

DAC step size for PIC18F27Q43

$$\frac{5V - 0}{256} = 0.0195 \text{ V/step}$$

The processor can output an analog voltage between 0 to 5V in 19.5 mV step

1 kHz sawtooth wave

$$T = \frac{1}{f} = \frac{1}{1\text{kHz}} = 1\text{ ms}$$

DAC output pins : RA2 & RB7
use this one

commandeer one LED using this pin

Why need op-amp?

Current drive of DAC output is essentially nothing.

28-Pin SSOP

28-Pin SOIC

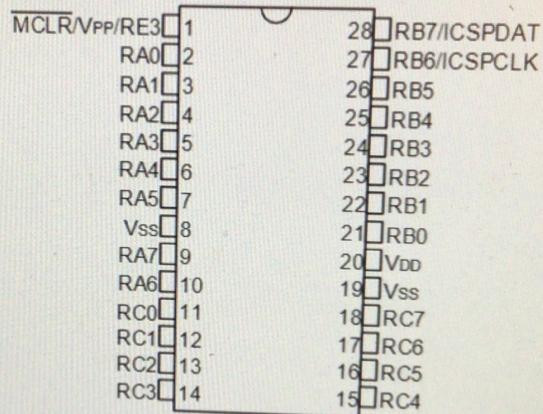
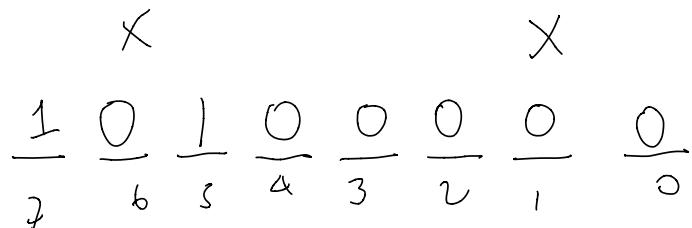


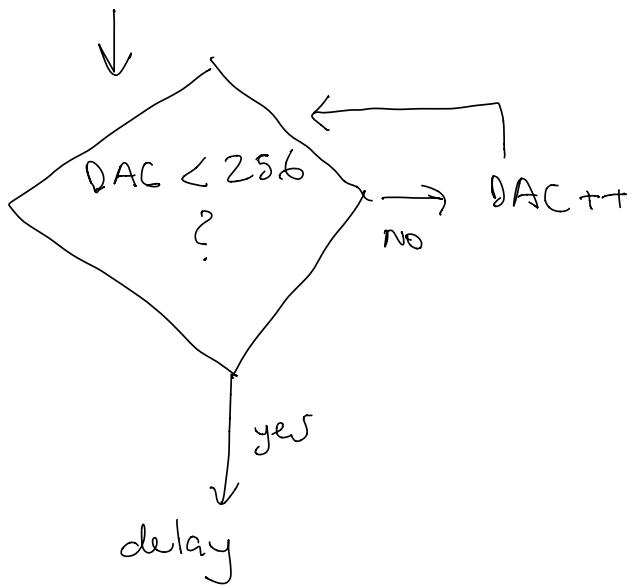
Figure 2-2.
28-Pin VQFN

DAC:



$$= 0 \times A0$$

Initial DAC = 0



what is the delay? From above:

1 kHz sawtooth wave

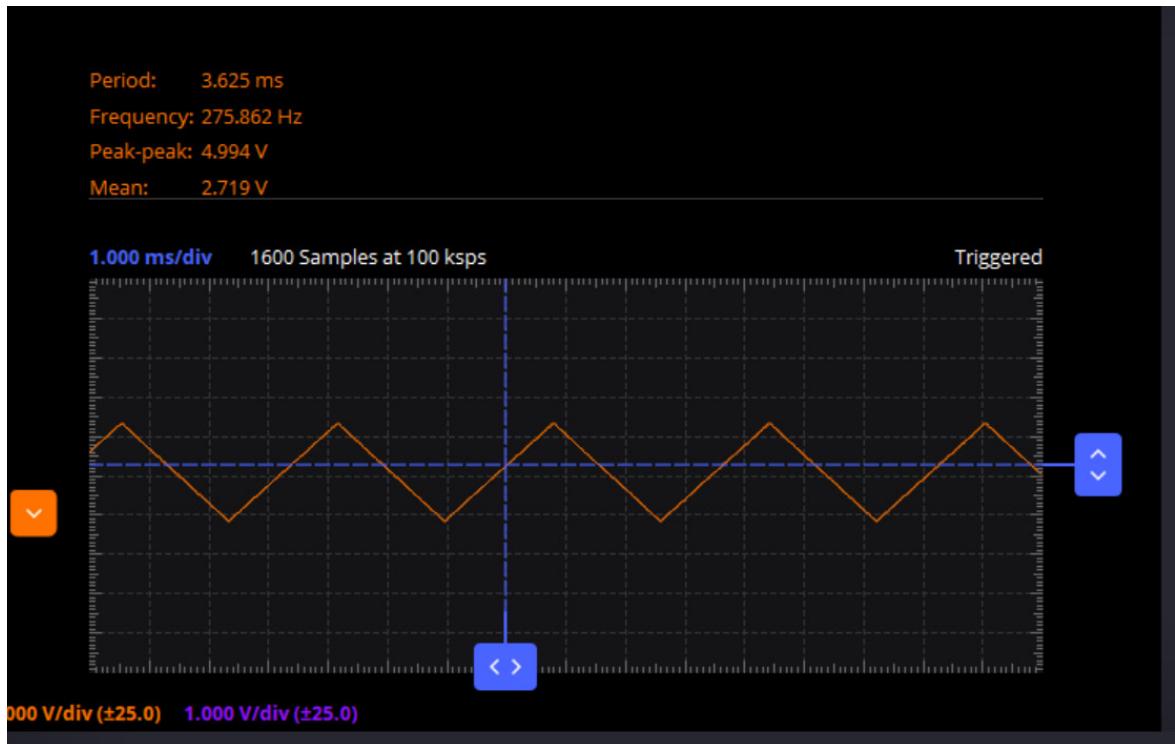
$$T = \frac{1}{f} = \frac{1}{1\text{kHz}} = 1\text{ ms}$$

\Rightarrow 1ms is the period, for all
256 increments up and 256 increments down.
 \Rightarrow 512 increments.

For each of the 512 increments,

$$\frac{1\text{ms}}{512} = 1.95\text{ }\mu\text{s} \approx 2\text{ }\mu\text{s}$$

Slow Sawtooth



After Commenting Out

