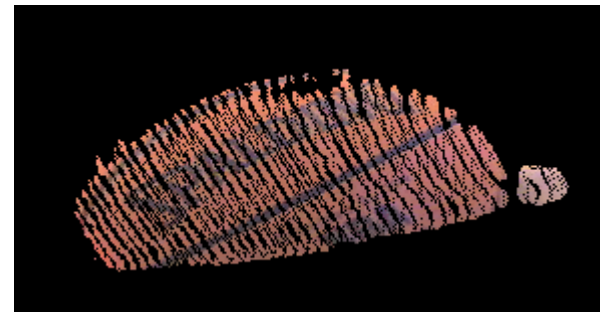


All the Things I Wish I'd Known Before
I Took POE

Qualifications

- I took POE recently
- I've worked on a number of PIC projects
 - Tetracopter
 - 3D laser scanning
 - LCD skateboard timer
 - Old trackball conversion
 - Many robot sensors



What this Talk Is

- Most POE projects fail due to lack of time
- I made mistakes that cost me weeks
- If I tell you about them, hopefully they won't cost you weeks too.

What this Talk Is Not

- POE Labs 1, 2, or 3.
- A complete guide on how to have a successful POE project
- Long

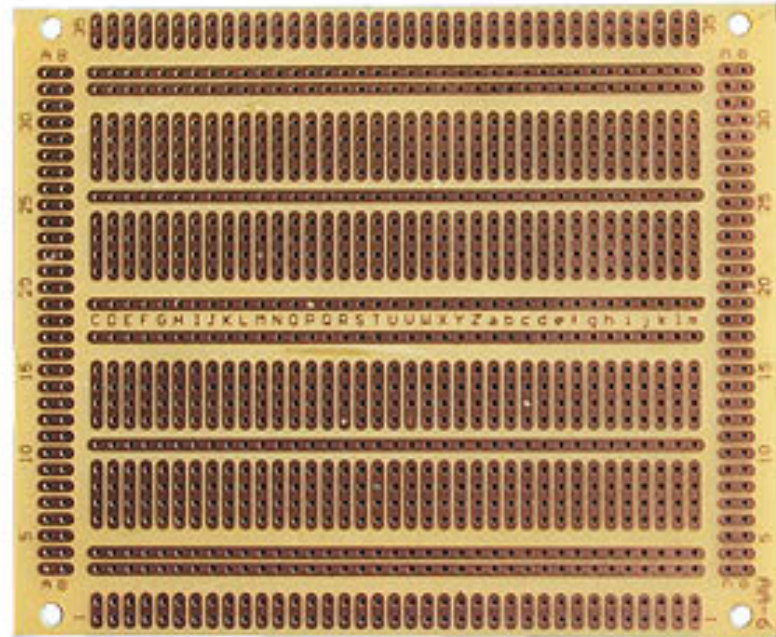
PIC Clock

PIC Libraries

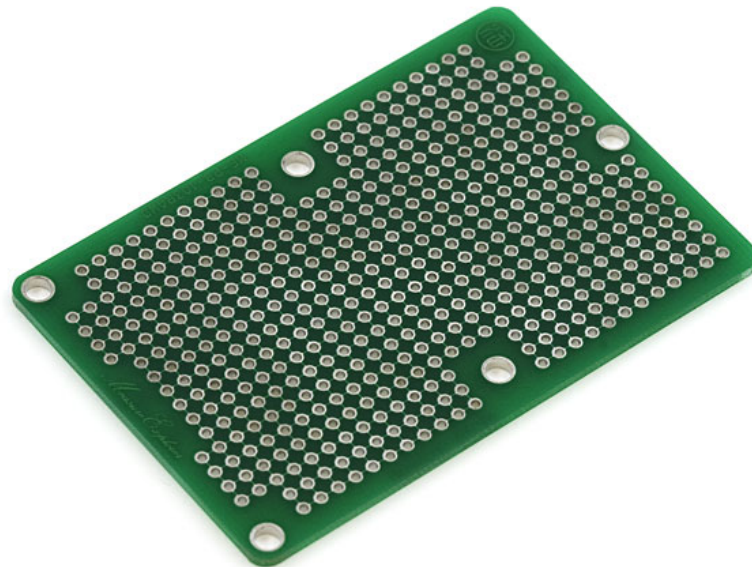
PIC Interrupts

Circuit Boards and Soldering

- Get a circuit board that looks like this:



- Not one like this:



Circuit Boards and Soldering

- **Test your connections**
- **Really, I'm serious**
- 2 hours to test everything over the course of your entire project
- 5 hours to debug one bad connection

Motor Controllers

- Your project is (probably) not building a motor controller
- Motor controllers are complicated
- Buy your motor controller

Buying ECE Parts

- Newark, Mouser, Digikey
- You need to know exactly what you want.
- You probably don't
- You don't want the part that Mouser only has one of.

Part Number / Keyword

Stocked RoHS Compliant

Power Management ICs

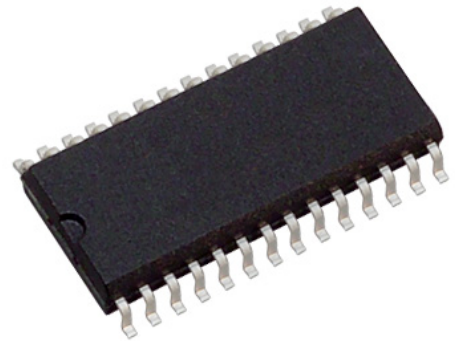
- [AC/DC Switching Converters](#) (5)
- [Battery Management](#) (11)
- [Charge Pumps](#) (8)
- [Current Mode PWM Controllers](#) (6)
- [Current Monitors & Regulators](#) (24)
- [DC/DC Switching Controllers](#) (67)
- [DC/DC Switching Converters](#) (19)
- [DC/DC Switching Regulators](#) (17)
- [Linear Regulators - Standard](#) (1,251)
- [Low Dropout \(LDO\) Controllers](#) (10)
- [Low Dropout \(LDO\) Regulators](#) (3,795)
- [MOSFET & Power Driver ICs](#) (9)
- [Motor / Motion Controllers & Drivers](#) (5)
- [Other Power Management](#) (21)
- [Supervisory Circuits](#) (1)
- [Switching Converters, Regulators & Controllers](#) (591)
- [Voltage & Current References](#) (1,321)
- [Voltage Detectors](#) (811)
- [Voltage Mode PWM Controllers](#) (13)

Buying ECE Parts

- Packaging
 - You want DIP or PDIP packaging, not SOIC



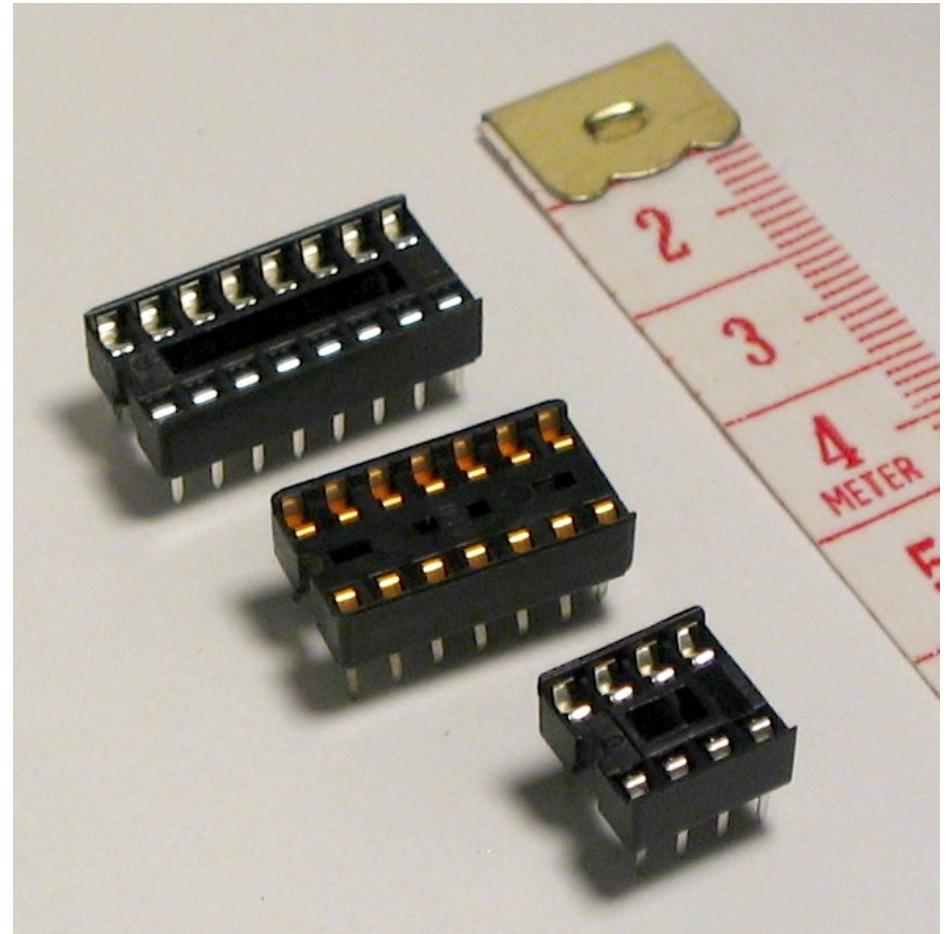
DIP



SOIC

Buying ECE Parts

- Use sockets
- Solder to the socket, not the chip
- If the chip blows, easy to replace.



Where to Find All this Stuff

<http://abarry.org/pic>