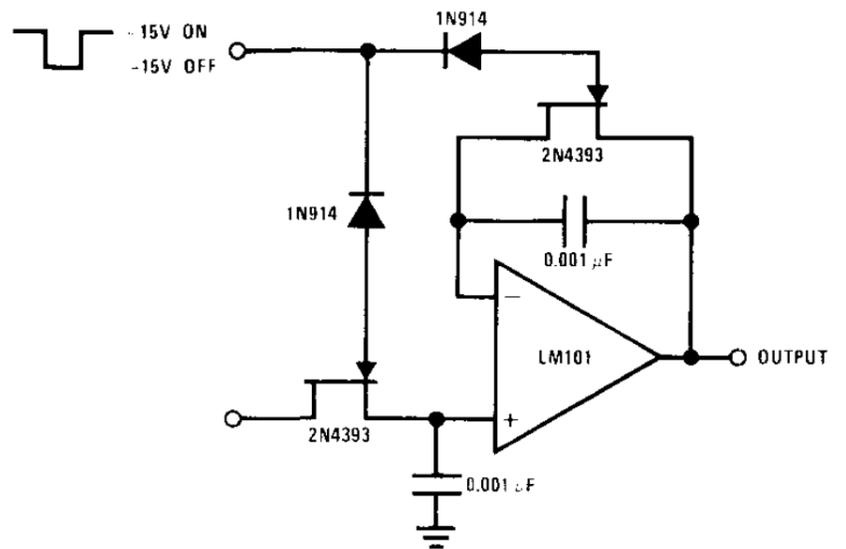


Peak output voltage
 $V_p \cong V_z + 1V$

Wien Bridge Sine Wave Oscillator

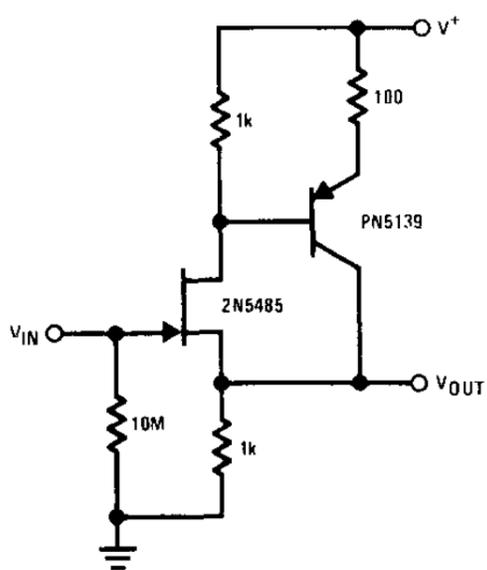
The major problem in producing a low distortion, constant amplitude sine wave is getting the amplifier loop gain just right. By using the 2N5457 JFET as a voltage variable resistor in the amplifier feedback loop, this can be easily achieved. The LM103 zener diode provides the voltage reference for the peak sine wave amplitude; this is rectified and fed to the gate of the



JFET Sample and Hold Circuit

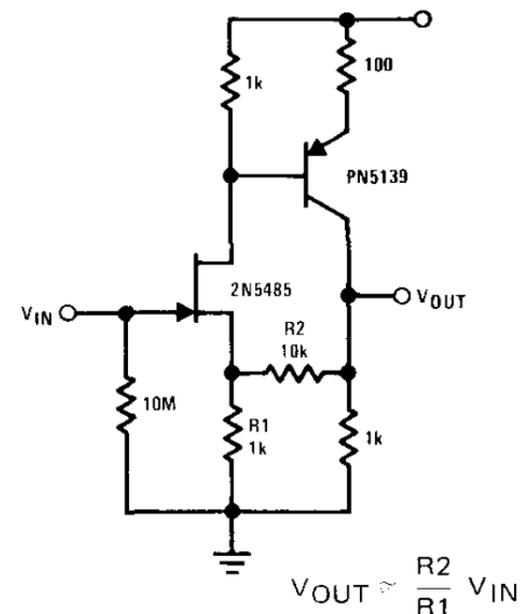
2N5457, thus varying its channel resistance and, hence, loop gain.

The logic voltage is applied simultaneously to the sample and hold JFETs. By matching input impedance and feedback resistance and capacitance, errors due to $r_{ds(ON)}$ of the JFETs is minimized.



High Impedance Low Capacitance Wideband Buffer

The 2N5485 features low input capacitance which makes this compound series-feedback buffer a wide-band unity gain amplifier.



High Impedance Low Capacitance Amplifier

This compound series-feedback circuit provides high input impedance and stable, wide-band gain for general purpose video amplifier applications.

$$V_{OUT} \cong \frac{R_2}{R_1} V_{IN}$$