

Band Switching Voltage Controlled Oscillators

This note describes how additional tuning bandwidth can be obtained by band switching two VCOs with a TTL compatible input.

Circuit Operation (Figure 1) can be described as follows:

Input High: Q1 is forward biased allowing the devices collector voltage to approach 0v. This in turn forward biases Q2, switching VCO1 on. Q3 and Q4 remain off (in cutoff) keeping VCO2 off.

Input Low: Q1 is off and the devices positive collector voltage turns Q2 off (VCO1 is therefore off) and Q4 on. As a result, Q3 is forward biased allowing VCO2 to turn on.

Figure 1: Schematic Drawing

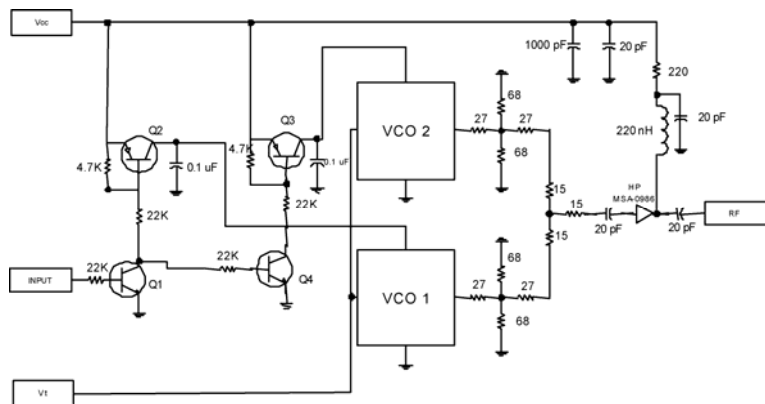
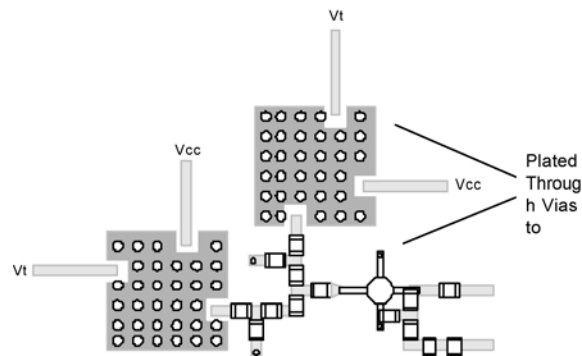


Figure 2: Typical Output Circuitry Layout: MINI Package VCO
(Not drawn to scale)



Notes:

1. Component values listed for operation at 1 GHz.
2. Transistors are general switching type.

For additional information refer to the following Z-COMM application notes:

AN-101 Mounting & Grounding of VCOs

AN-102 Proper Loading of VCOs