

Dead time:

$$\textcircled{1} V_{DEL} = [0.75 \times (V_{CS} - V_{ADS})] + 0.5$$

$$V_{DEL} = 0.5V$$

$$\textcircled{2} t_{delay} = \frac{25 \times 10^{-12} \times R_{DEL} + 75ns}{V_{DEL}}$$

$$= 0.85\mu s$$

$$\textcircled{3} I_{RT} = \frac{3V}{R_T} = 3 \times 10^{-5} A$$

$$\textcircled{4} t_{osc} = \frac{2.3 \times R_T \times C_T + 120ns}{24}$$

$$f_{osc} = \frac{1}{t_{osc}}$$

$$= 119.593kHz$$

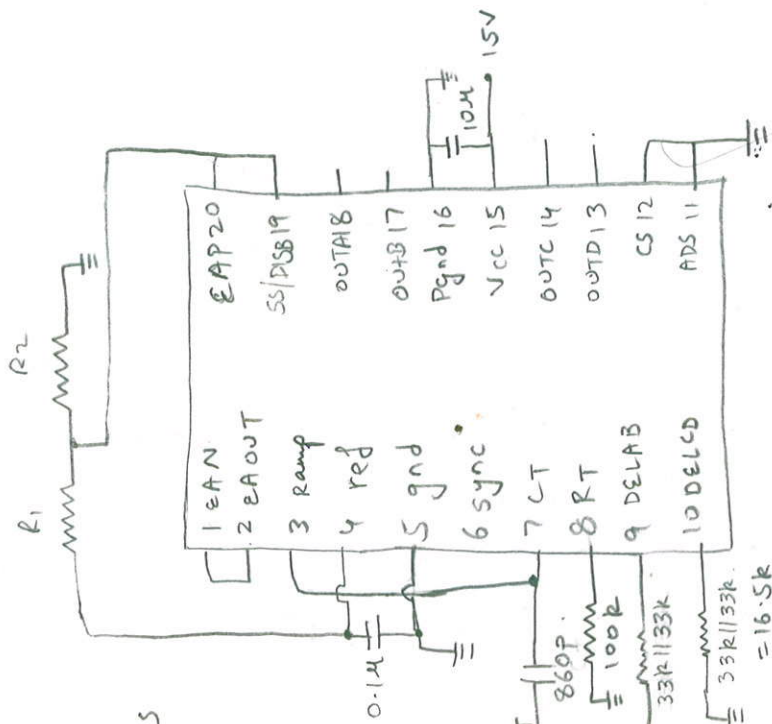
$$f_{PWM} = \frac{1}{2} f_{osc}$$

$$= 59.796kHz$$

$$C_T = 2 \text{ } 1000pF \text{ in series } // 180pF$$

$$R_T = 100k \text{ in series with } 10k + 10k$$

• Vary EAP (R_1/R_2 ratio) to vary phase shift



$$R_1 = 3.3k$$

$$R_2 = 2.7k$$

$$+d = 6.1\mu$$

$$EAP = 2.27V$$