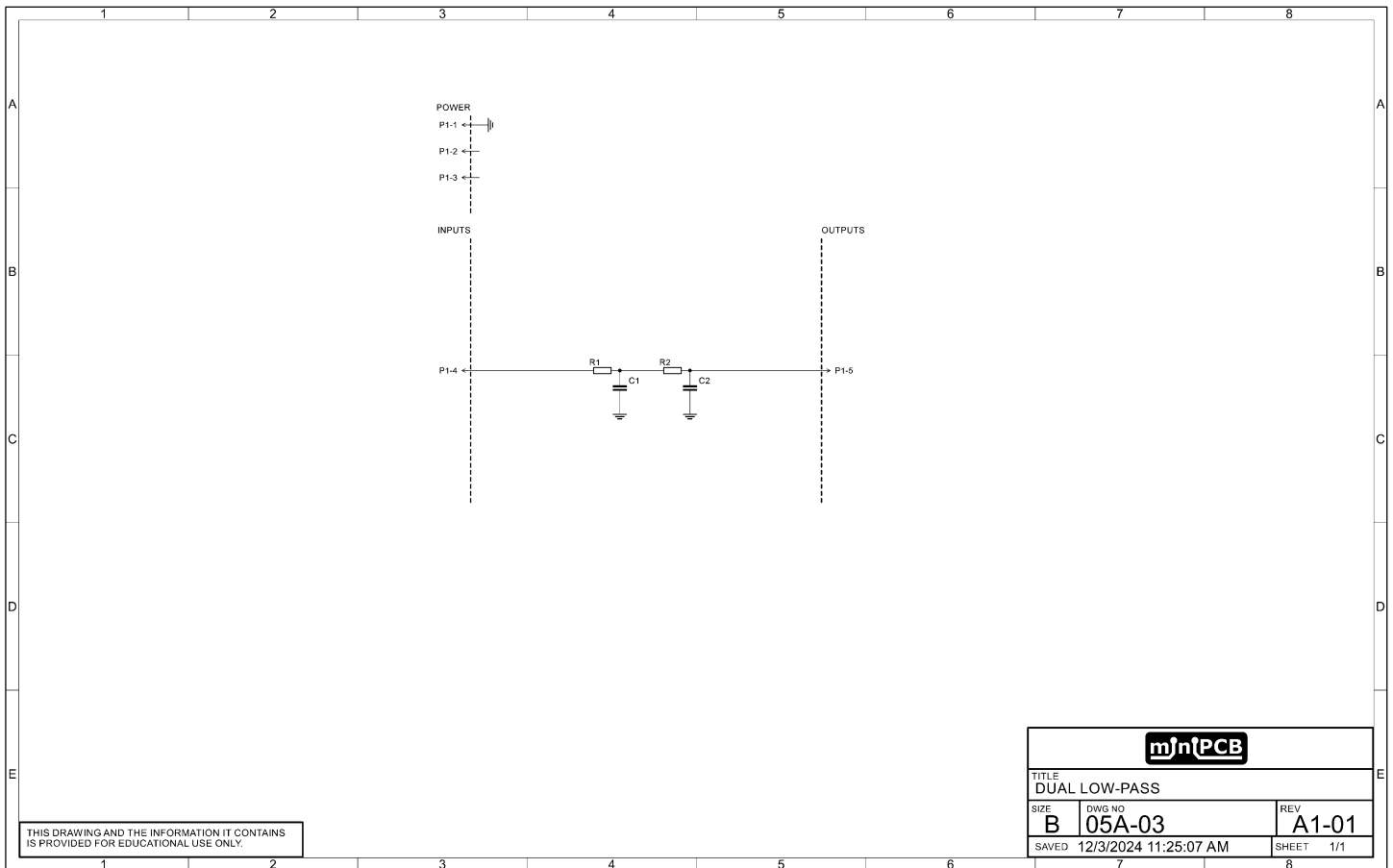
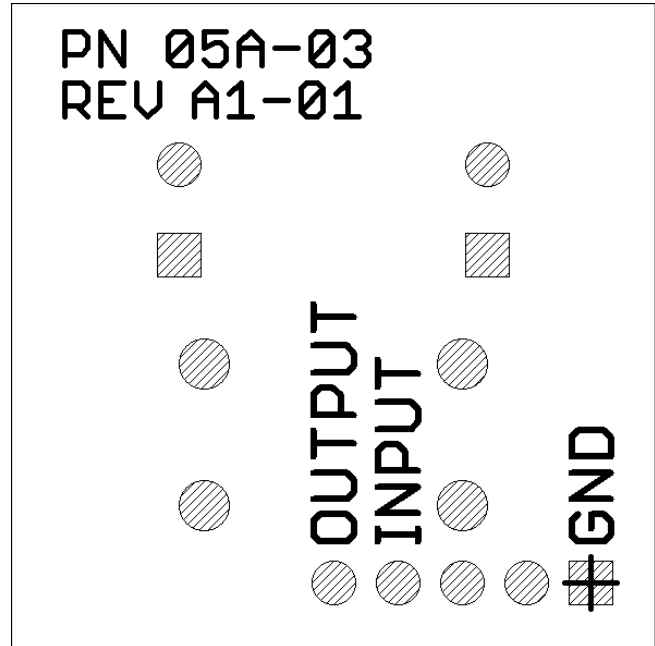
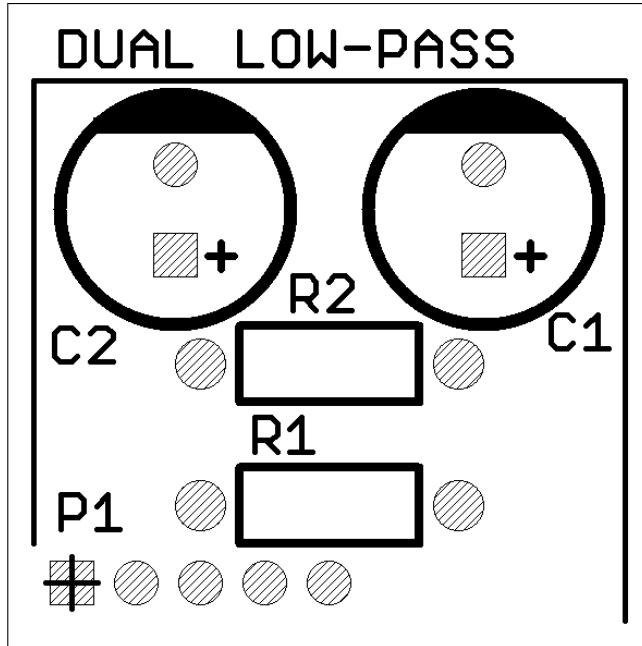
2.26. LOW PASS FILTER (SINGLE), 05A-01



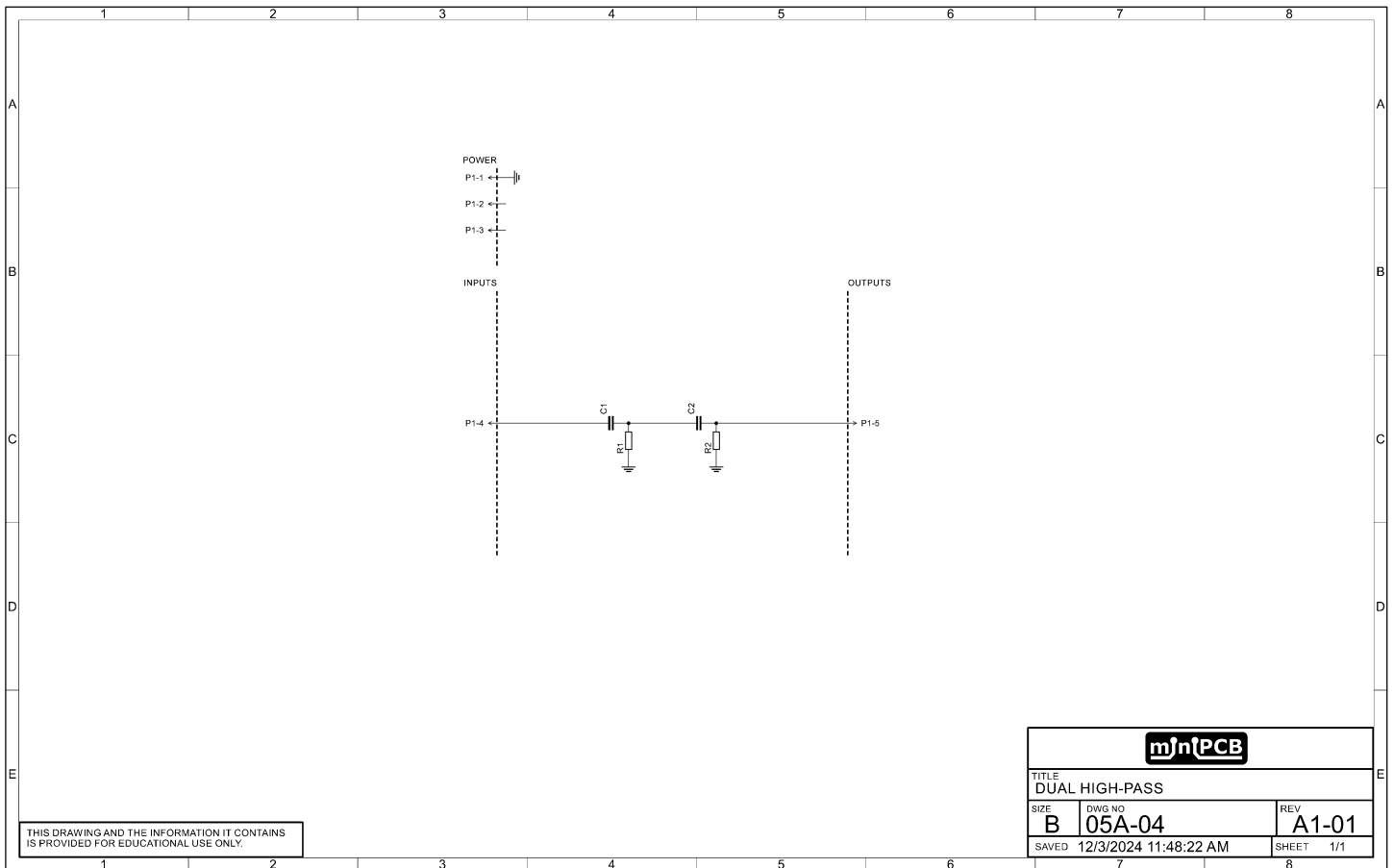
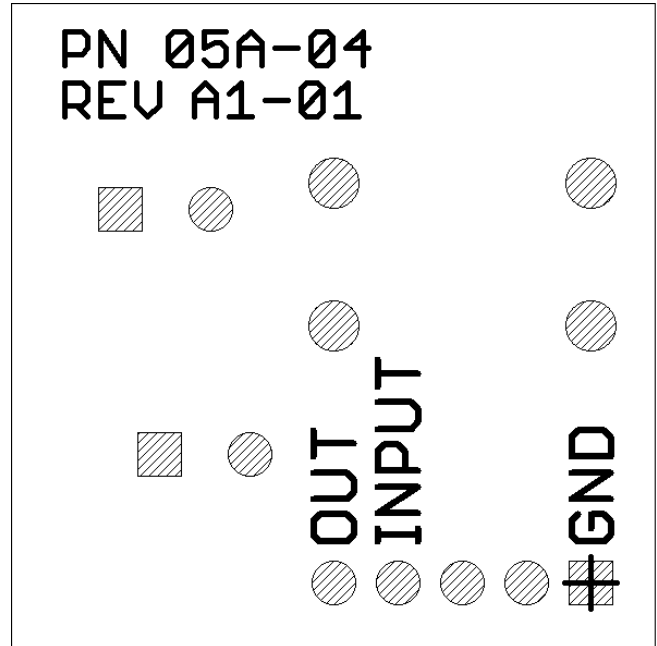
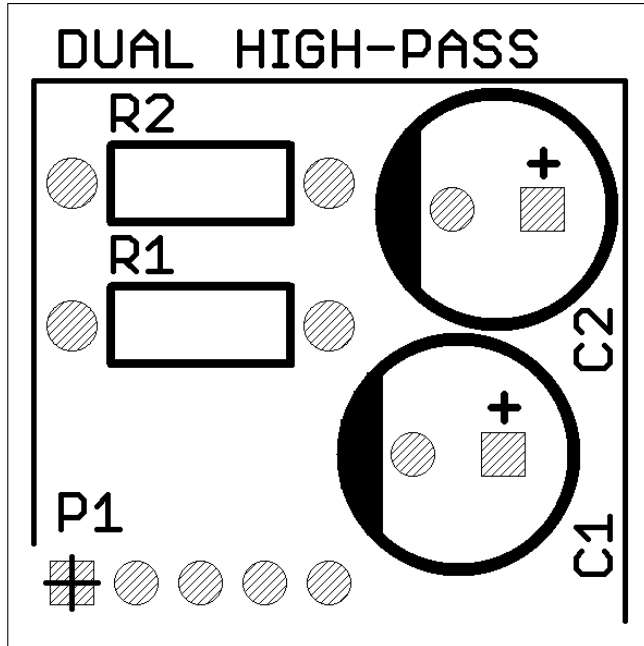
2.27. HIGH PASS FILTER (SINGLE), 05A-02



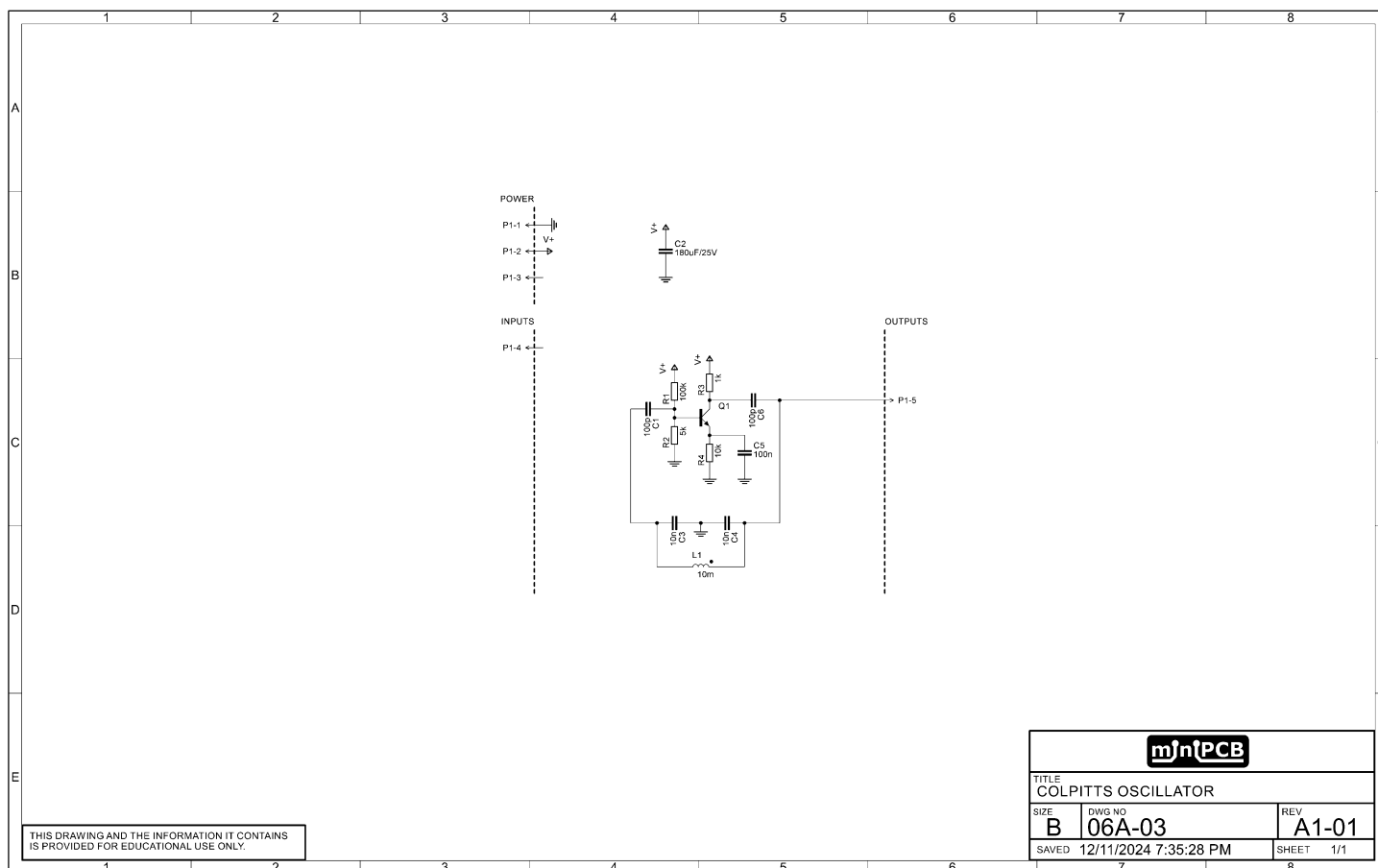
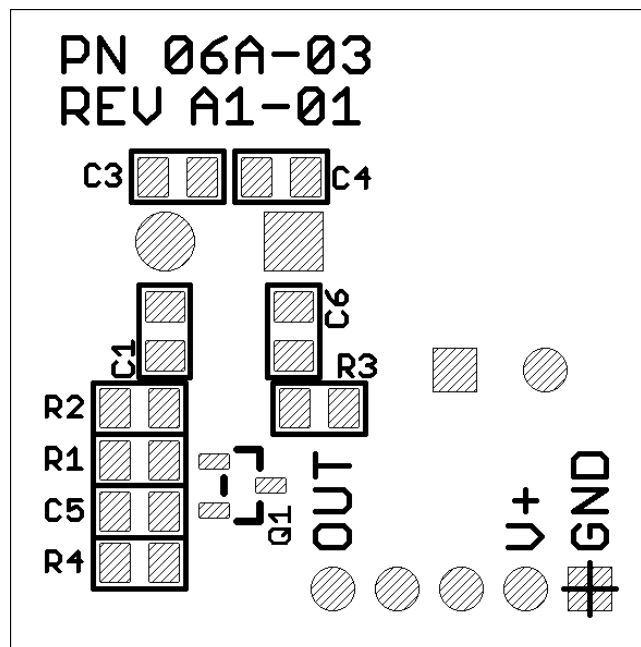
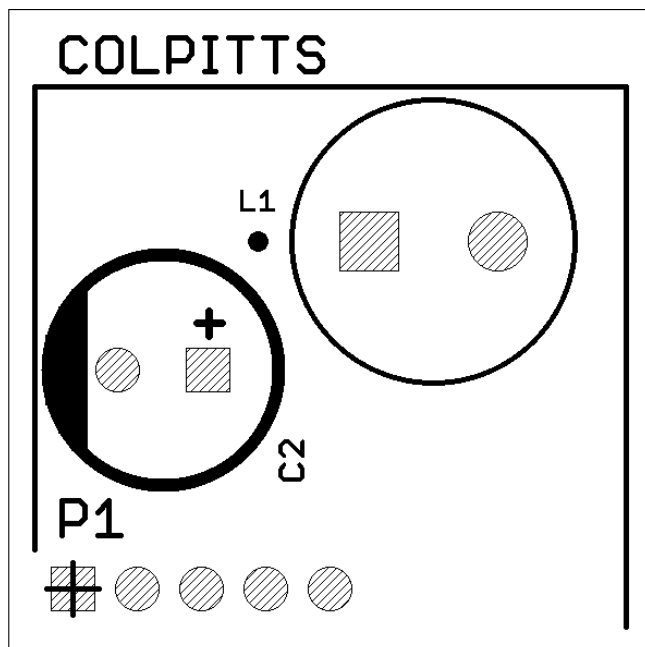
2.28. DUAL LOW PASS FILTER, 05A-03



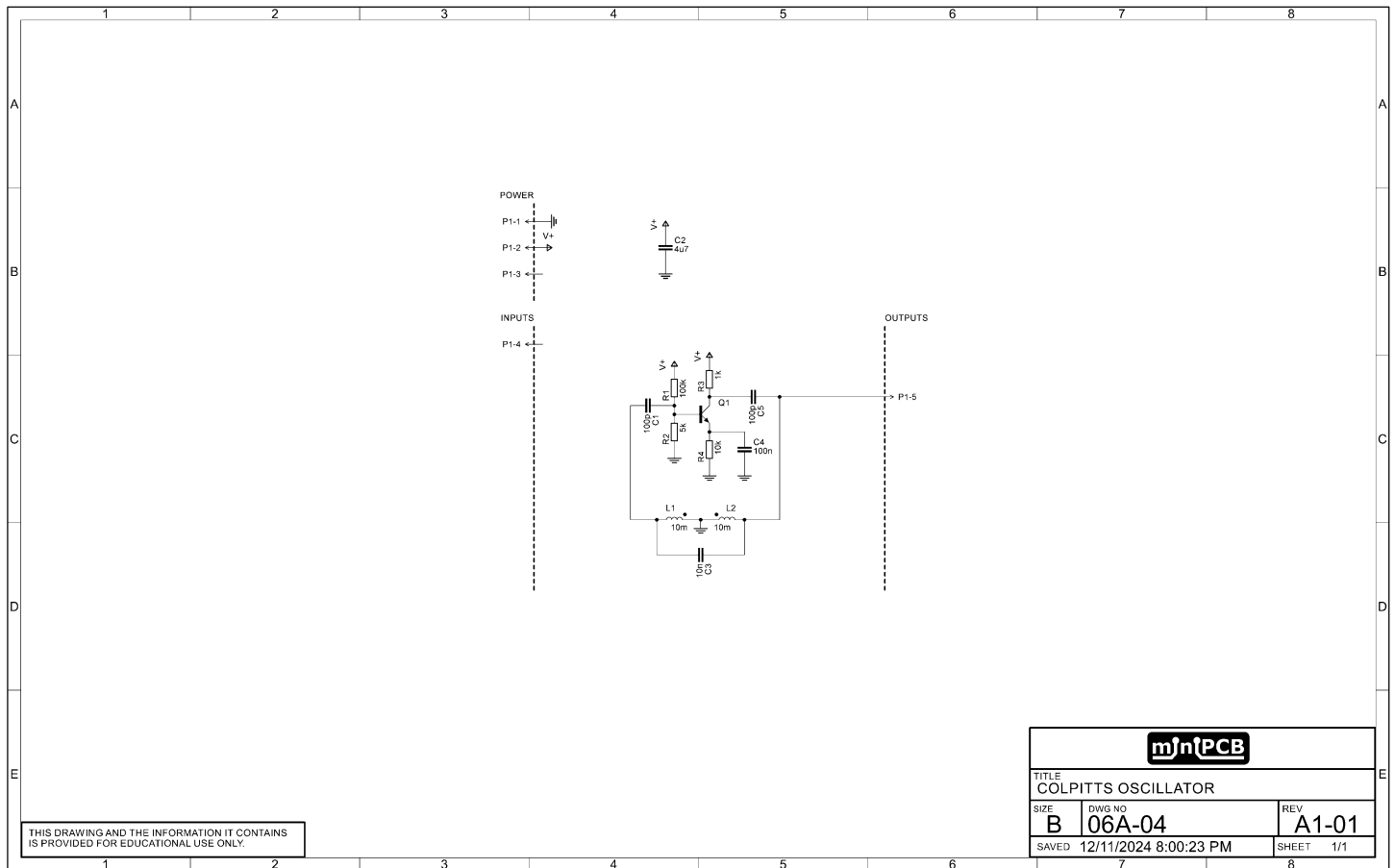
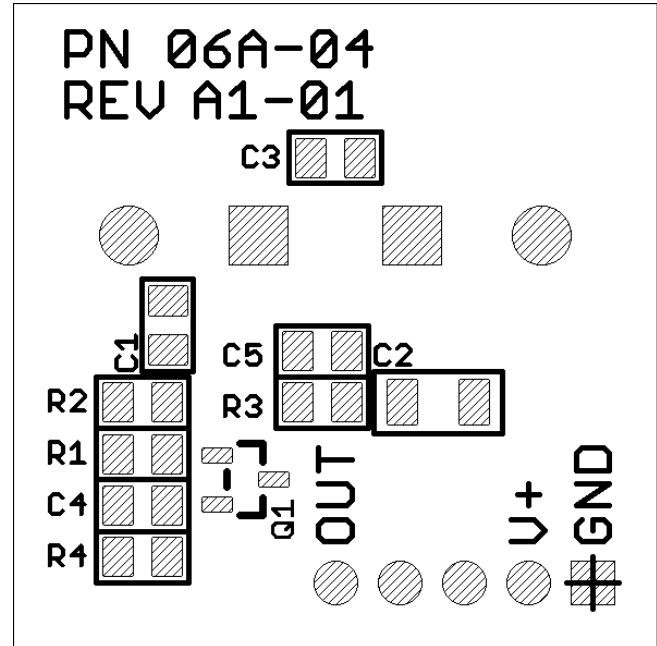
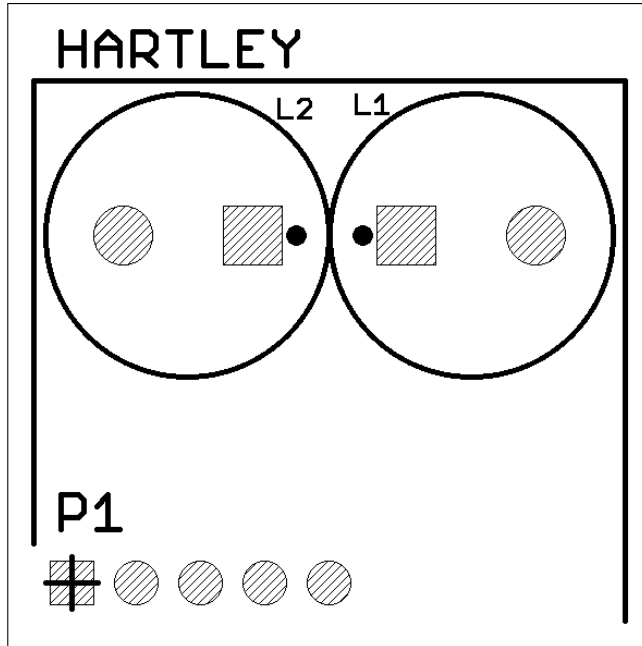
2.29. DUAL HIGH PASS FILTER, 05A-04



2.30. COLPITTS OSCILLATOR, 06A-03



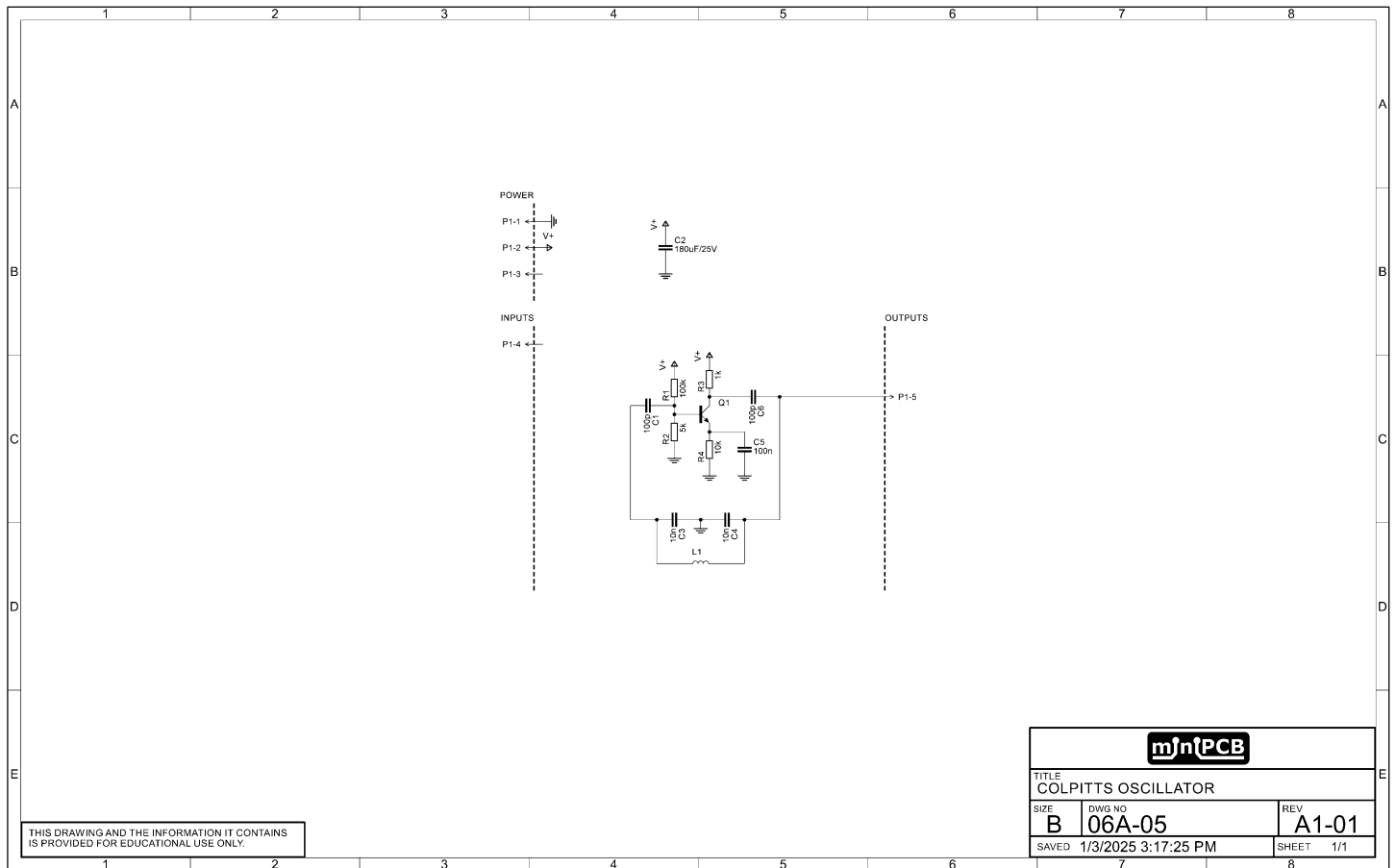
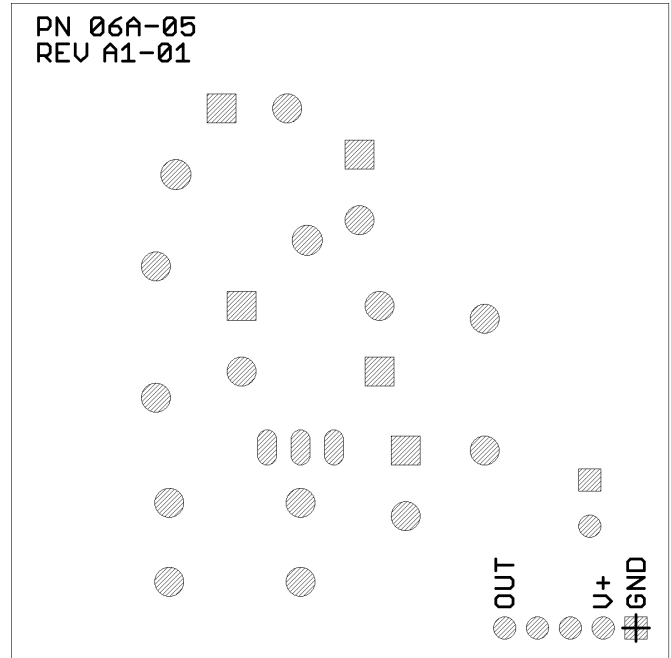
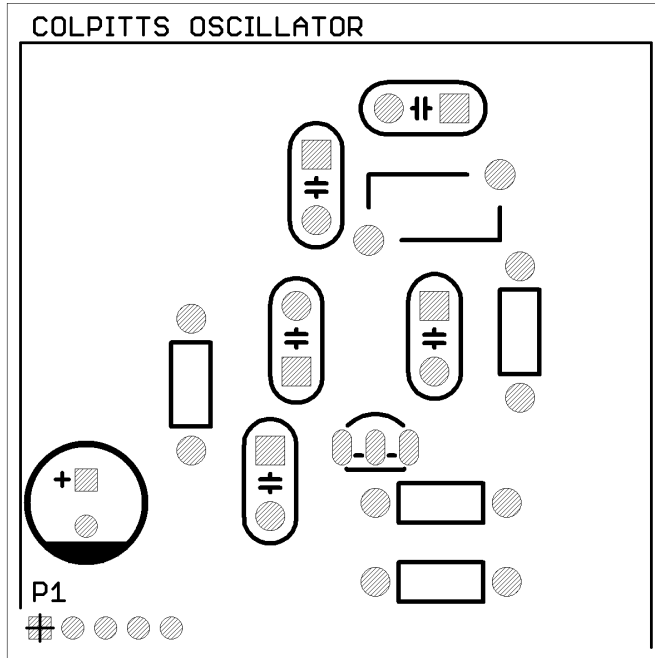
2.31. HARTLEY OSCILLATOR, 06A-04



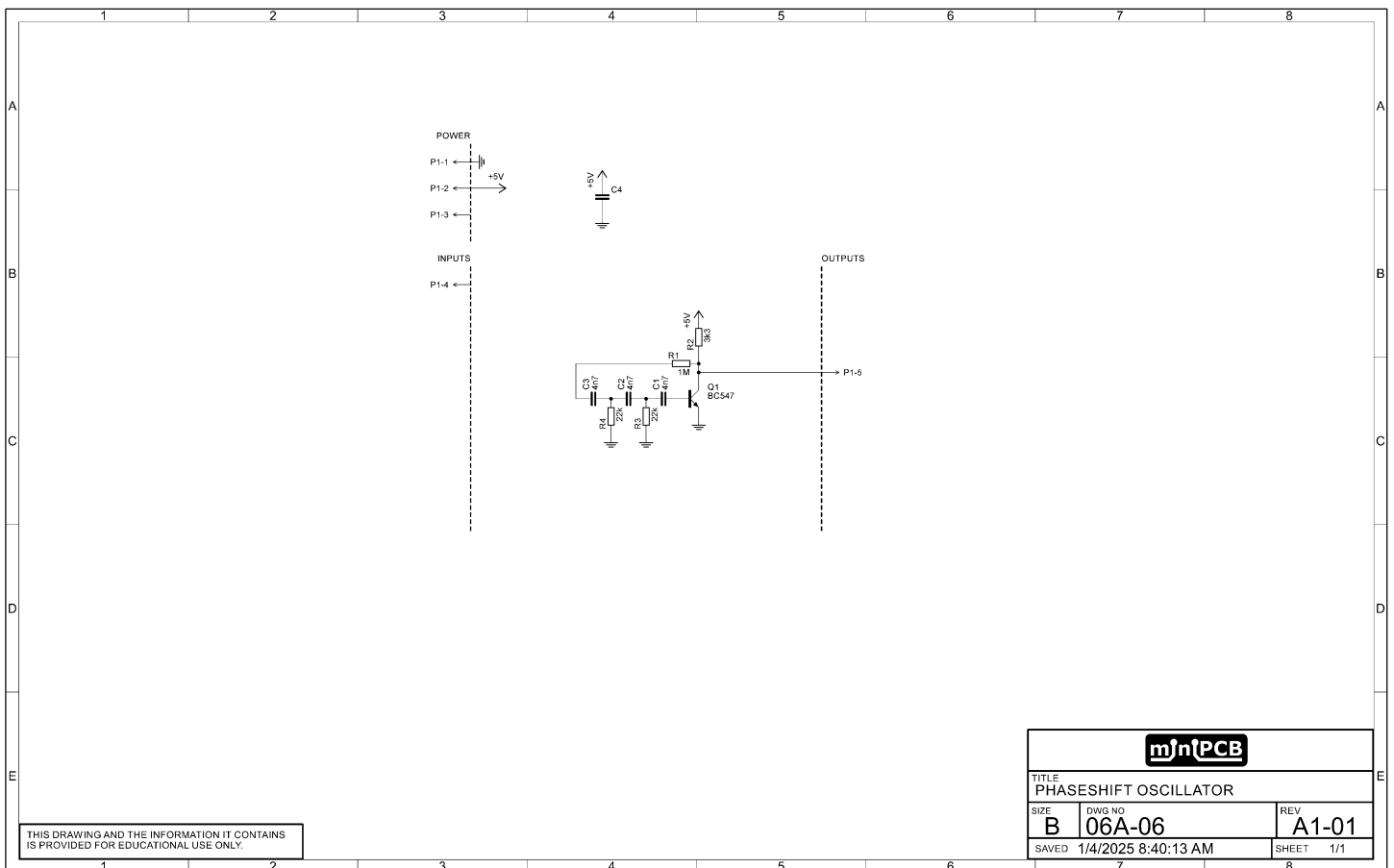
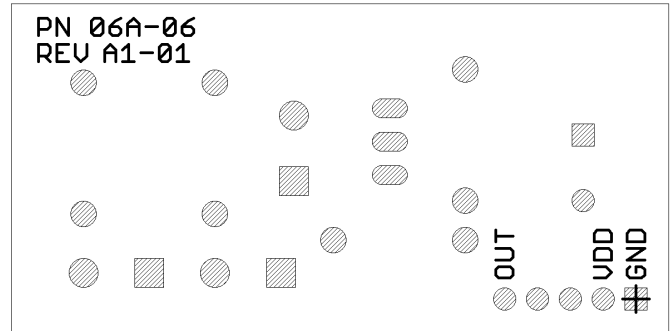
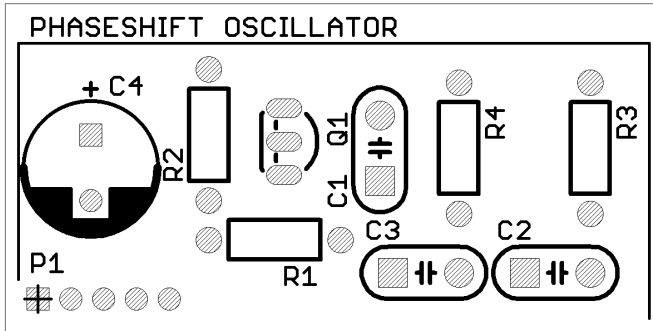
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miniPCB		
TITLE COLPITTS OSCILLATOR		
SIZE B	DWG NO 06A-04	REV A1-01
SAVED 12/11/2024 8:00:23 PM		SHEET 1/1

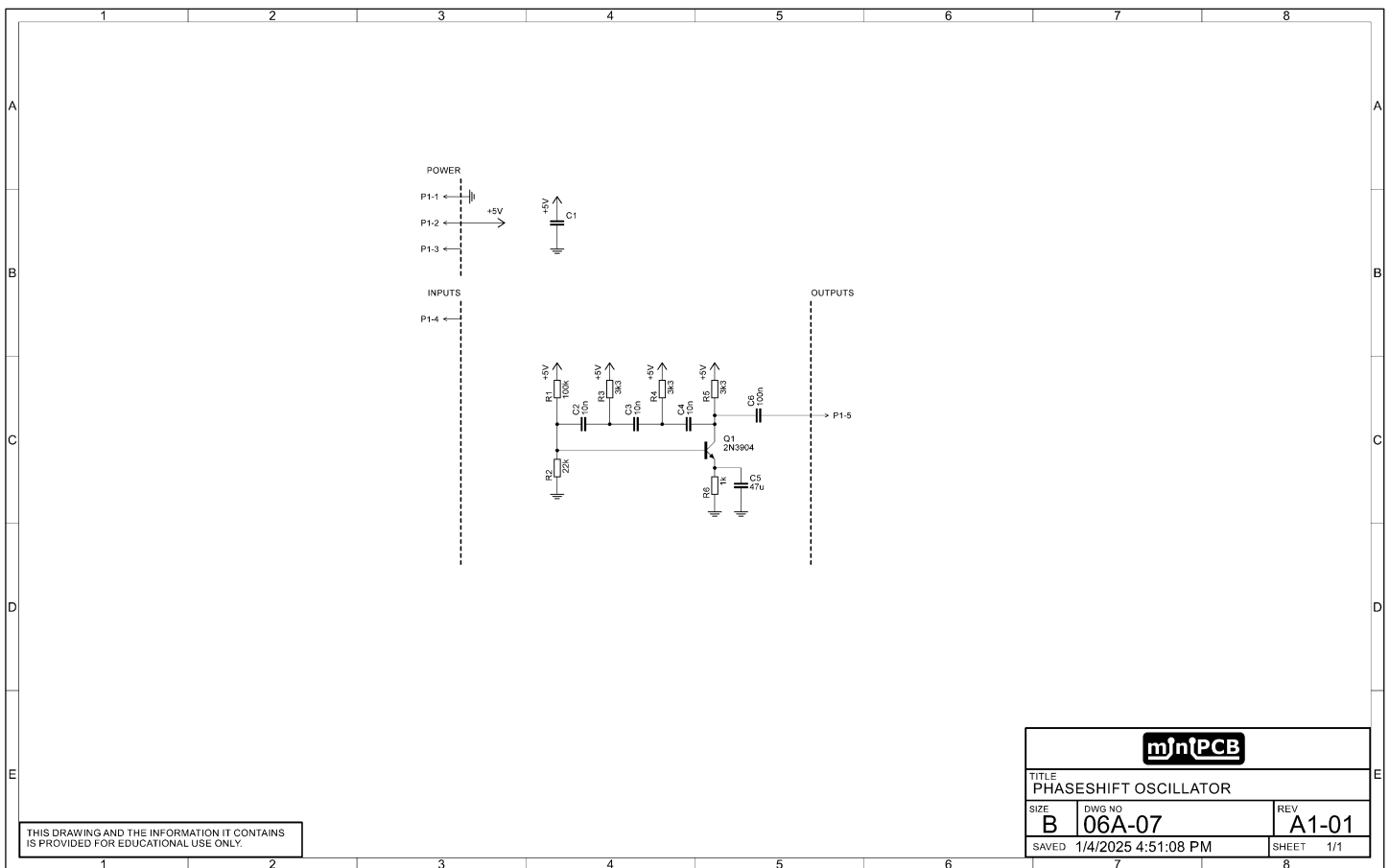
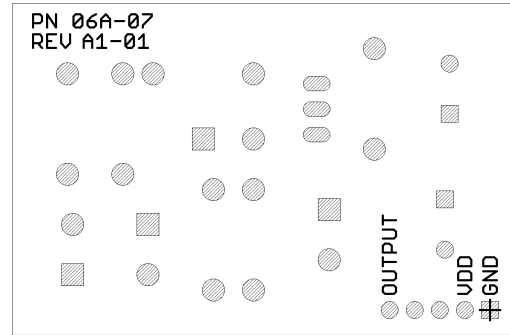
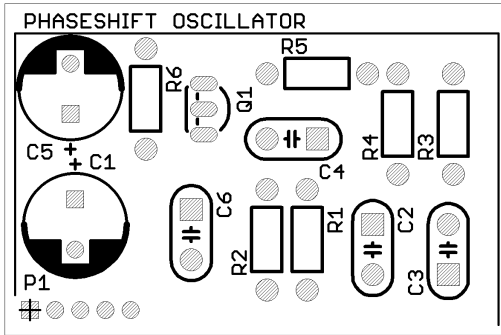
2.32. COLPITTS OSCILLATOR, 06A-05



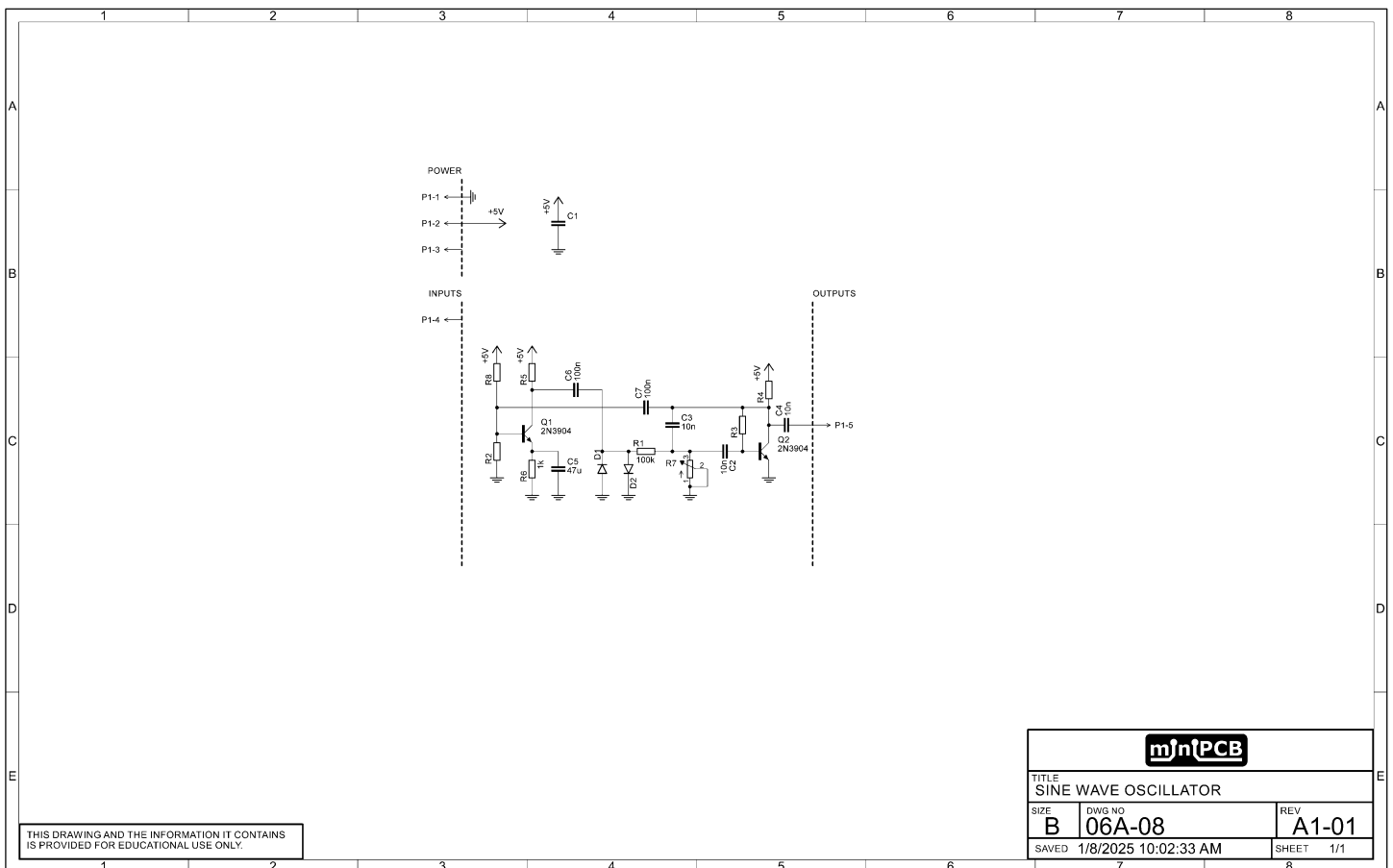
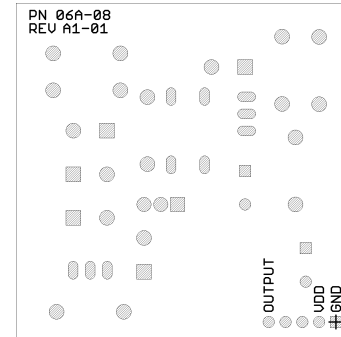
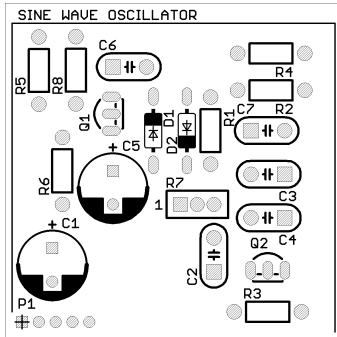
2.33. PHASESHIFT OSCILLATOR, 06A-06



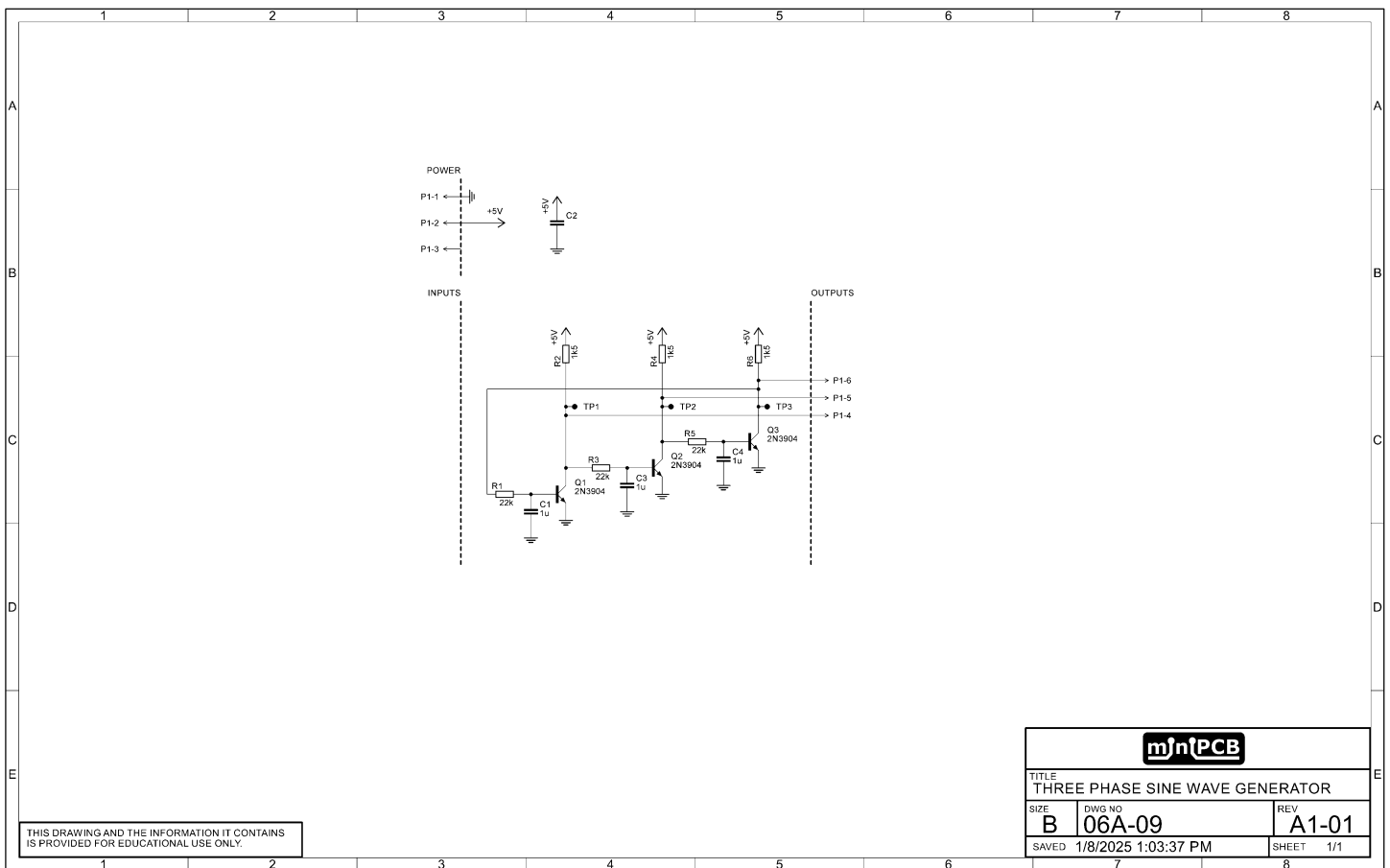
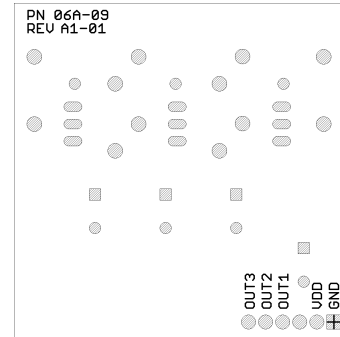
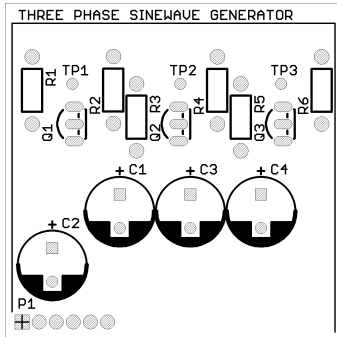
2.34. PHASESHIFT OSCILLATOR, 06A-07



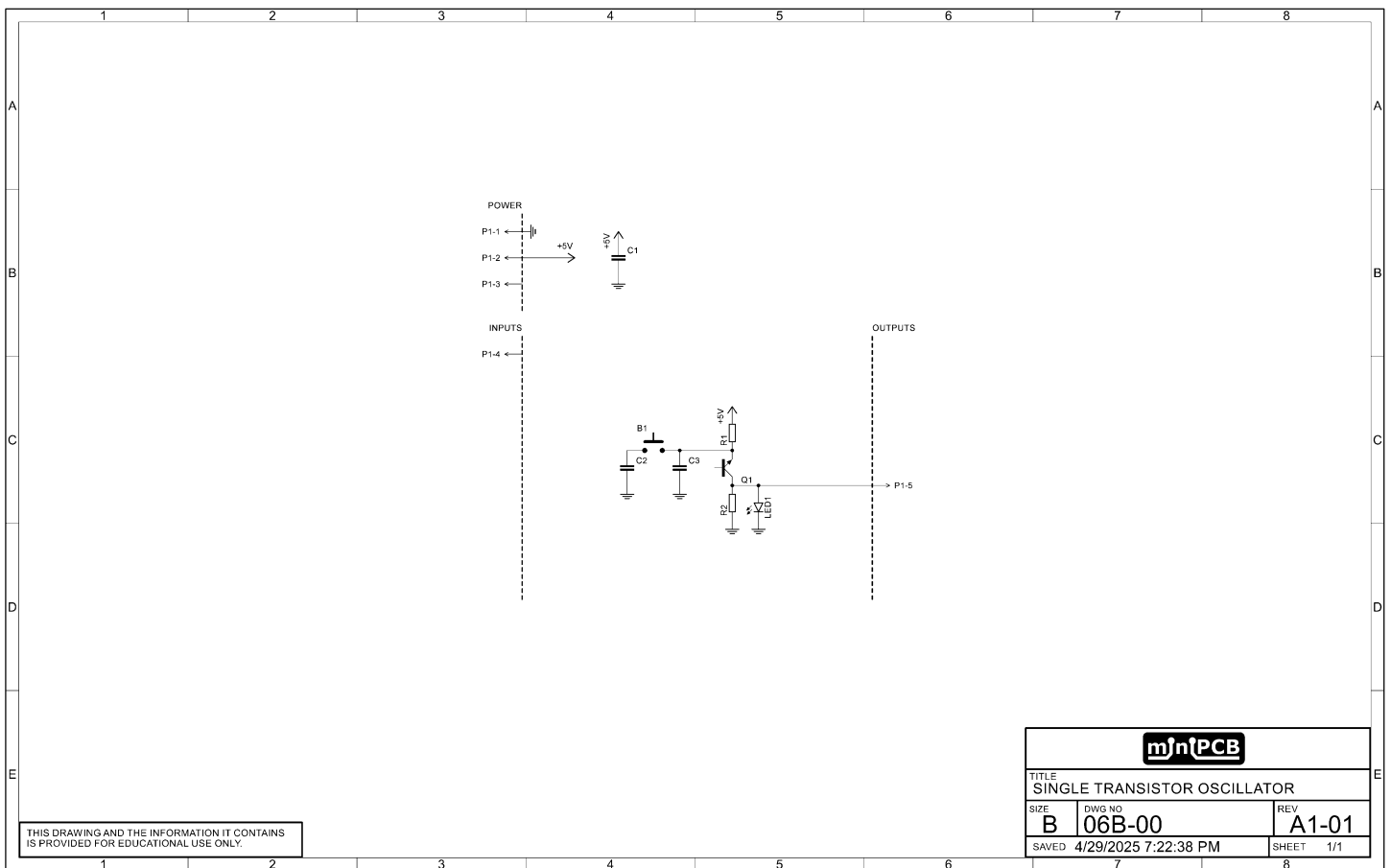
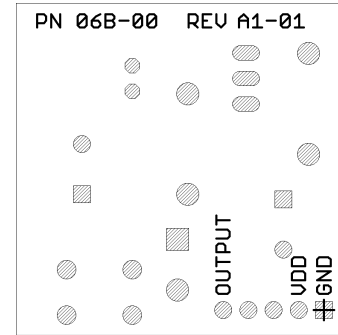
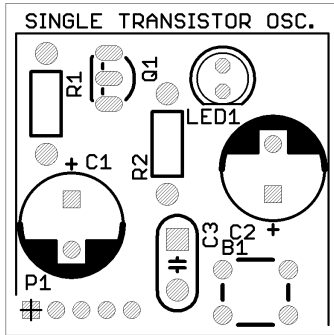
2.35. SINEWAVE OSCILLATOR, 06A-08



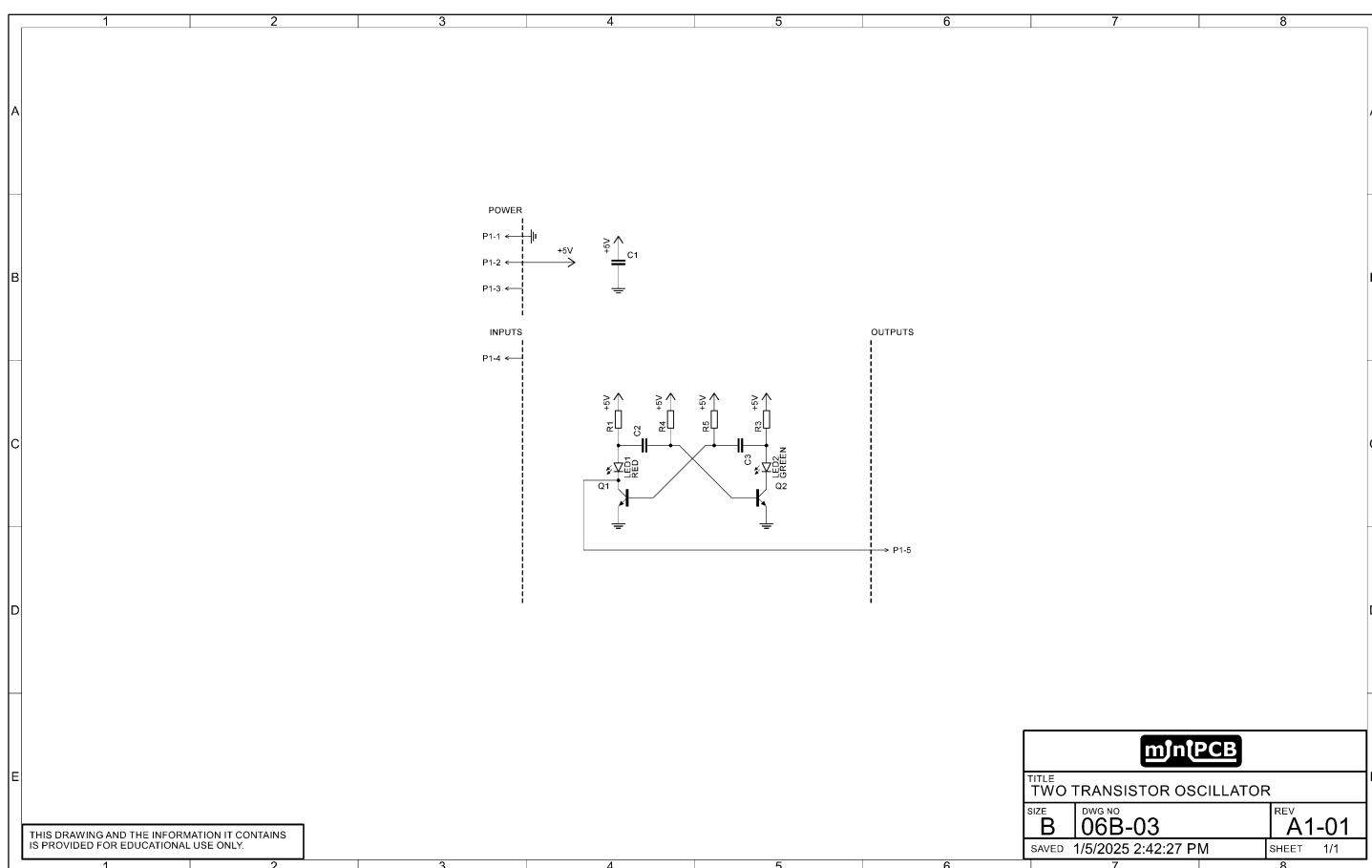
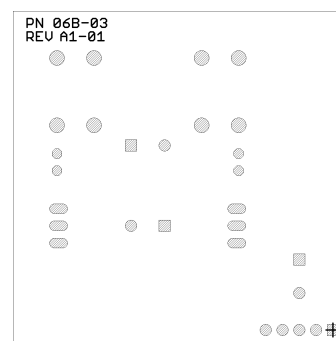
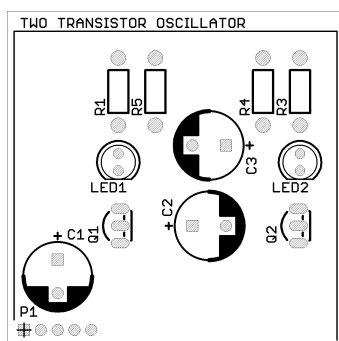
2.36. THREE PHASE SINEWAVE GENERATOR, 06A-09



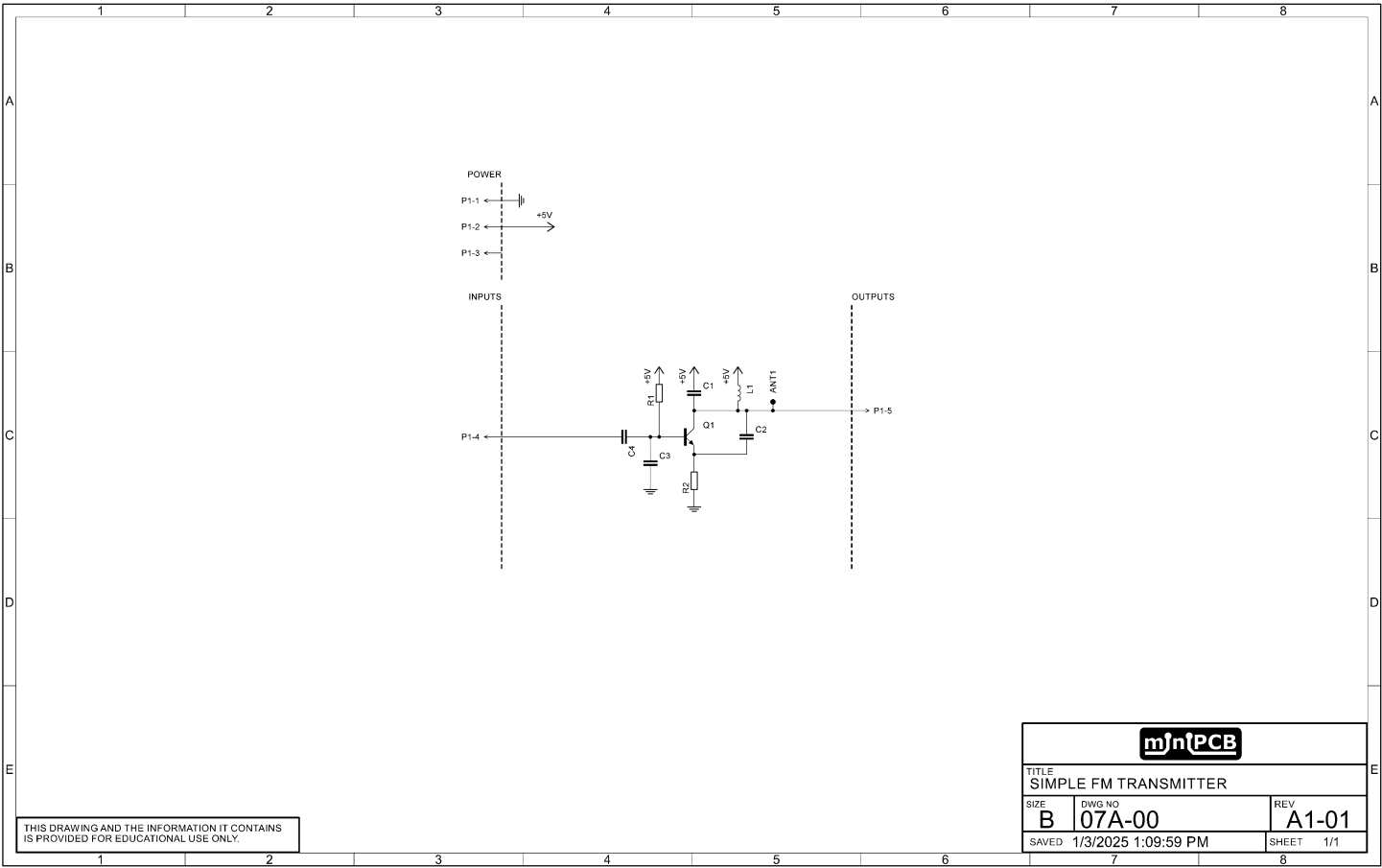
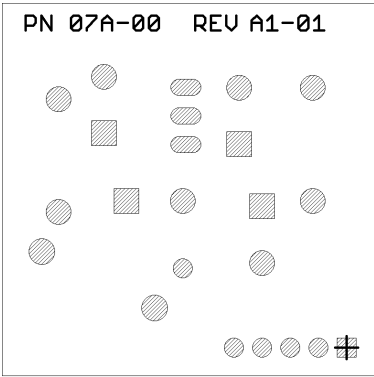
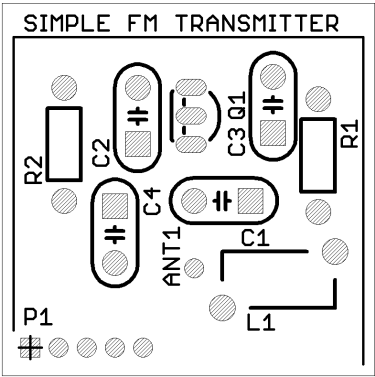
2.37. SINGLE TRANSISTOR OSCILLATOR, 06B-00



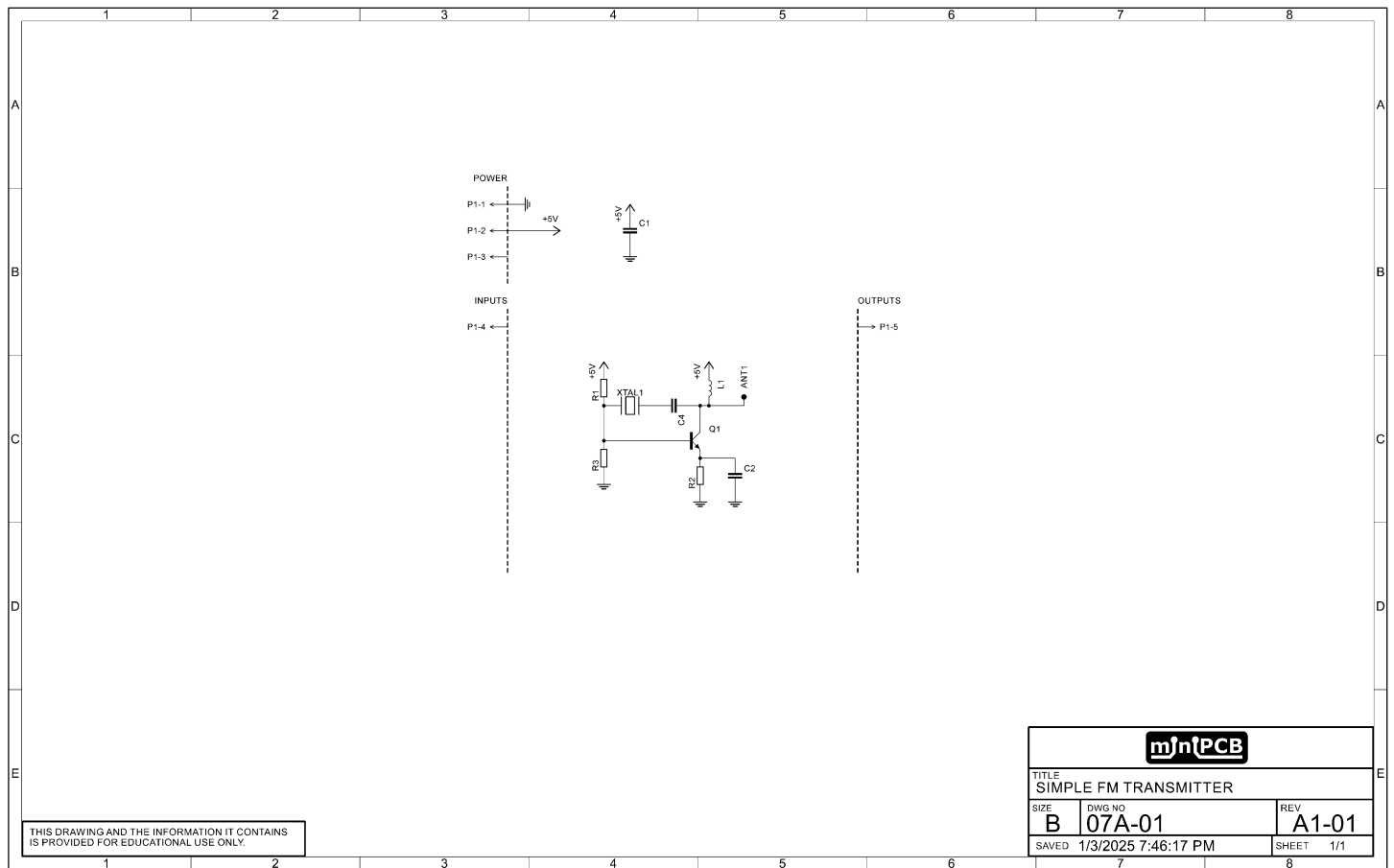
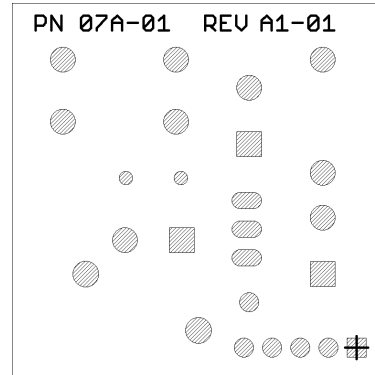
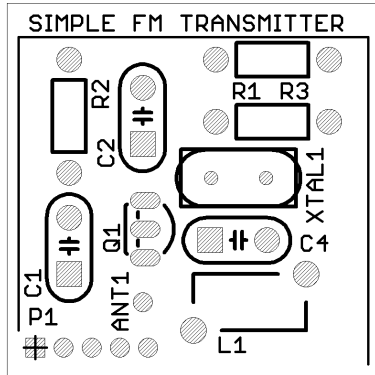
2.38. TWO TRANSISTOR OSCILLATOR, 06B-03



2.39. SIMPLE FM TRANSMITTER, 07A-00



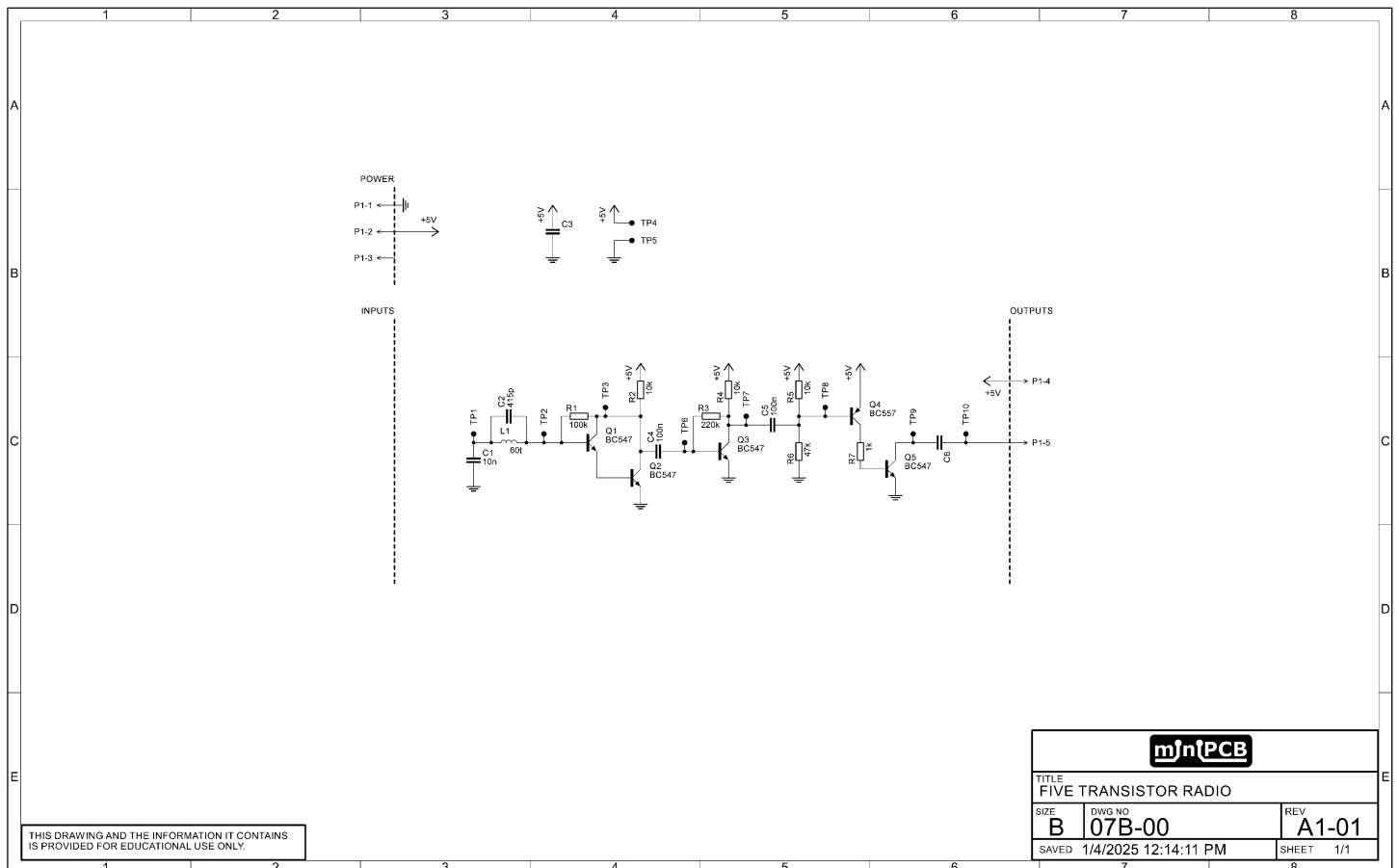
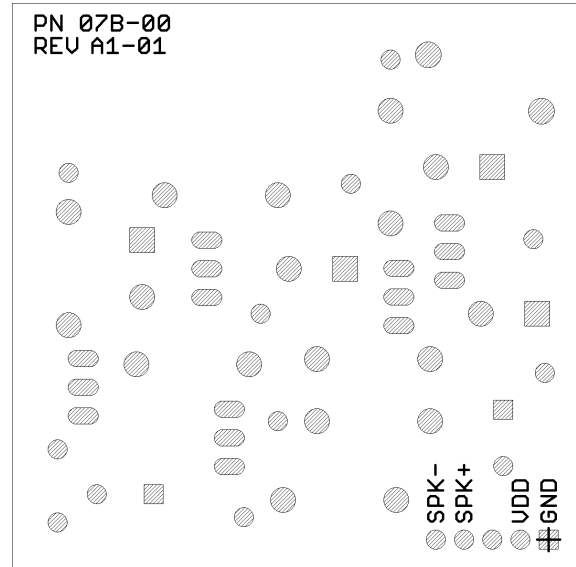
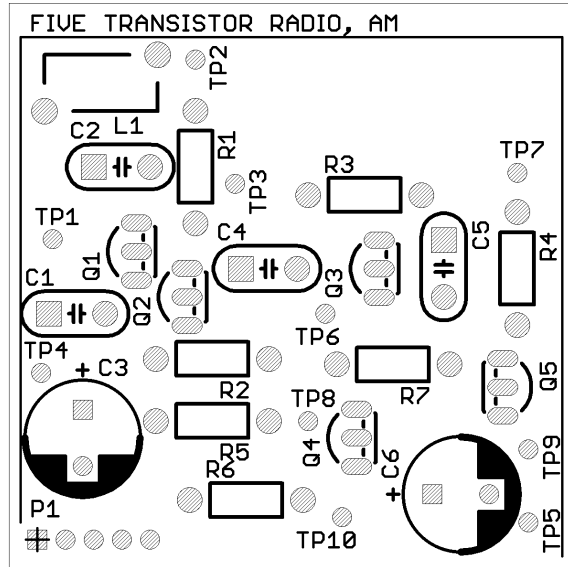
2.40. SIMPLE FM TRANSMITTER, 07A-01



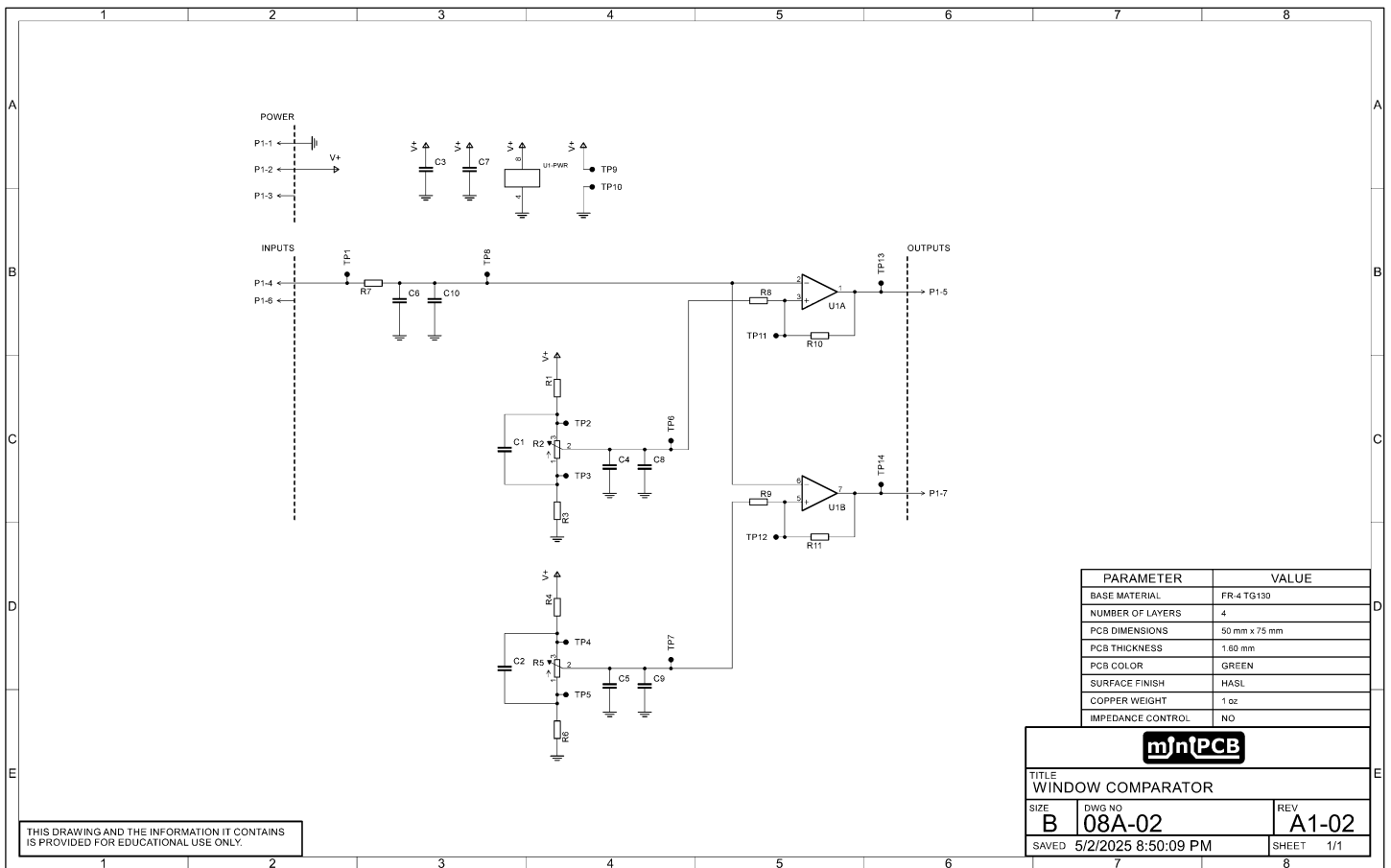
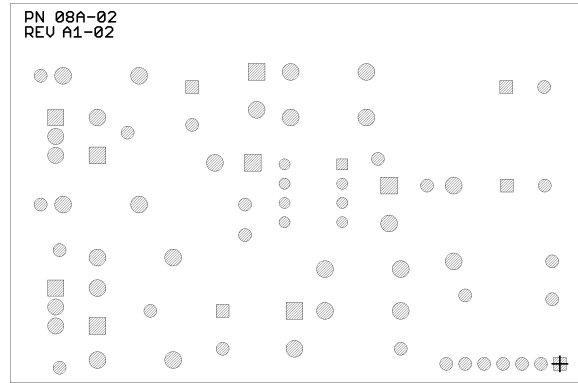
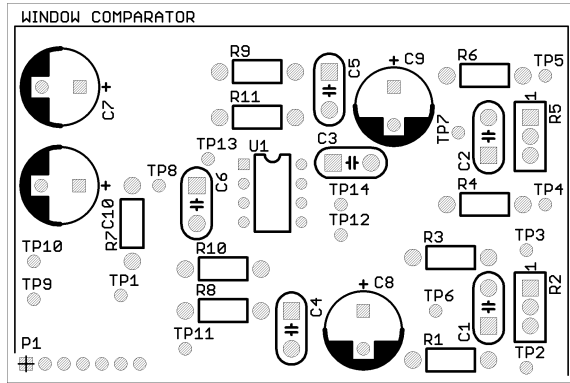
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miniPCB		
TITLE SIMPLE FM TRANSMITTER		
SIZE B	DWG NO 07A-01	REV A1-01
SAVED 1/3/2025 7:46:17 PM		SHEET 1/1

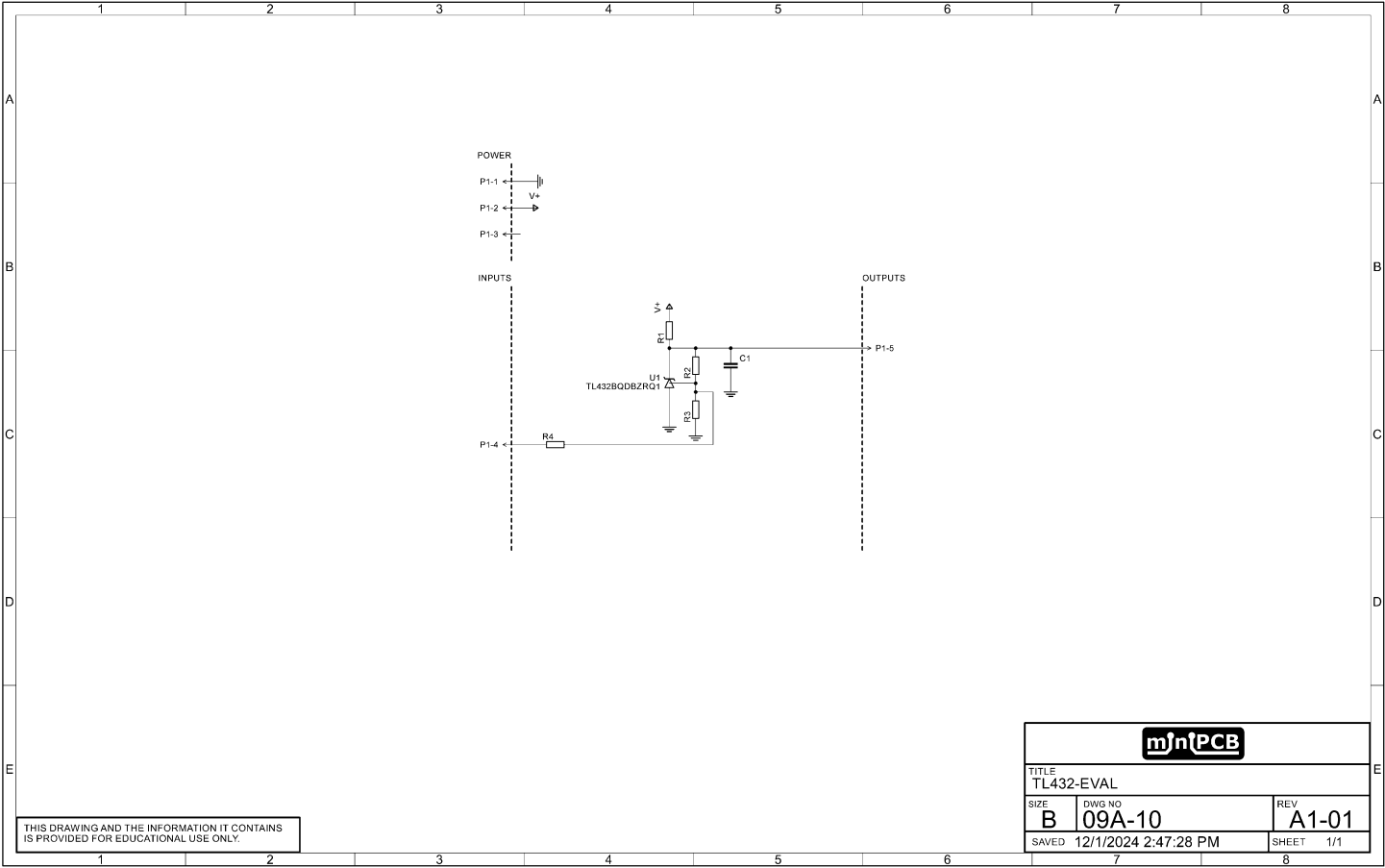
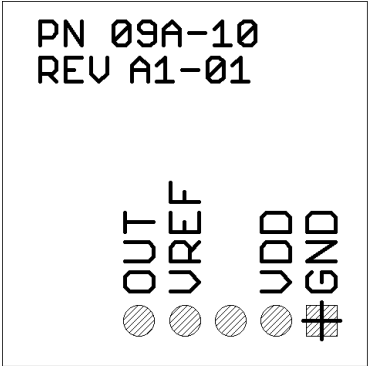
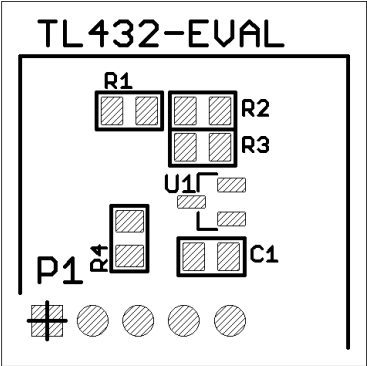
2.41. FIVE TRANSISTOR RADIO, 07B-00



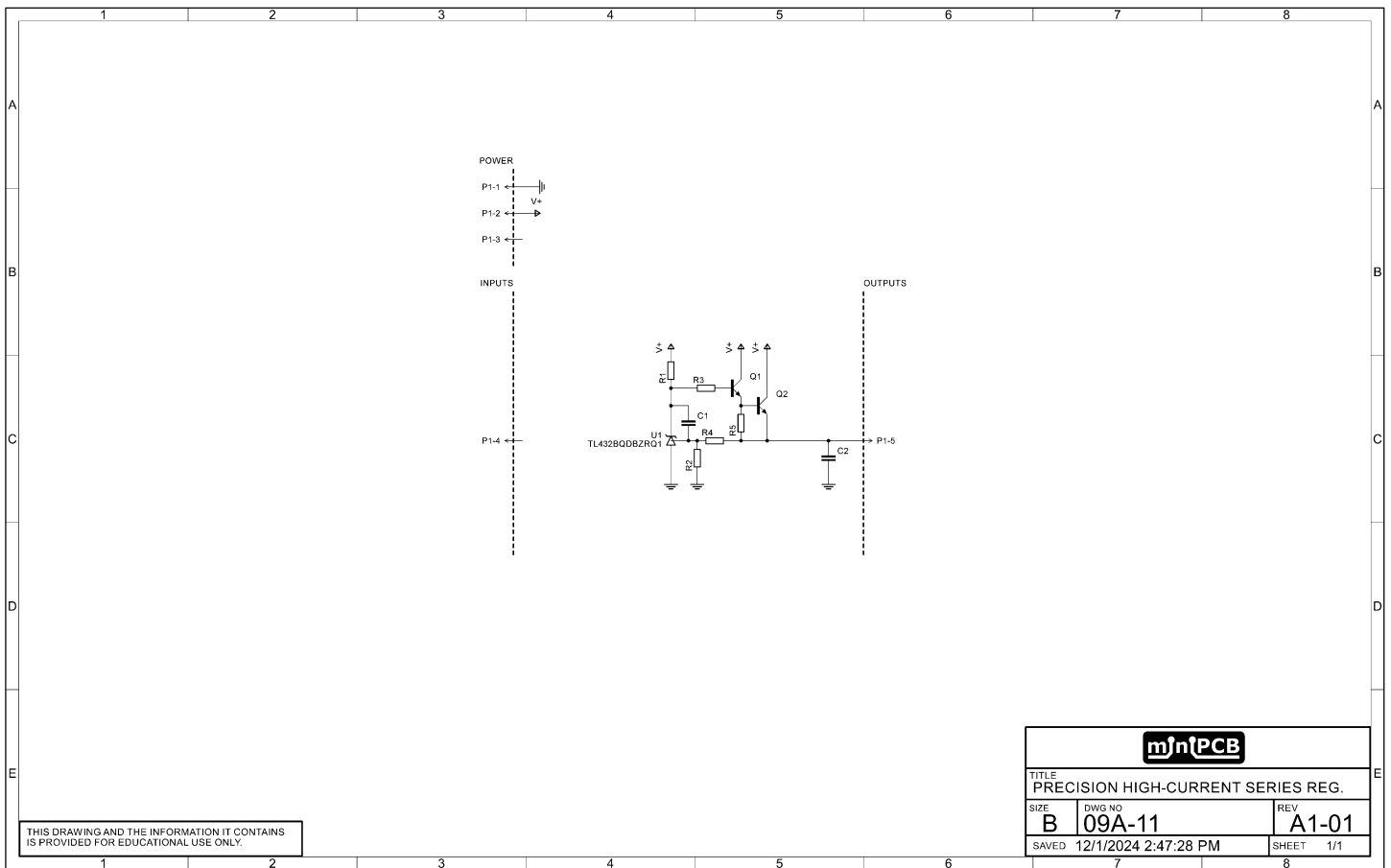
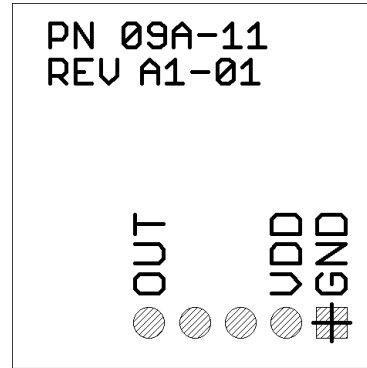
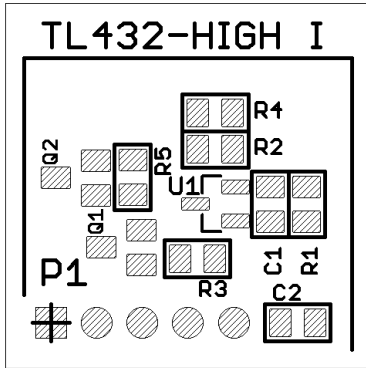
2.42. WINDOW COMPARATOR, 08A-02



2.43. TL432 EVAL, 09A-10



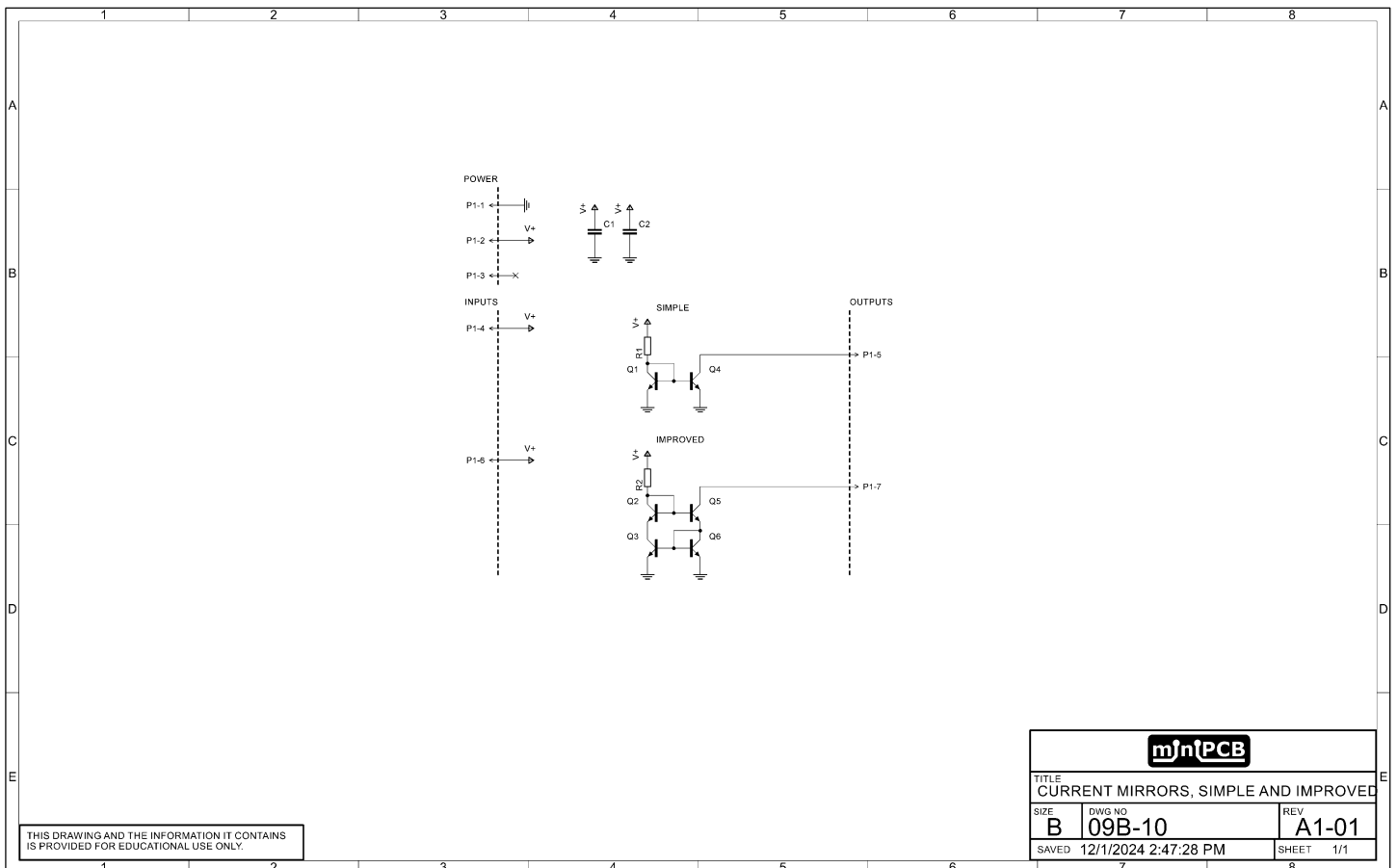
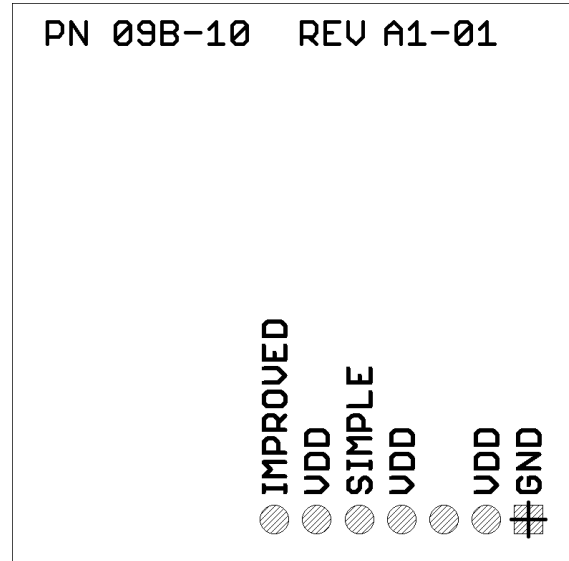
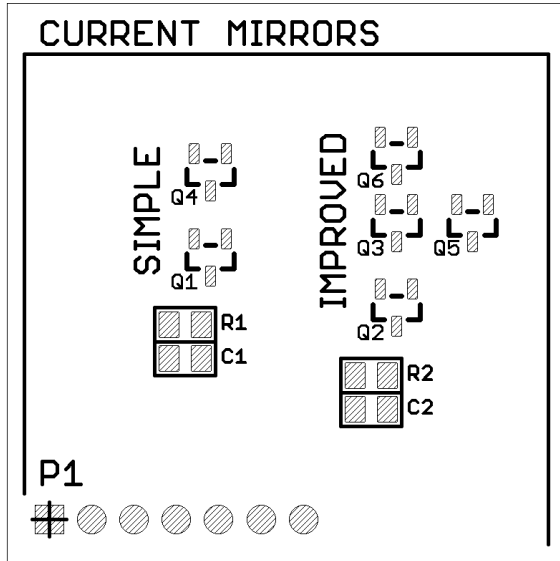
2.44. PRECISION HIGH CURRENT SERIES REGULATOR (TL432), 09A-11



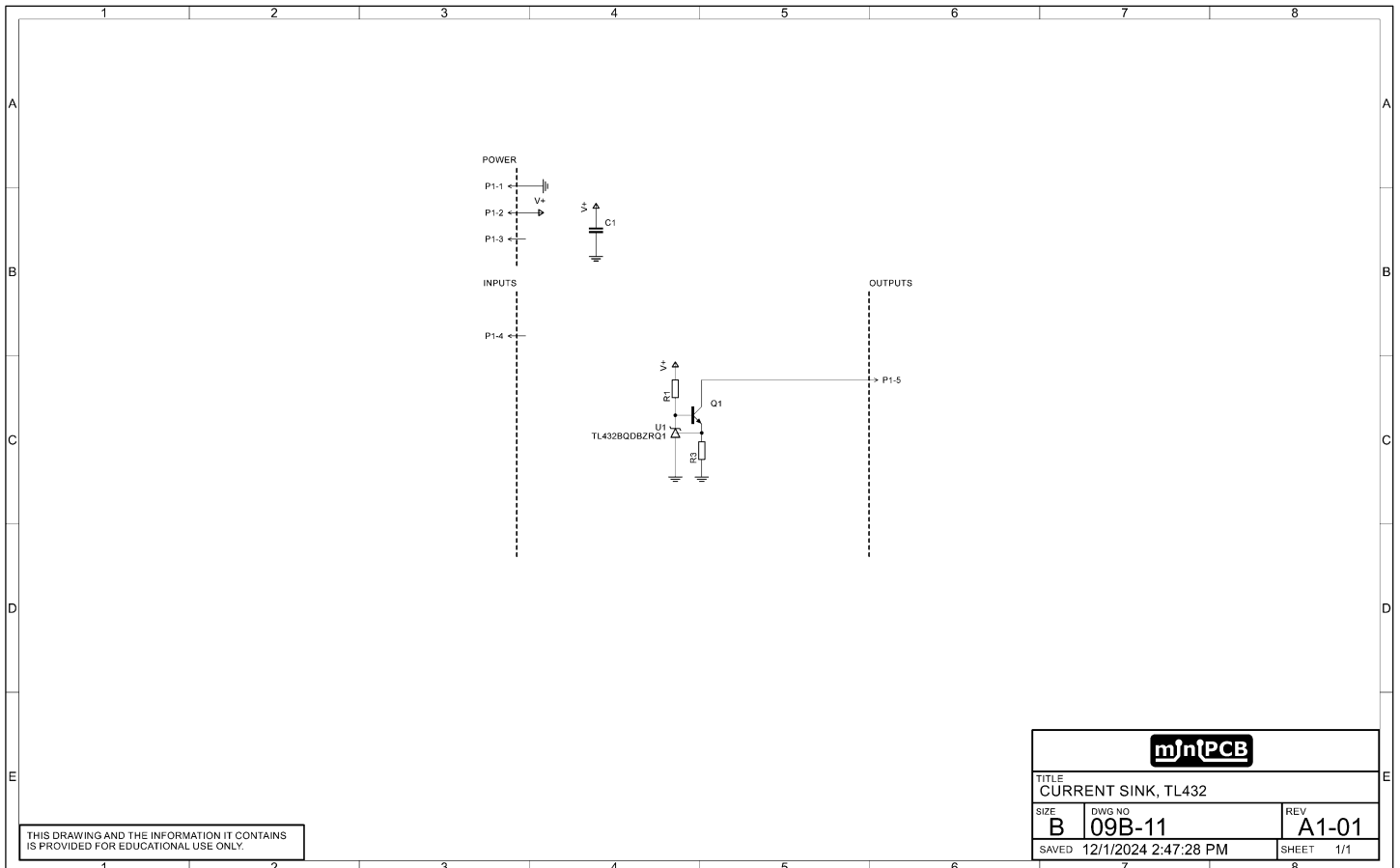
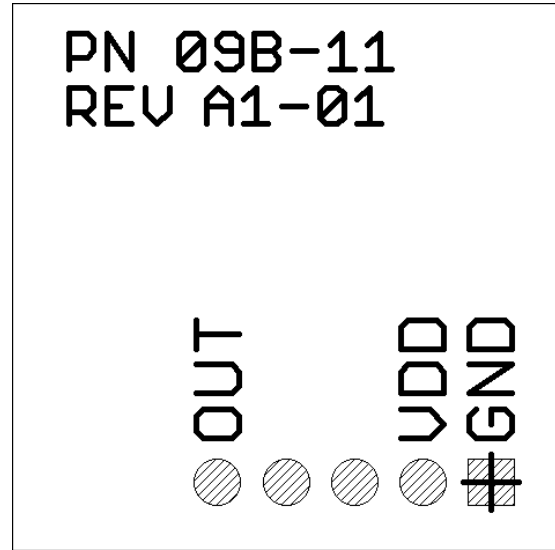
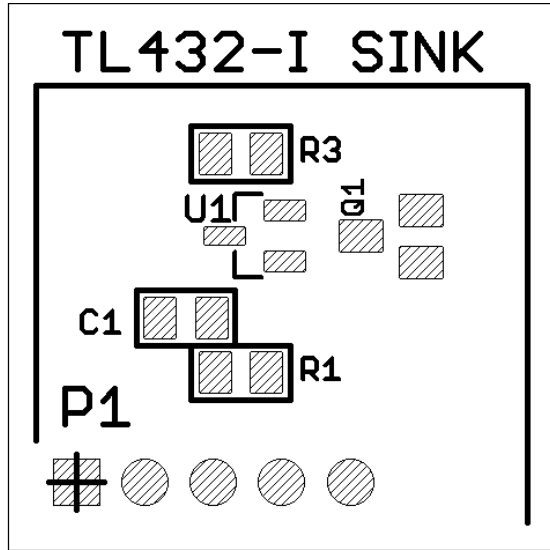
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miniPCB			
TITLE PRECISION HIGH-CURRENT SERIES REG.			
SIZE B	DWG NO 09A-11	REV A1-01	
SAVED 12/1/2024 2:47:28 PM		SHEET 1/1	

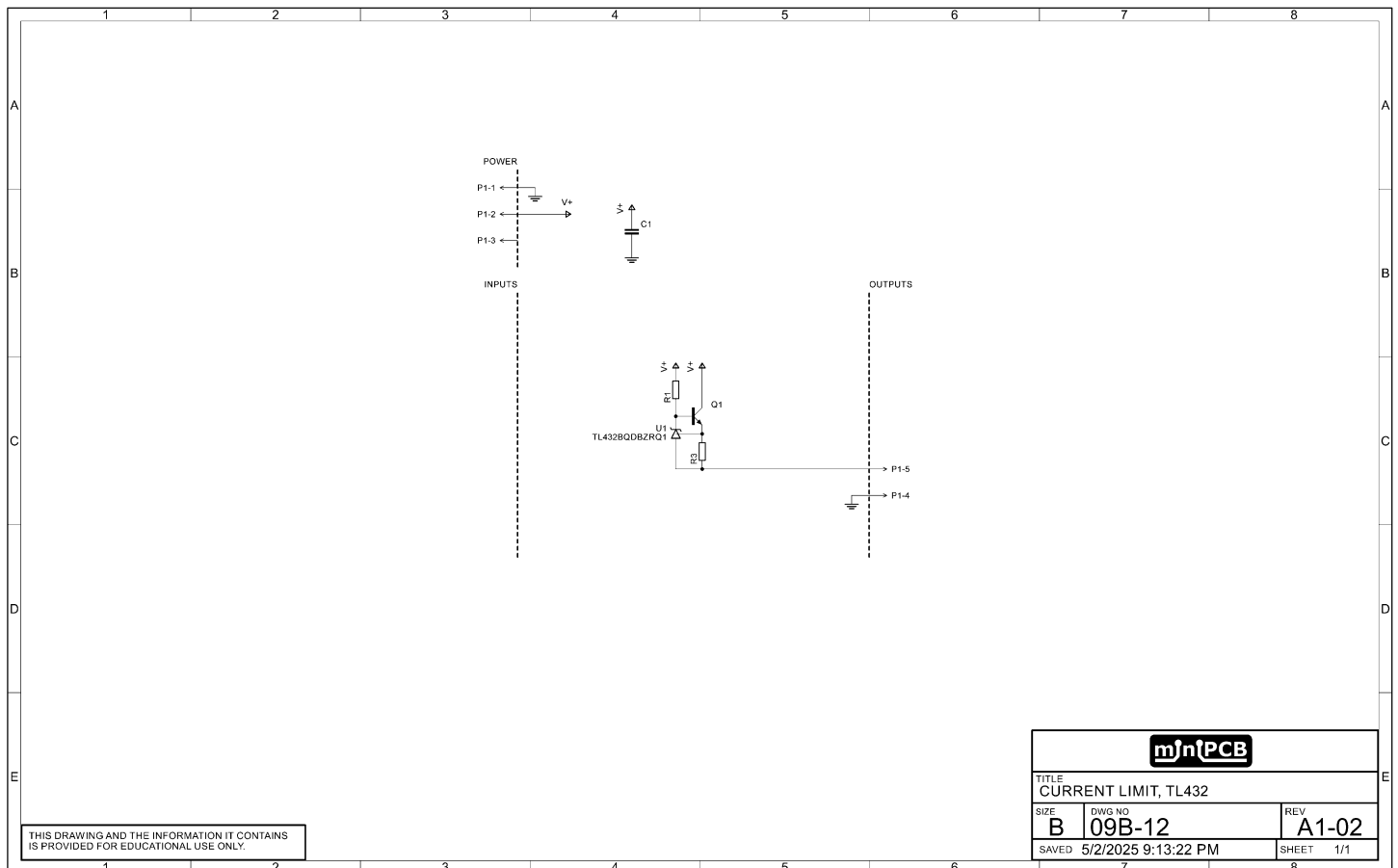
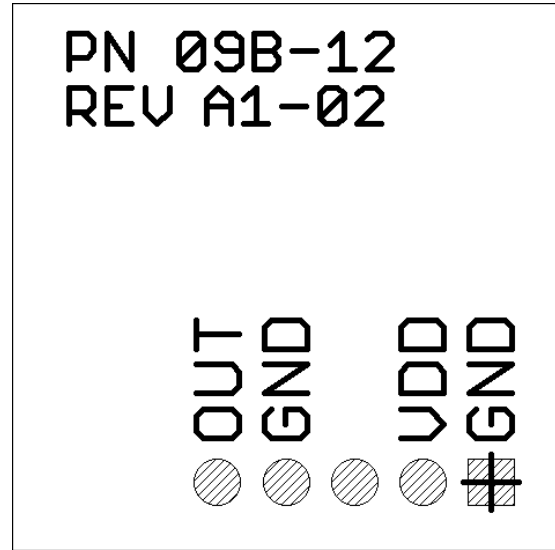
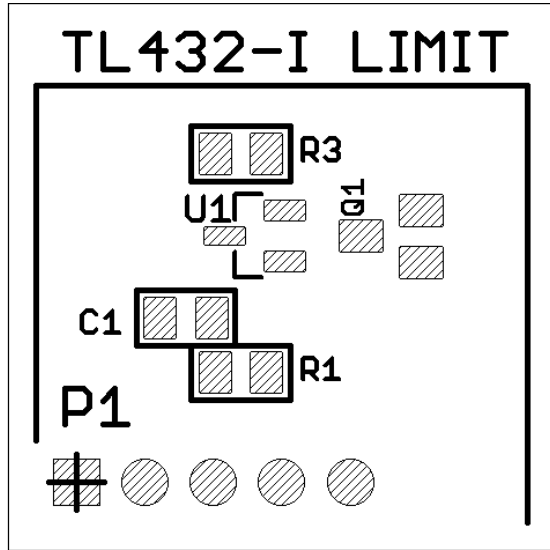
2.45. CURRENT MIRROR, SIMPLE AND IMPROVED, 09B-10



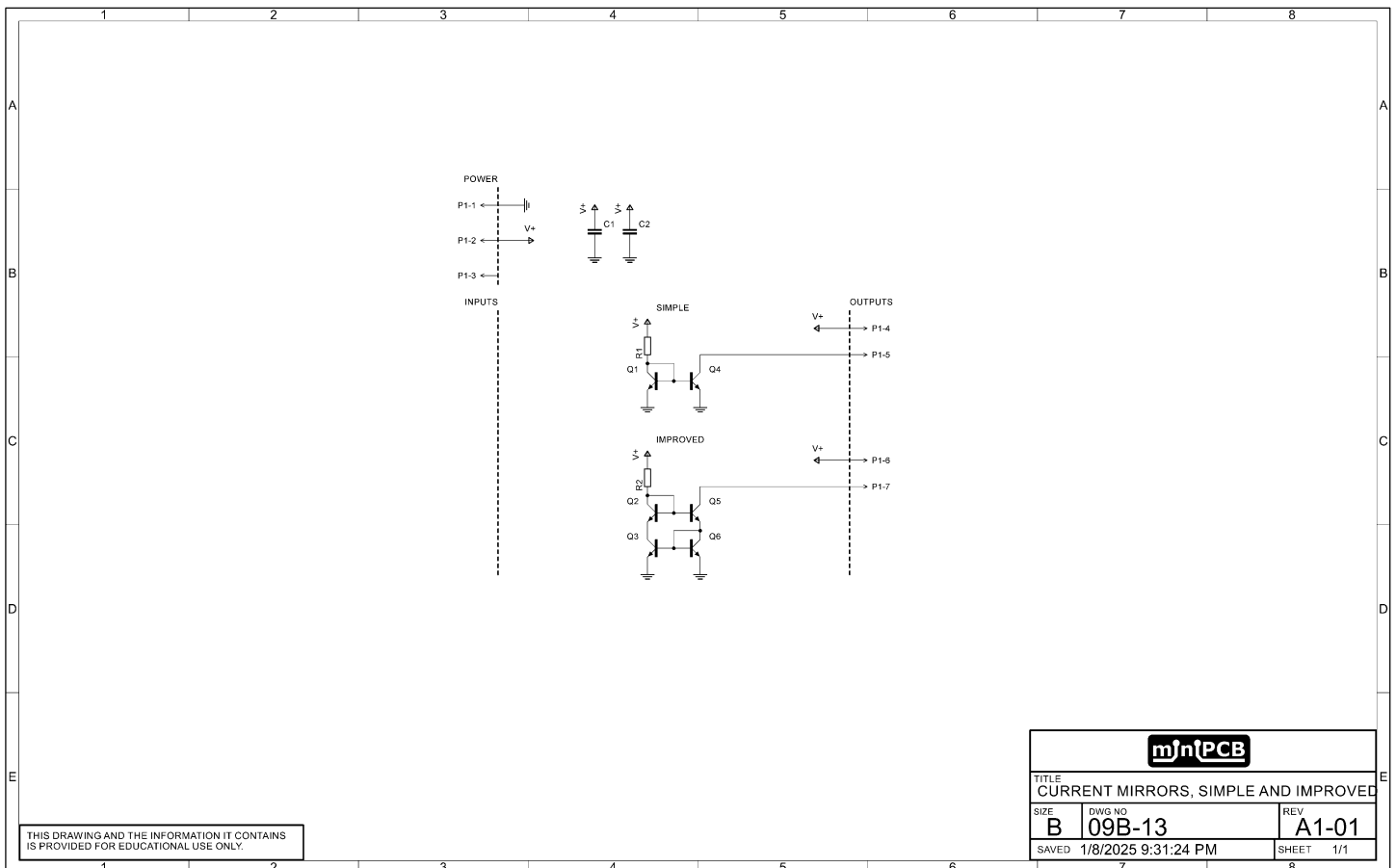
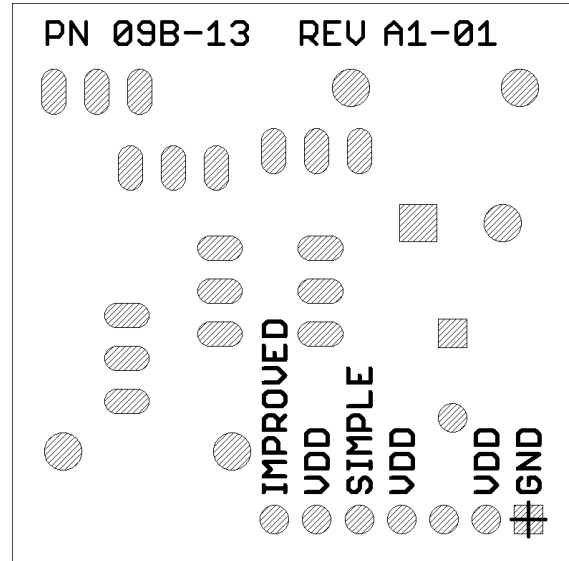
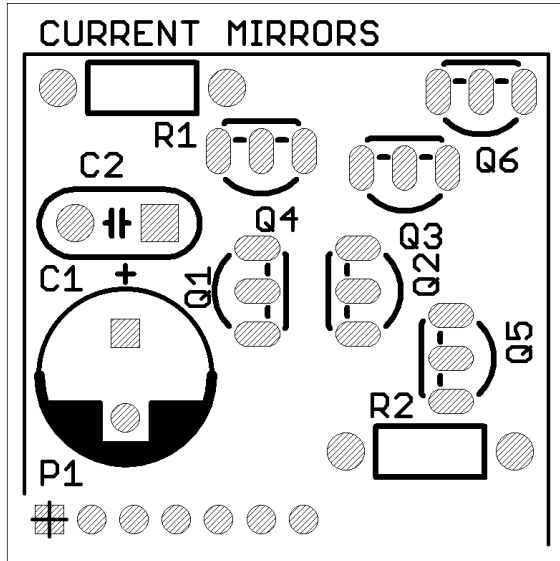
2.46. CURRENT SINK, TL432, 09B-11



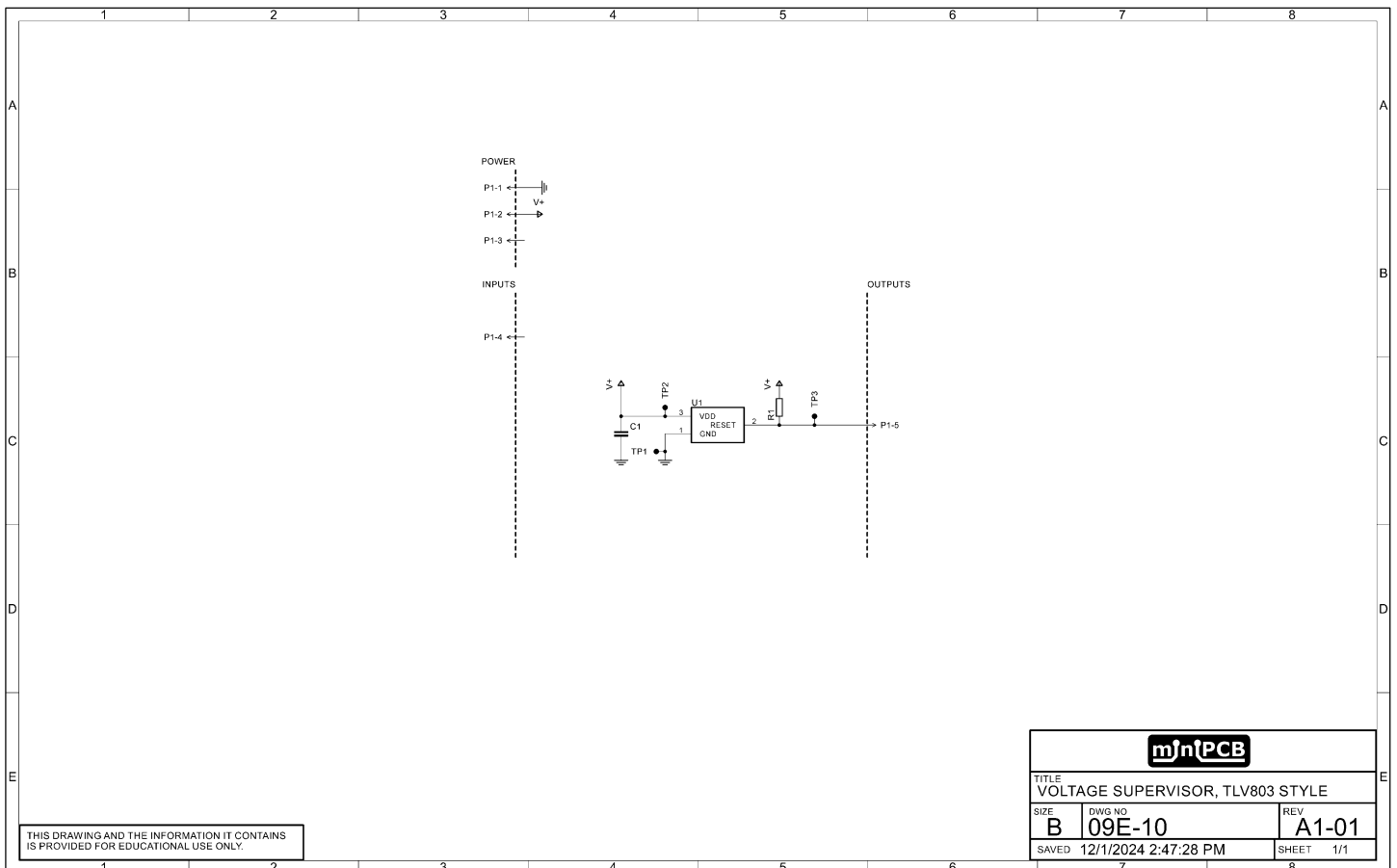
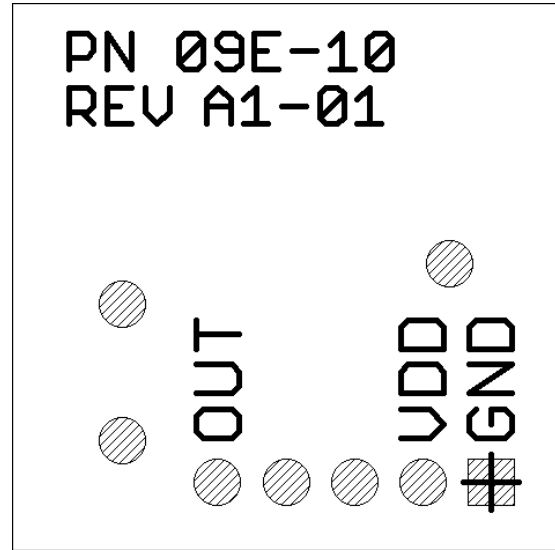
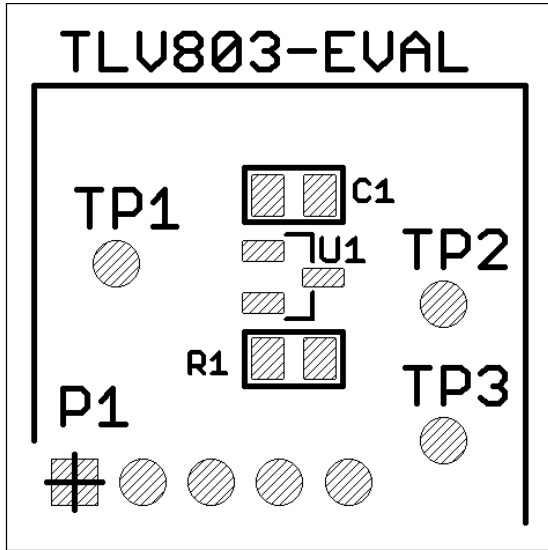
2.47. CURRENT SINK, TL432, 09B-12



2.48. CURRENT MIRRORS, SIMPLE AND IMPROVED, 09B-13



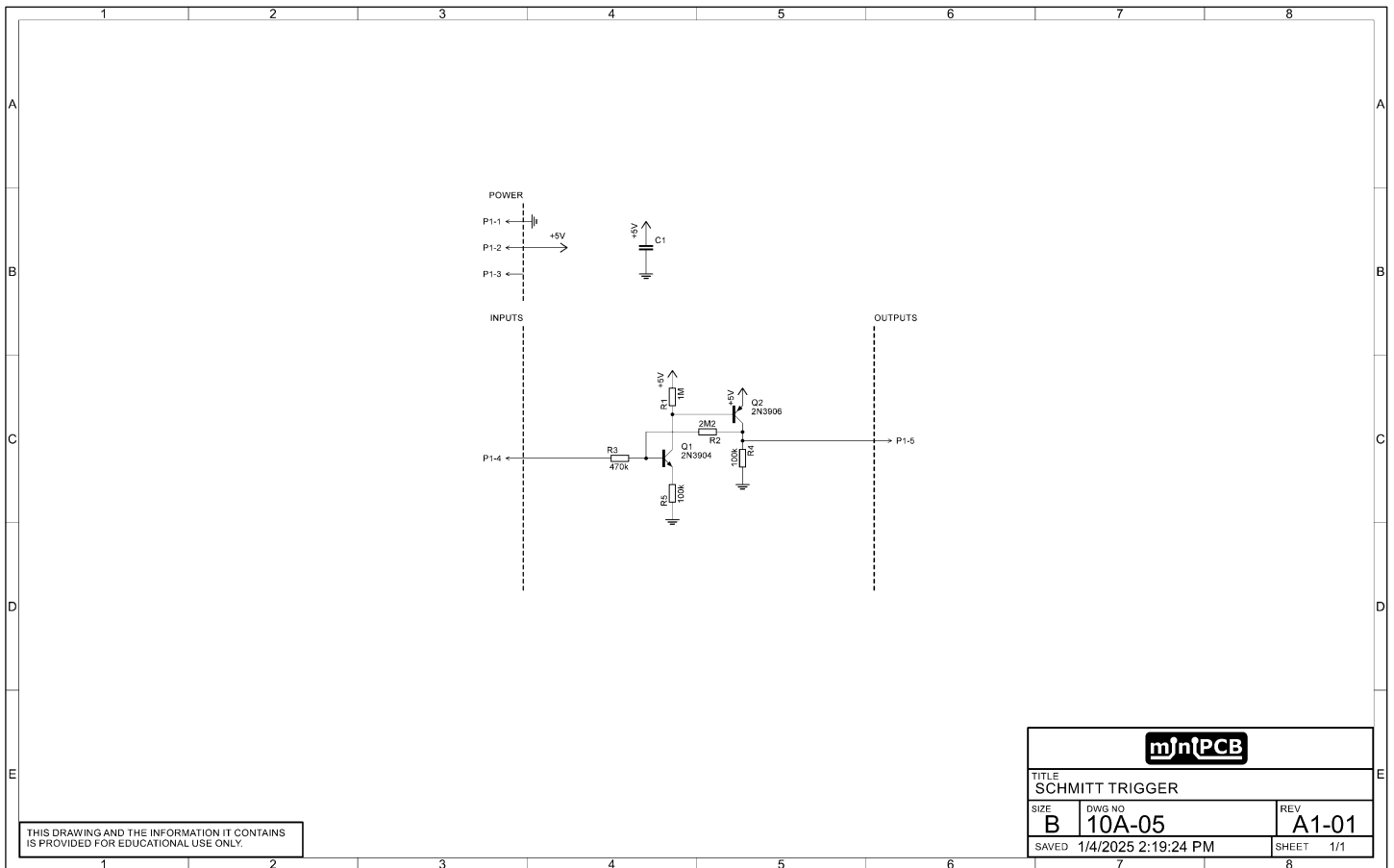
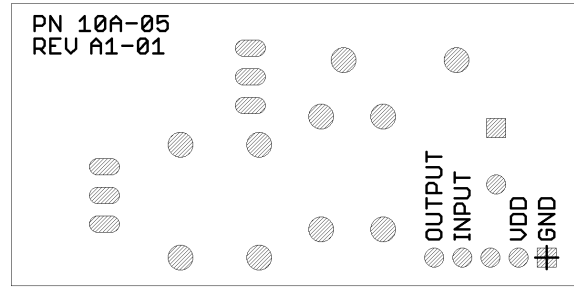
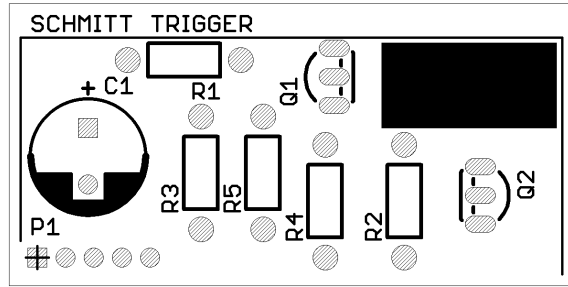
2.49. VOLTAGE SUPERVISOR, SOT23 (TLV803 EVAL), 09E-10



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TITLE VOLTAGE SUPERVISOR, TLV803 STYLE		
SIZE B	DWG NO 09E-10	REV A1-01
SAVED 12/1/2024 2:47:28 PM		SHEET 1/1

2.51. SCHMITT TRIGGER, 10A-05

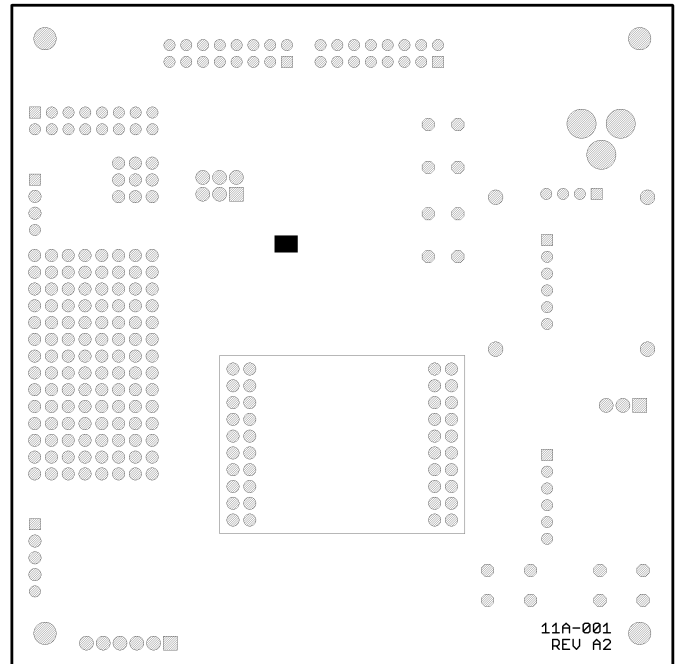
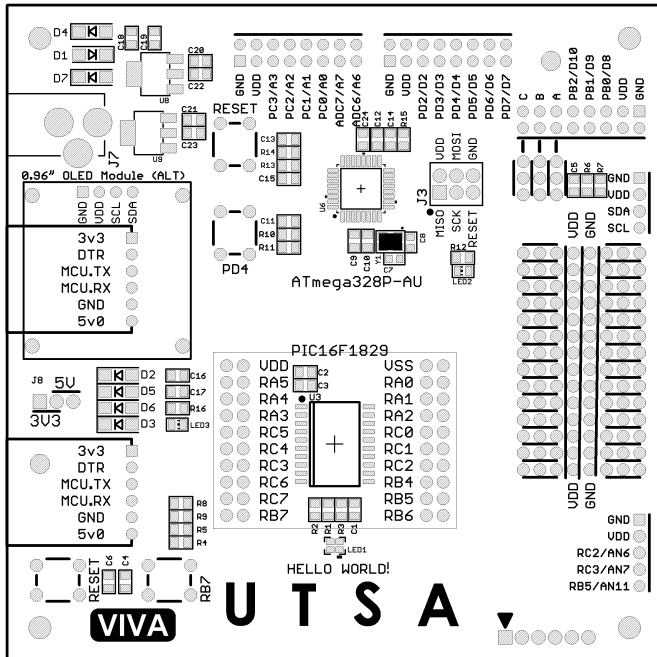


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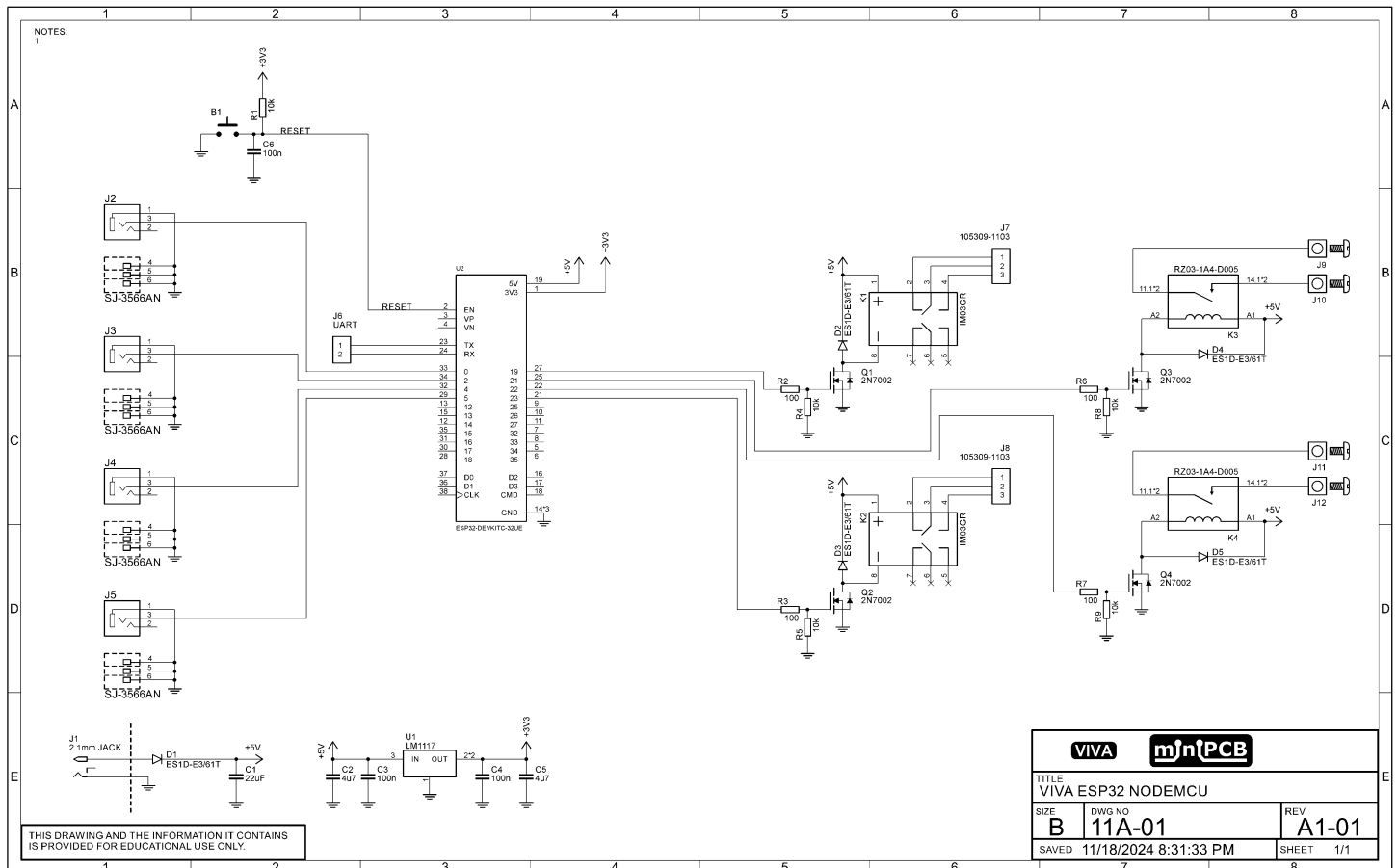
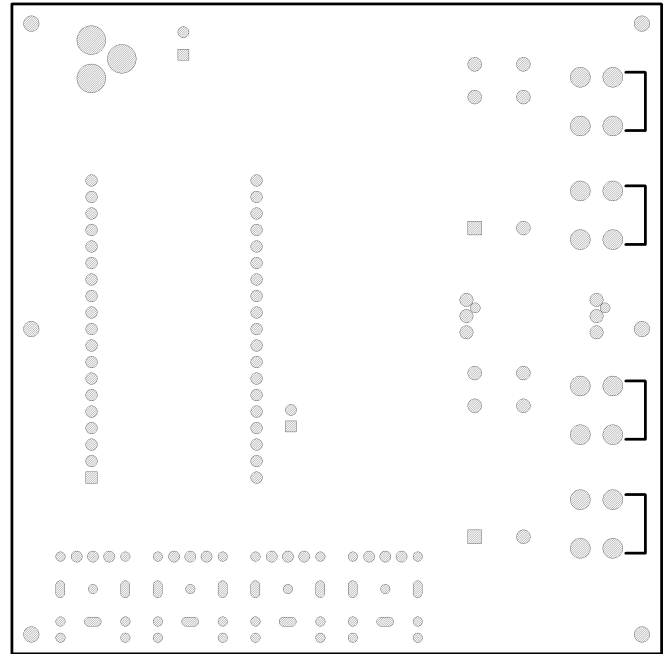
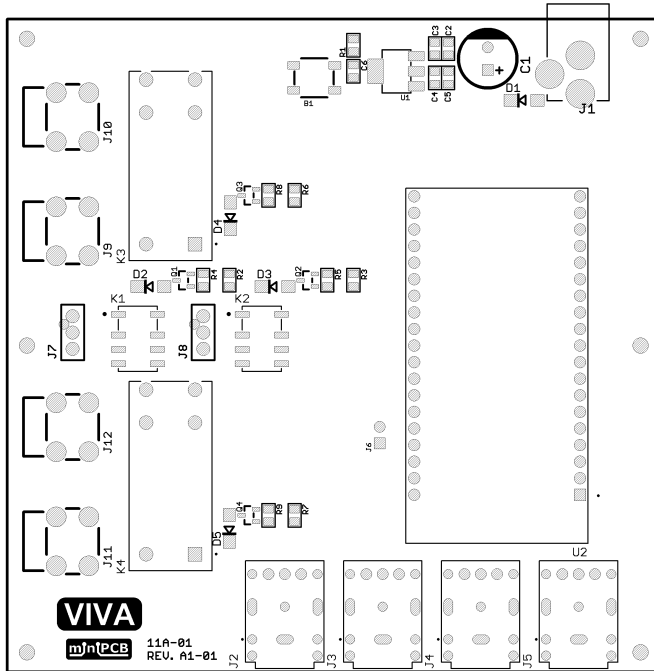
miniPCB			
TITLE SCHMITT TRIGGER			
SIZE B	DWG NO 10A-05	REV A1-01	
SAVED 1/4/2025 2:19:24 PM		SHEET 1/1	

2.52. UTSA VIVA BOARD, 11A-001

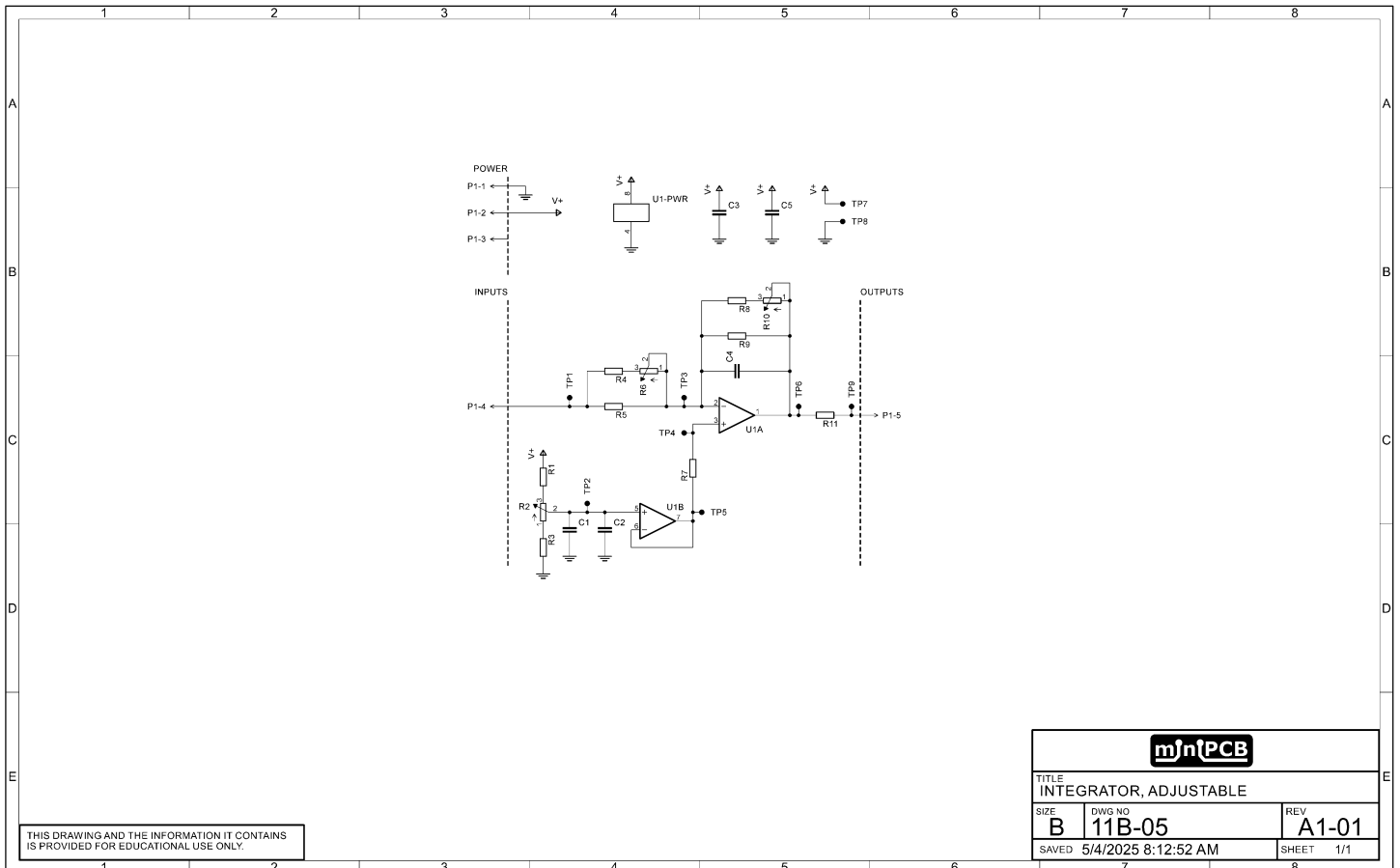
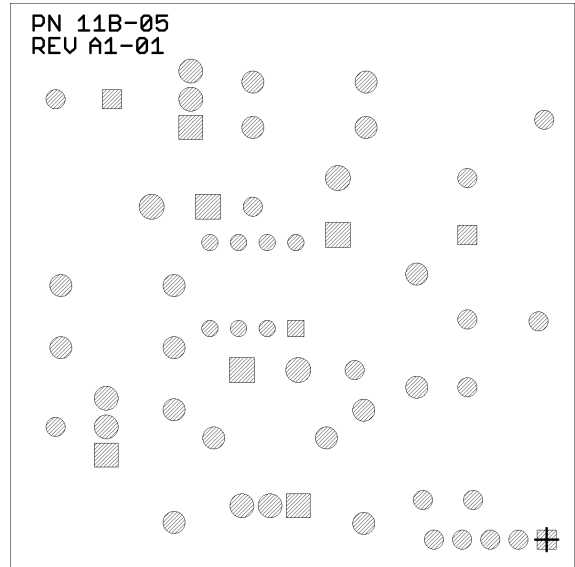
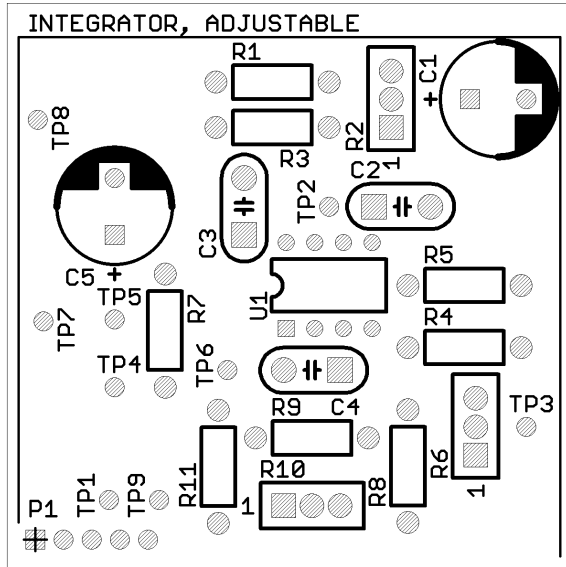
Developed with Dr. Paul Morton for use teaching microcontrollers at the University of Texas at San Antonio.



2.53. VIVA ESP NODE MCU BOARD, 11A-01



2.54. INTEGRATOR, ADJUSTABLE, 11B-05



3. REVISION HISTORY

REV	DESCRIPTION	ECO	DATE
A	Initial Release, first 50+ designs	N/A	04MAY2025