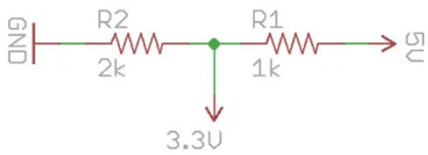
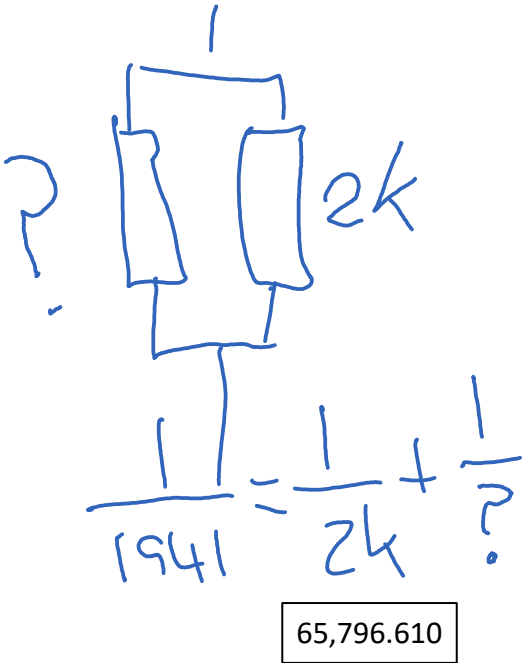
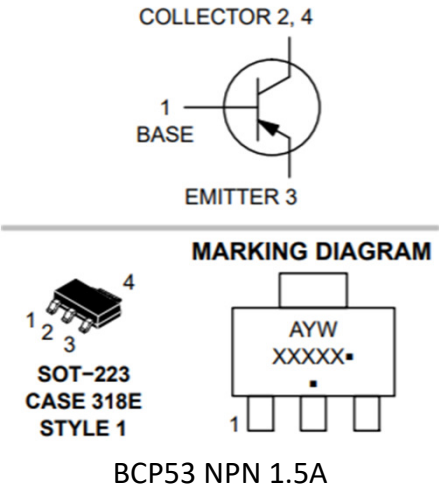
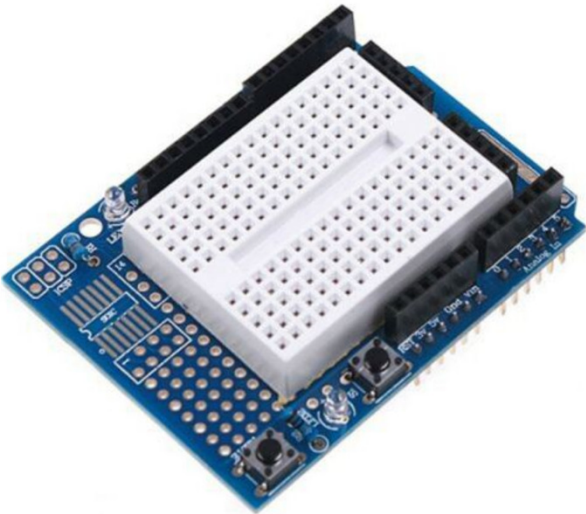


Uno Proto Shield Prototype Expansion Board With Syb-170 Mini Bread Board Ba P9P6

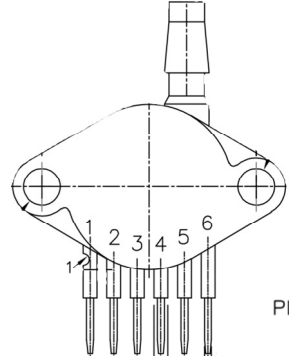
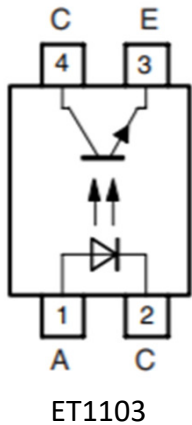
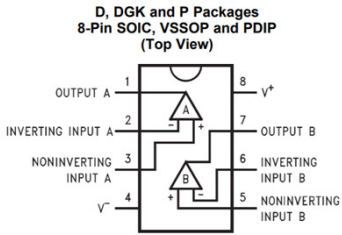
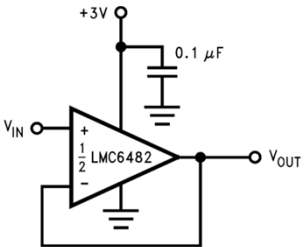
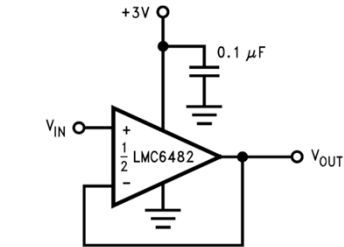
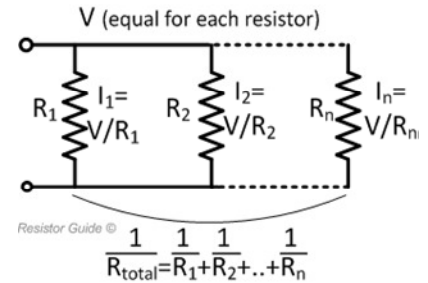


$$V_{out} = V_{in} \cdot \frac{R_2}{R_1 + R_2}$$

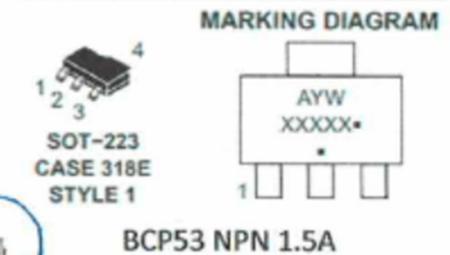
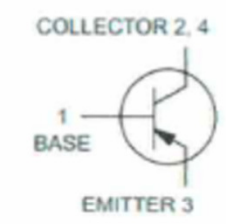
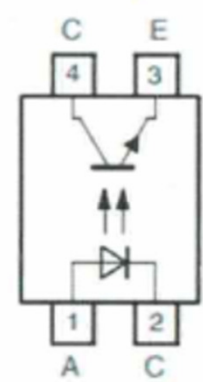
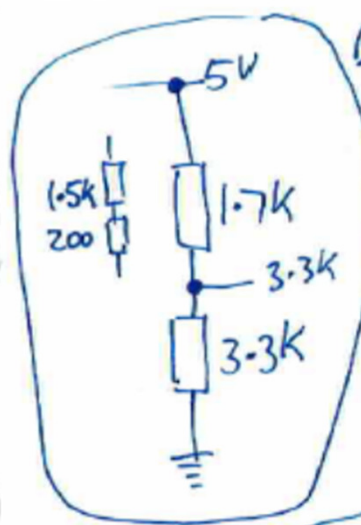
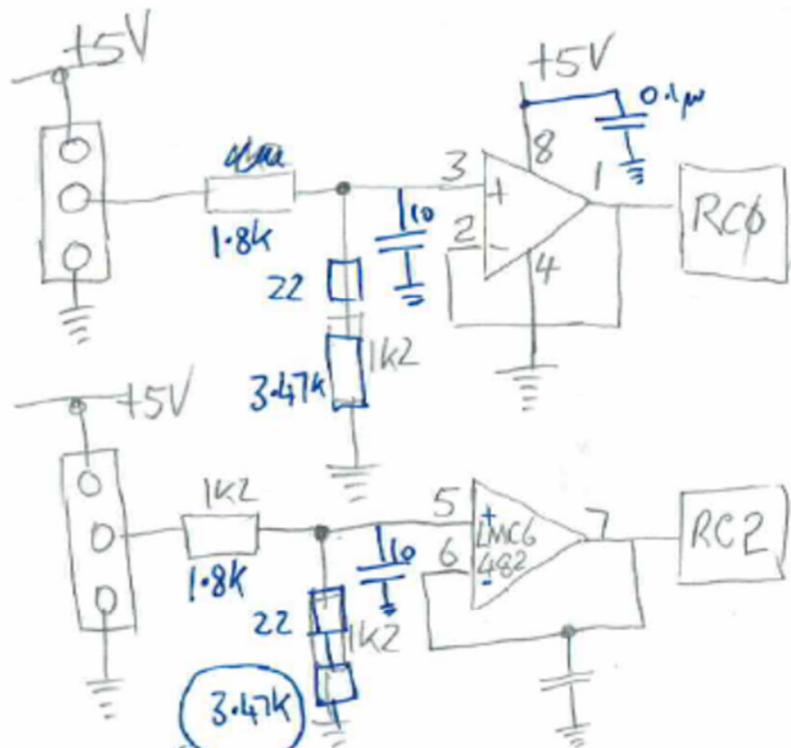
olve with $V_{in}=5V$, $R1=1000ohms$ and $V_{out}=3.3V$.

5.

$$\begin{aligned} V_{in} &= 5 \text{ V} \\ R_1 &= 1000 \text{ } \Omega \\ R_2 &= 1941.18 \text{ } \Omega \\ V_{out} &= 3.3 \text{ V} \end{aligned}$$



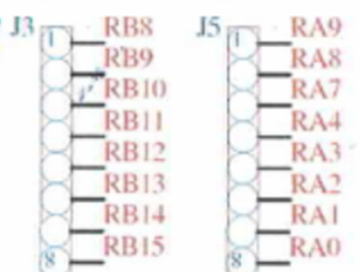
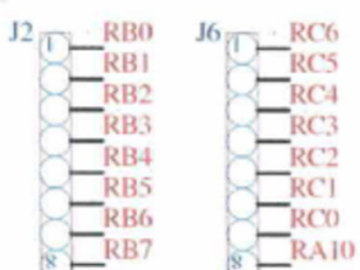
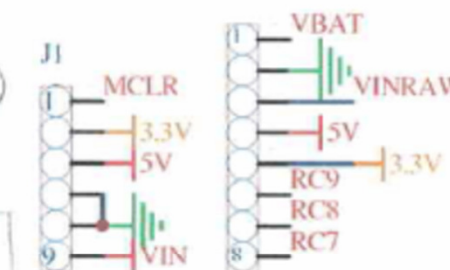
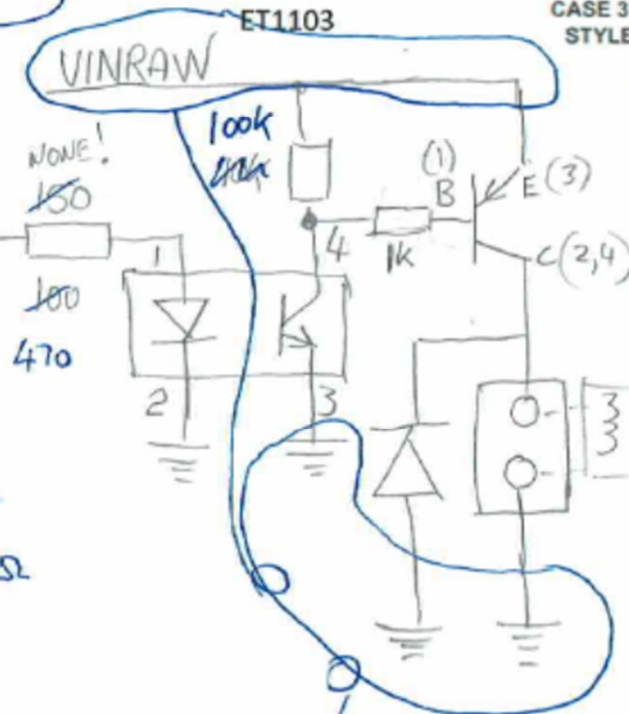
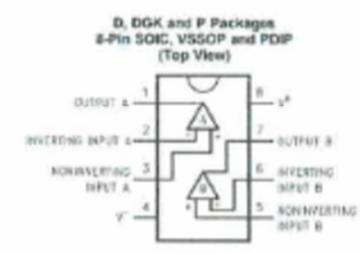
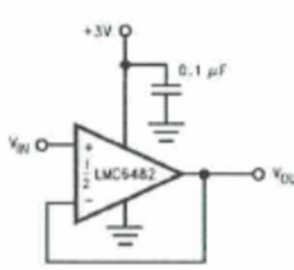
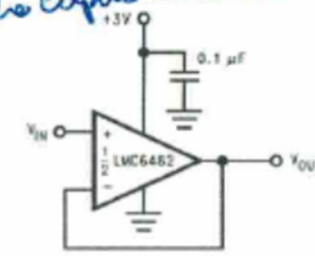
- PIN 1: V OUT
- 2: GROUND
- 3: VCC
- 4: V1
- 5: V2
- 6: V EX



These resistors in one of the capacitor boxes. Back LEFT

5V to 3.3V DIVIDER CCT

$$\begin{aligned}
 &= 5V \\
 &= 1.8k \\
 &= 3.3k \\
 &= 3494.12 \Omega \\
 &= 3470 \Omega + 22 \Omega
 \end{aligned}$$



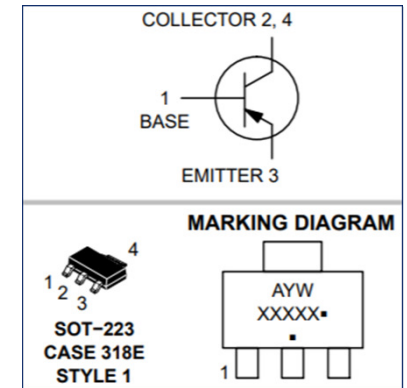
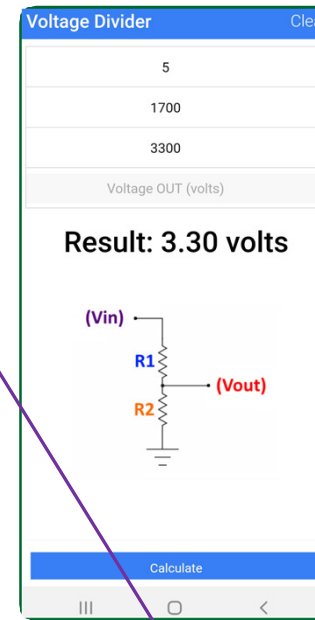
Got to keep these rails away from the analog rails.

Transducer has 4V span with a 0 to 100 PSI.
Therefore each PSI = $4V/100 \text{ PSI} = 40mV$ per each PSI

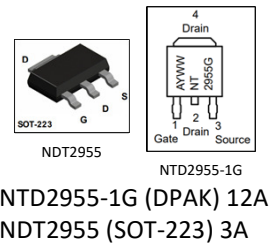
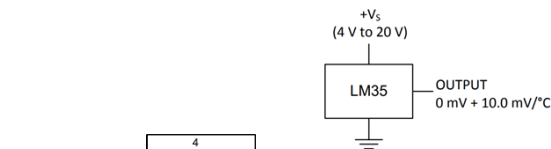
Output: 0.5V~4.5V linear voltage output.
0 psi outputs 0.5V
50 psi outputs 2.5V
100 psi outputs 4.5V.

For the 5V to 3.3V voltage divider, Initially I used those 3.47K resistors in the back left of one of the capacitor cases. Was on mission to use. Used 1.8K in series with 22R and 3.47K (giving 3.492R) which gave the correct voltage. But the 3.47K is non standard. Found the easier to obtain, standard values shown in cct on the web.

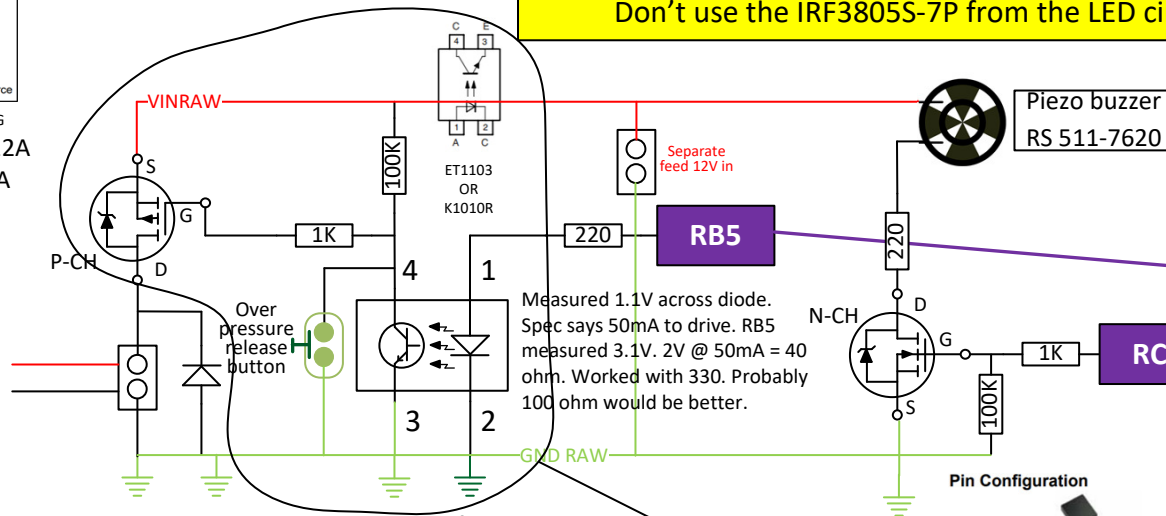
The voltage divider app on the phone looks like a white calculator on a blue background with a yellow lightening bolt through it



BCP53 PNP 1.5A
I used this one on the 1st prototype board. Needed to raise the driver current by lowering the base resistor to 1K. Changed to 3A PCH FET NDT2955 below.



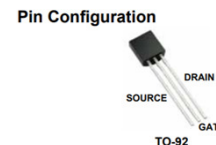
NTD2955-1G (DPAK) 12A
NTD2955 (SOT-223) 3A



Use these for the current drive board IRFS7434-7ppbf.
(From the Silicon Chip battery isolator project)
Don't use the IRF3805S-7P from the LED circuit.

Have to keep these rails away from the low power area. Mainly the earth.
This is where I had issues with the Analogue value jumping every time the relay pulled in. It was because of the earth voltage rising.

Could probably replace all for this with a CPC1020N SSR



2N7000

