

SMPM High Frequency Push-on

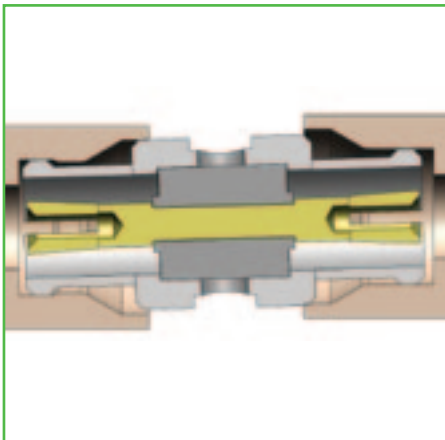
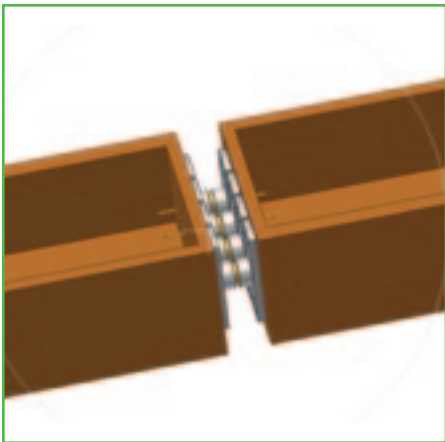
The SMPM connector, which is 30% smaller than its cousin, the SMPM, has similar features and applications. This is a multi-functional high frequency push-on connector suitable for use in a variety of applications. This ultra miniature connector can be used for applications ranging from hermetic modules to backplanes, and because of its diminutive size, it is ideal for “gang” or multi-connector configurations. Unlike other push-on type connectors, the frequency range of the connector is not limited by the push on, blind mate construction. These deceptively robust connectors are designed to mate tightly and maintain performance through 65 GHz

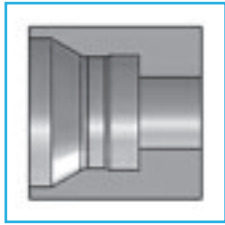
Module to Module (board to board)

One of the benefits of the SMPM connector is its ability to join two RF/ Microwave Modules or PC Boards to one another without the use of cables. In the past this was difficult and/or costly because of the tolerances necessary to ensure good alignment between modules or boards. The key component used in this application is an inseries female to female SMPM adapter called a “Bullet”. The bullet is a unique connector that can be used to join two micro-wave modules or boards together by placing the bullet between two SMPM Male connectors or shrouds. This method produces a tight, compact arrangement.

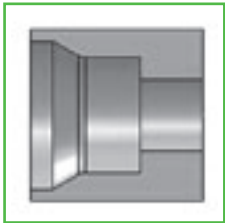
Misalignment

The SMPM’s ability to tolerate axial and radial misalignment while maintaining microwave performance is one of the key’s to it industry popularity. The SMPM accommodates axial and radial misalignment without the use of bulky springs or other alignment tools. This is why it is possible to use these connectors in module to module (board to board) applications. Although the bullet fits tightly into the mating shroud, by design, it has the ability to move slightly while maintaining its performance. This slight radial and axial movement gives the SMPM bullet its “Float”. When installed properly, the standard SMPM bullet/shroud combination can withstand $\pm .010$ ” (.25mm) Axial and $\pm .010$ ” (.25mm) Radial float.

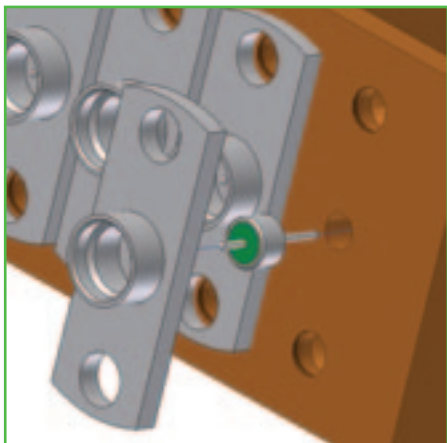




Full Detent



Smooth Bore



Detents

The SMPM has two types of detent as specified in MIL-STD-348. The detents are the Full and Smooth Bore. The full detent gives the largest insertion and withdrawal forces while the smooth bore gives the least. Each detent is developed for specific purposes depending on the application. The smooth bore is used on many blindmate applications where increased axial and radial float is needed. To provide assurance that the bullet will stay on one of the modules, the full detent SMPM male shroud is used on one module and a smooth bore shroud is used on the other. This will ensure when modules are taken apart that the bullet will stay with the full detent shroud. Full detents are used when withdrawal forces need to be high such as when a SMPM female cabled connector is used.

Hermetic Seals

In some cases it is important to have a hermetic module which creates high expense and extreme difficulty for most connectors. In the case of the SMPM, it is an easy process to create an hermetic module. All that is necessary is a .012" glass feed through and shroud. The glass feed through is fired or soldered in the housing just as any other feed through. The shroud is then placed around the feed through, creating the SMPM male connector. Performance is improved over other hermetic seals since the center pin of the feed through is the male contact and no additional contacts or insulators are needed.

Cable Connectors

The SMPM may also be used for cable assemblies. These assemblies have the advantage of being quick disconnects while still maintaining performance at frequency ranges higher than other push on type connectors. The full detent is used when mating an SMPM cable assembly so that it will maintain the maximum retention.