

## R516 Quartz series: MANUAL SOLDERING PROCEDURE with integration of a conductive ground gasket

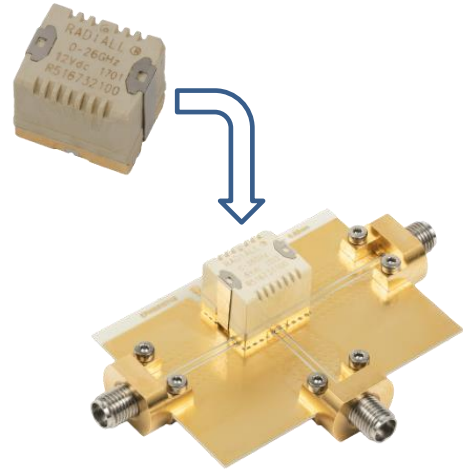
### 1-General : solder paste and cleaning procedure:

R516 series are « Lead Free », and Lead Free Sn-Ag3.5-Cu0.7 solder cream may be used as well as standard Sn63–Pb35–Ag2. RADIALL recommends using a « no clean - low residue » solder cream (5% solid residue of flux quantity) that will permit the elimination of the cleaning operation step after soldering.  
Note : Due to the gold plating of the switch PCB interface, it is important to use a paste made with silver. This will help in avoiding formation of intermetallics as part of the solder joint.

On miniature relays, high frequency cleaning may cause the contacts to stick. If cleaning is needed, please avoid ultrasonic cleaning and use alcohol based cleaning solutions.

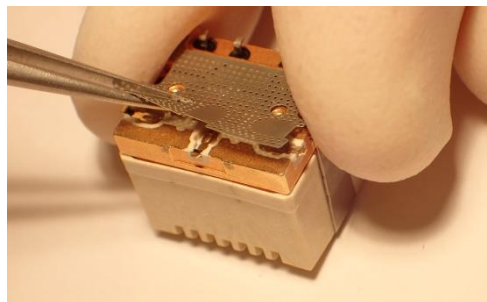
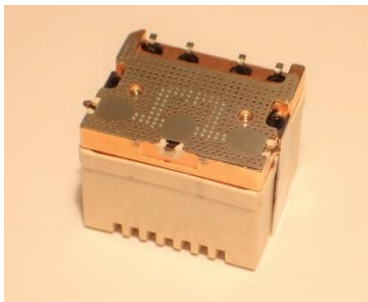


In-line cleaning process, spraying, immersion, especially under temperature, may cause a risk of degradation of internal contacts. For such cleaning process please contact us.



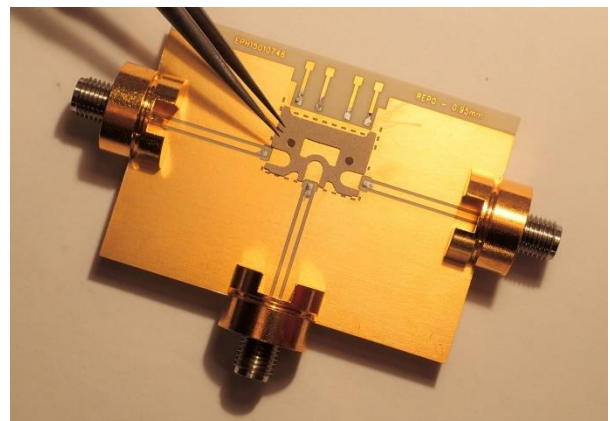
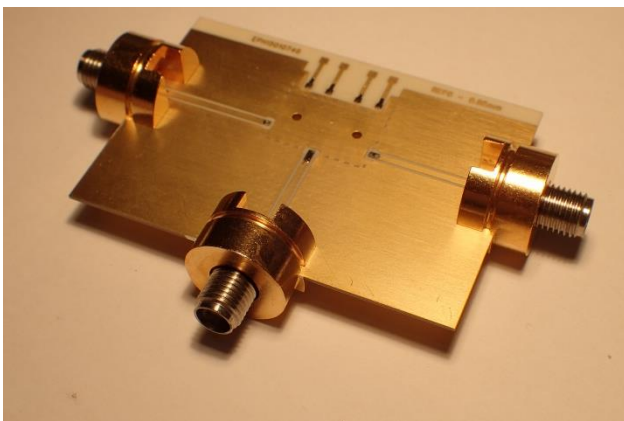
### 2-Bottom screen :

When a ground conductive gasket is used, the bottom shielding screen must be removed.

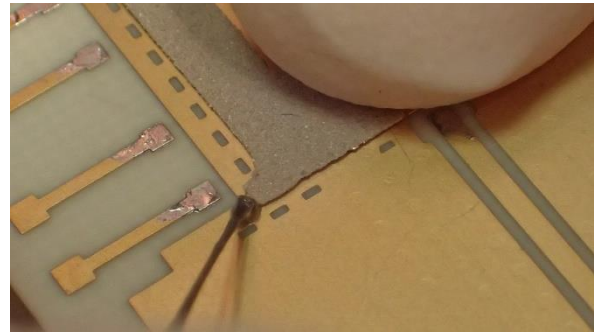
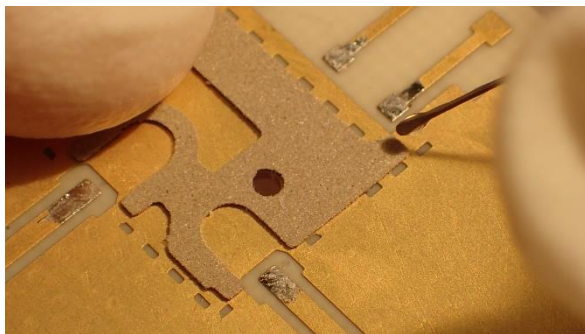
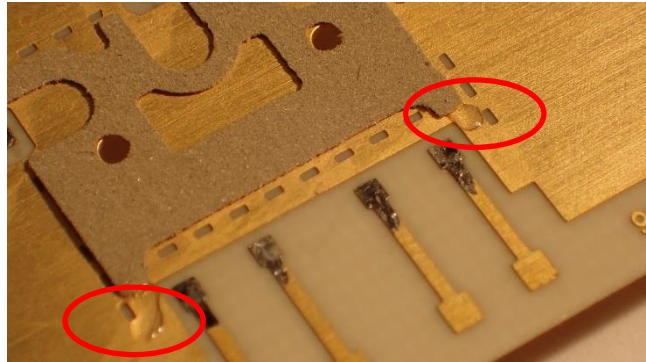


### 3-Placement of the conductive gasket:

Place the gasket onto the PCB. A good alignment will guarantee better RF characteristics



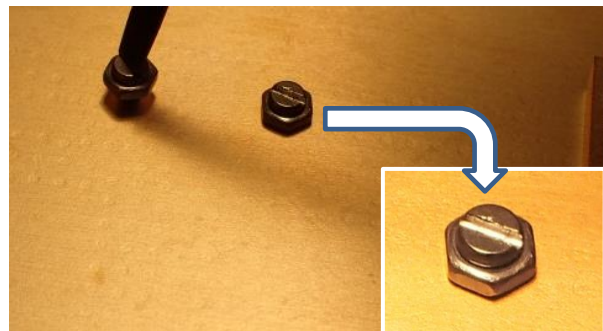
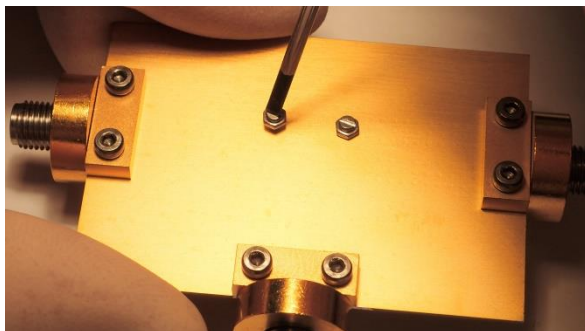
RADIALL recommends to put two glue spots (for example, cyanoacrylate instant adhesive) opposite to the RF access side, so as to keep the most accurate placement.



**4-Mounting of the relay on the PCB:**

The relay must be fixed by means of M1.2 screws. To adjust the length of the screws to the thickness of the PCB, we can use longer screws and add nuts.

- A) Screw the M1.2 screws into the RF body of the relay. Screws must be fully tightened.
- B) Center the component on the mounting pads, then to compress the joint, screw the nuts from 1/2 turn to 3/4 turn after the circuit first contact, i.e. about 0.15 mm crushing.
- C) Put glue to stick nuts and screws onto the PCB.

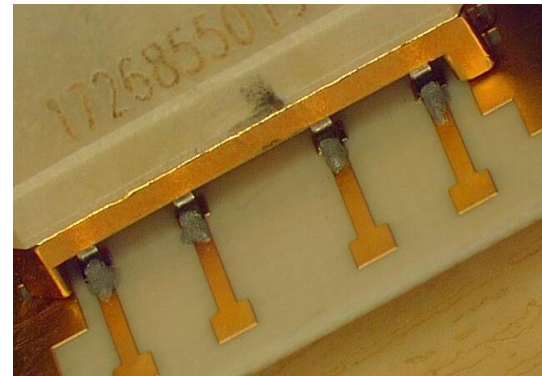
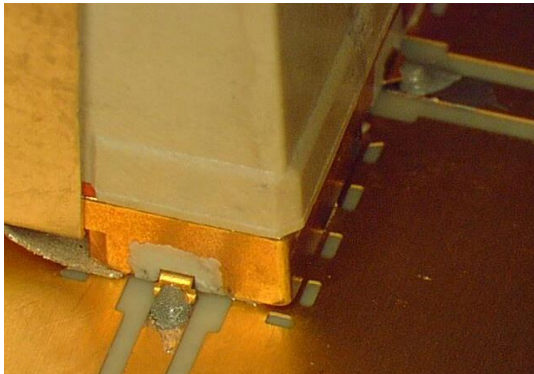
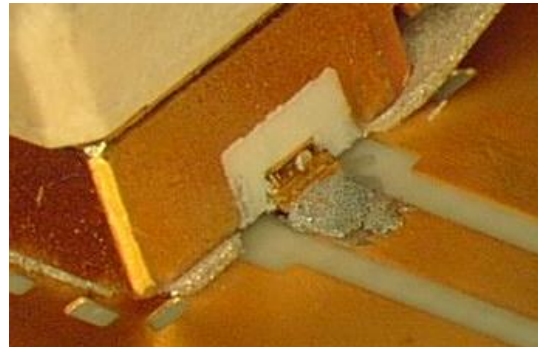


**5- Flux deposition and Solder paste on RF and drive accesses:**

Deposit a thin layer of flux on solder pad area. Allow the flux to evaporate a few seconds before applying the solder paste, it will prevent dilution of the paste.

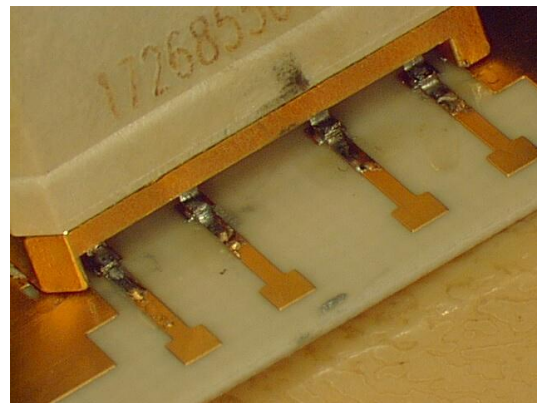
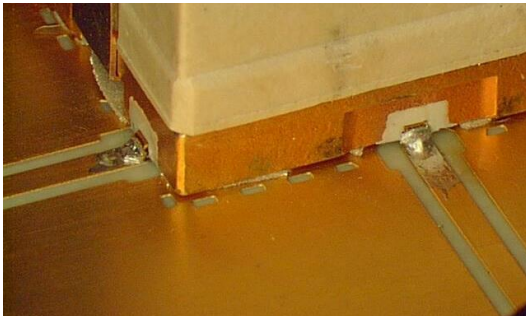
RADIALL recommends depositing a small amount of solder paste on solder pad area by syringe.

Be careful not to apply solder paste outside of the zone area.



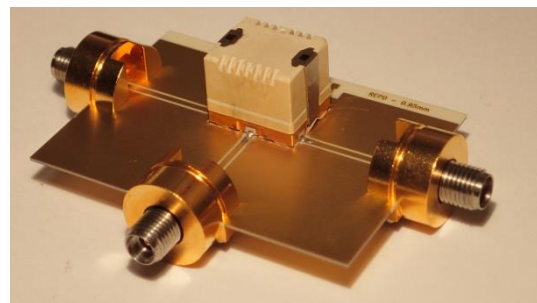
**6-Hand soldering :**

With the conductive gasket, it is not important to solder the RF body edge to the PC Board to improve RF characteristics.



**7-Quality check:**

Solder joints : verify by visual inspection that there is no solder excess on the RF pads.



**8- Final RF Characteristics after PCB assembly:**

With Conductive gasket, RF characteristics may not be as good versus the reflow soldering process:

