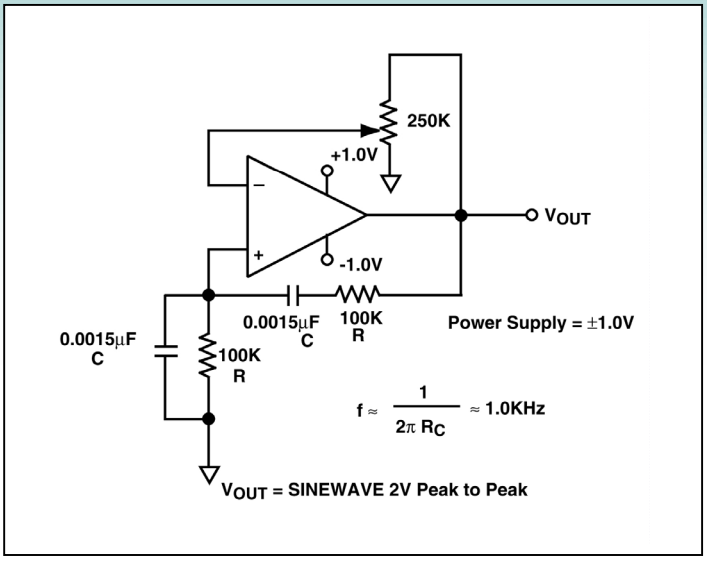
Category: Oscillators **CIRCUIT IDEAS FOR DESIGNERS** Schematic no. osc_42003.0

Wien Bridge Oscillator



Description

This circuit is known as a Wien Bridge Oscillator. It has both a positive and negative feedback loop. For oscillations to occur, the net feedback must be positive. The circuit oscillates at a frequency determined by the R C time constant at a frequency f= ½ x 1/(3.1416 x R x C) and produces a sinusoidal waveform at the output VOUT. For many system situations, this oscillator is used as a sine wave generator. Using a rail to rail operational amplifier, the sine wave generated at VOUT is also rail to rail. The output sine wave is relatively distortion free if the component values of the RC do not strain the operational amplifier selected. Obviously, the operational amplifier also must have sufficient output drive and slew rate for the sine wave frequency desired.

Recommended Components

ALD1706, ALD1702, ALD1704, ALD1706

Other Related Circuit Ideas

Schematic no. osc_42004.0 Wien Bridge Oscillator (Rail-to-Rail) Sine Wave Generator