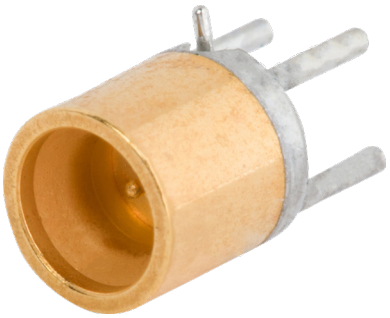
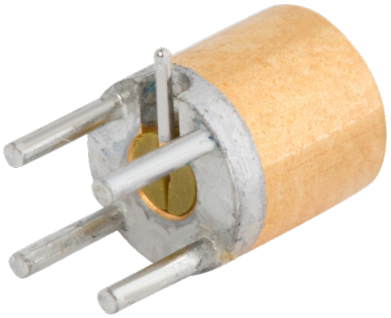
Pre-Tinned (De-Golded) PCB Connectors

Features & Benefits

- Gold in soldered area removed per J-STD-001
- Improves reliability of the solder joint
- Connectors optimized for pre-tinning at the design stage
- Parts delivered in T&R packaging and ready to install
- Cost savings compared to outsourcing or de-golding in house
- Pre-tinning options available in both SN63 and SN96
- Robust technical support for design, assembly and trouble-shooting
- Footprint design optimization through simulation available





Pre-tinned (De-golded) PCB Connectors
PN: 3211-40093 and 3211-40094

Applications

- Military and Aerospace Radar Transmit/Receive Units
- Space and High Reliability Communications and GPS
- Harsh Environment Applications (High Vibration, Extreme Temp.)
- Embedded Computing
- Any time de-golding is a concern or requirement

Why is Gold Removal Important?

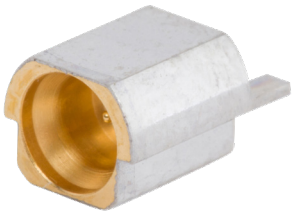
Gold over nickel plating is commonly used on Brass, BeCu and Stainless Steel bodies used in RF PCB Connectors. Its corrosion resistance and electrical connectivity make it an excellent choice for signal transmission and high reliability.

However, when these connectors are soldered to PCBs (either by hand or through a reflow process), undesirable remnants of the gold plating can be found in the solder joint.

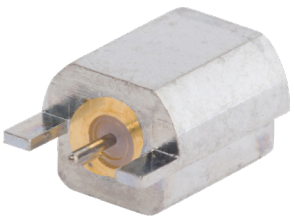
Excess gold in a solder joint can create a gold-tin compound known as AuSn3. These gold striations in the solder joint are brittle - susceptible to breakage under mechanical stress (shock and vibration). For this reason, designers of high vibration and extreme movement RF PCBs often require there to be a minimal amount of Gold in a solder joint, as defined in J-STD-001.

SV Microwave has developed a unique and proprietary method for removing gold in the solder area of our RF connectors. We plan for gold removal in the design stage, modifying the connector body so it can be fixtured effectively and gold can be thoroughly removed from the solderable area - including nearby areas which may be prone to capillary effect wicking.

SMPM Male PCB Edge Launch Connector (Front)
PN: 3211-60307 and 3211-60308



SMPM Male PCB Edge Launch Connector (Back)
PN: 3211-60307 and 3211-60308



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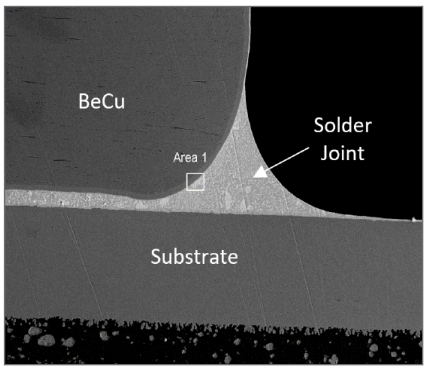

Figure 1: SEM image of PCB Connector solder joint with AuSn platelets

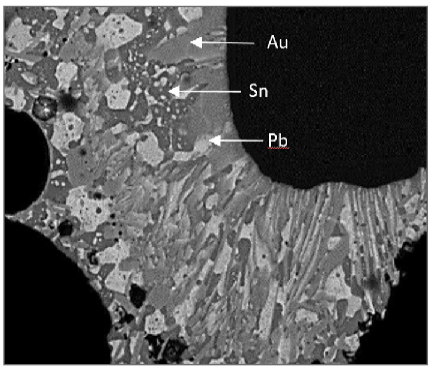

Figure 2: High mag view of 'Area 1' showing excessive gold in solder

The images to the left show a typical Sn63Pb37 solder joint of an RF connector to a PCB. In this case the RF connector hasn't been de-golded and has been soldered to the PCB in a typical re-flow oven process.

AuSn platelets are present in the high magnification view. This solder joint would not be compliant with J-STD-001 which requires less than 3% gold.

Similar images (right) were taken in an area that had been de-golded with SV's proprietary process. As you can see, the gold content present in the solder joint is much lower and compliant with J-STD-001.

The de-golded solder joint will be less susceptible to gold embrittlement and the associated concerns in shock and vibration conditions.

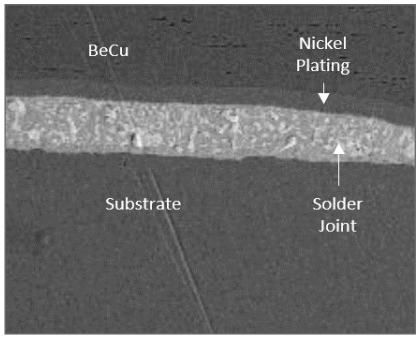

Figure 3: SEM image of PCB connector solder joint without AuSn platelets

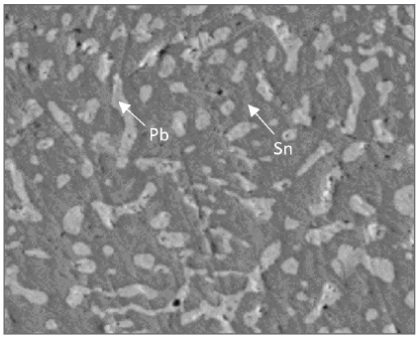

Figure 4: High mag view of solder joint in Figure 3 showing minimal gold in solder

SV's Wide Range of Pre-tinned (De-golded) Connectors

SV Microwave is pleased to offer a standard line of connectors that has been optimized for gold mitigation by design. With over 25,000 custom and standard products in our portfolio, contact our engineers at **marketing@svmicro.com** for more information or to customize your pre-tinned connectors today!

SMP Male PCB Thru-Hole Connector with Right Angle Contact

Part No.	Detent
1211-40080	SB
1211-40082	FD

SMP Male PCB Edge Launch Connector

Part No.	Detent
1211-60209	SB
1211-60211	FD

SMP Male PCB Surface Mount Connector with Right Angle Contact

Part No.	Detent
1211-40087	SB
1211-40089	FD

SMPM Male PCB Thru-Hole Connector with Right Angle Contact

Part No.	Detent
3211-40093	SB
3211-40094	FD

SMPM Male PCB Edge Launch Connector

Part No.	Detent
3211-60307	SB
3211-60308	FD

SMPM Male PCB Surface Mount Connector with Right Angle Contact

Part No.	Detent
3211-40106	SB
3211-40107	FD

All connectors shown use non-RoHS compliant Sn63 solder.

If you would like a variant that uses RoHS compliant solder, contact sales@svmicro.com

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