

## Manual Soldering Technique for Z-Comm VCOs

This note describes common manufacturing methods used to solder Z-COMM surface mount and pin mount VCOs. Following the suggested practices will ensure optimum performance and repeated product reliability.

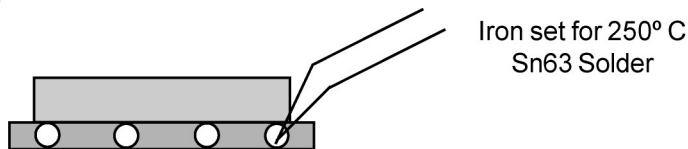
### Surface Mount VCOs:

The MINI, SUB-MINI, 375 and USSP package devices can be soldered manually or through an automated process. Recommendations for both approaches are detailed below.

### Manual Process:

Apply solder to the half-moon connections around the periphery of the VCO package (see Figure 1). Once the device's ground plane is heated, connection will normally require 5 seconds or less. For proper grounding, all of the contacts must be soldered. Care must be taken to ensure good solder connections without applying excess solder. Also, iron contact with VCO should be executed quickly to prevent heat damage.

Figure 1:



Apply iron for no more than 7 seconds after ground plane is hot.

### IR Reflow Process:

A typical solder stencil can be used to dispense solder at the half-moon contacts. A reflow process with appropriate IR reflow profile will ensure proper wetting and good VCO/PCB contacts. Reflow of components within the device must be avoided. Please see Table 1 regarding the solder paste utilized in the Lead and Lead-free products.

Table 1:

	Solder Paste	Melting Temp
PB	Sn63/Pb37	183°C
PB-Free	SAC305	217°C