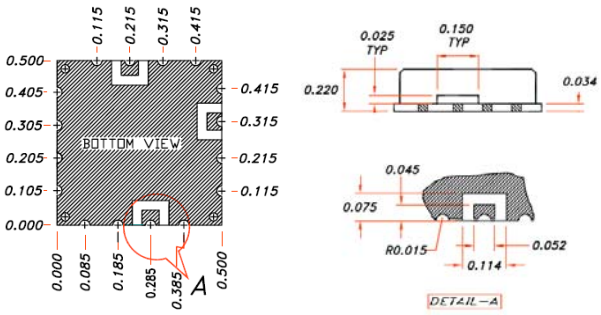
# Mounting and Grounding of Z-Comm Surface Mount VCOs

Z-COMM VCOs are available in several surface mount packages. The VCO ground plane should be in direct contact with the PCB ground plane which must consist of a conductor covering the full underside of the VCO package.

The following are dimensions for the “MINI-16” package and a recommended footprint. For other Z-COMM surface mount packages the same mounting and grounding principles apply, however the layout should be scaled according to the corresponding outline drawing dimensions.

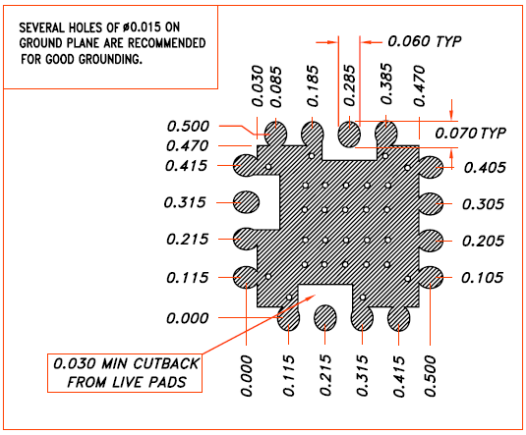
*Figure 1: Outline Drawing for MINI-16 Package*




Notes:

1. The inside radius of all 16 half holes at the perimeter of the board are plated to provide a surface for the attachment of the VCO to a motherboard, in 13 locations, with 3 pads being used for electromechanical interface. 16 solder locations required.
2. The shield is tin plated CRS or Alloy 770.
3. The ground plane is ground and attaches to a ground track on the upper side of the board as well as the shield by plated through holes.

*Figure 2: Recommended Footprint*




1. Unless otherwise noted all dimensions are in inches.
2. Unless otherwise noted all tolerances are as follows: .xxx = ± .010
3. Plating: Electrodeposited Ni/Au over copper.

Notes:

1. PCB material is FR4 or RO4003 and bottom surface is a ground plane.
2. Several plated through holes are necessary to minimize unwanted ground reactance.
3. Bypass capacitors and or an emitter follower configuration are recommended on the Vcc line to suppress supply noise.
4. Depending on the output frequency, additional vias may be necessary on the ground plane of the customer’s board layout.

For additional information refer to the following application notes:
***AN-102 Proper Loading of Voltage Controlled Oscillators***
***AN-107 VCO Package Soldering Technique***