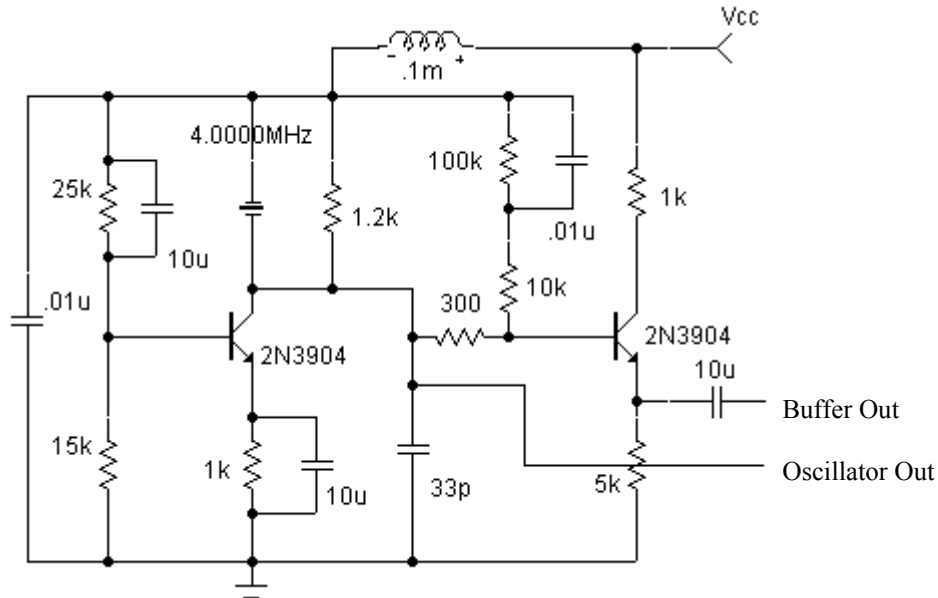


Crystal Oscillator



Oscillator Output Frequency: 4.000198 MHz

Buffer Output Frequency: 4.000503 MHz

Source Voltage: 12V to 30V

Oscillator Output Impedance: 1.50k Ω

Buffer Output Impedance: 4.59k Ω

This circuit is a modified Colpitts Oscillator with the inductor replaced with a 4.0000 MHz crystal. The output can be taken directly from the oscillator if the circuit connected has a high input impedance that is mostly resistive. Highly reactive circuits will interfere with the operation of the oscillator. A buffer circuit using an emitter follower, however, is provided to drive any circuit. Very low impedance circuits will receive a diminished signal and require an impedance buffer or an amplifier. The output voltage is largely dependant on the source voltage.

This circuit could be used for a number of clocking and high frequency applications. The waveform is often distorted slightly when interfaced to a reactive load (including wires longer than six inches). The overall frequency, however, is largely unaffected. If a clean waveform is required, a band-pass filter centered on 4MHz will result in a perfect sine wave.