

# Products

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## Phases

- **Phase 0** – Get in the market.
- **Phase 1** – Optimize the product.
- **Phase 2** – Complete the portfolio.
- **Phase 3** – Expand with custom designs.

## Strategy

- **Niche:** this is my niche.
- **Documentation:** the documentation must be extensive.
- **Brand:** miniPCB, logos, website, and eventual trademark.
- **Bulk sales:** professors are likely to place bulk orders once or twice a year.
- **Recurring sales:** classes are taught on a regular basis, with new students each time.
- **Longevity:** once adopted by a class, a miniPCB is likely to be used for many years.
- **Recession resistant:** low-cost educational items are likely to sell better during a recession.

## Product Notes

Each circuit category will contain discrete and integrated circuits in surface mount and through hole layouts.

The miniPCB catalog needs to be independent of any chip manufacturer, book or website.

Each miniPCB category could feature components or chips that are unique to a specific manufacturer. For example, custom modules can be created around ICs such as the AD8232.

Reference guides could be created with respect to specific books and websites. The items in each reference guides could be packaged under one product number.

## Customer Segments

Customers will likely be segmented into the following categories: students, researchers, development engineers, professors.

**Students:** random circuits that have experimental value.

**Researchers:** application specific circuits with functional value.

**Development Engineers:** evaluation circuits of specific component/chips.

**Professors:** bundles of PCBs relevant to course curriculum.

## Protoboards

### Vias

- 0.1" pitch
- 2mm pitch

### Breakouts

- SOIC
- Q/DFP
- Q/DFN
- SOT

## Basics

### Circuit Orientations

- Series
- Parallel
- Divider
- T Filter
- BW Filter

## Analog

### Amplifiers

### Filters (active)

### Comparators

### Oscillators

## Digital

## Power

### Polarity Protection

### Rectifiers

- Passive
- Active

### Voltage References

### Voltage Limiters

### Voltage Sources

- Fixed Linear
- Adjustable Linear

### Current References

### Current Limiters

### Current Sources/Sinks

### Power Switches

## Sensors

- Thermistor
- EKG/AD8232
- Ultrasound/LM6629
- Current / INA181
- Voltage

## Actuators