

Synapse

High Performance RF Interface for Superior Durability

Features & Benefits

- Patented zero-insertion force outer ground structure
- Precision designed 'snap-in' / 'snap-out' retention method
- Interface can handle 10k+ mating cycles without significant performance loss
- Accommodates tensile and side-loading without performance degradation
- All stainless steel outer interface bodies for mechanical durability
- Insertion/withdrawal forces can be customized
- Available as cable assemblies, adapters and PCB mount connectors

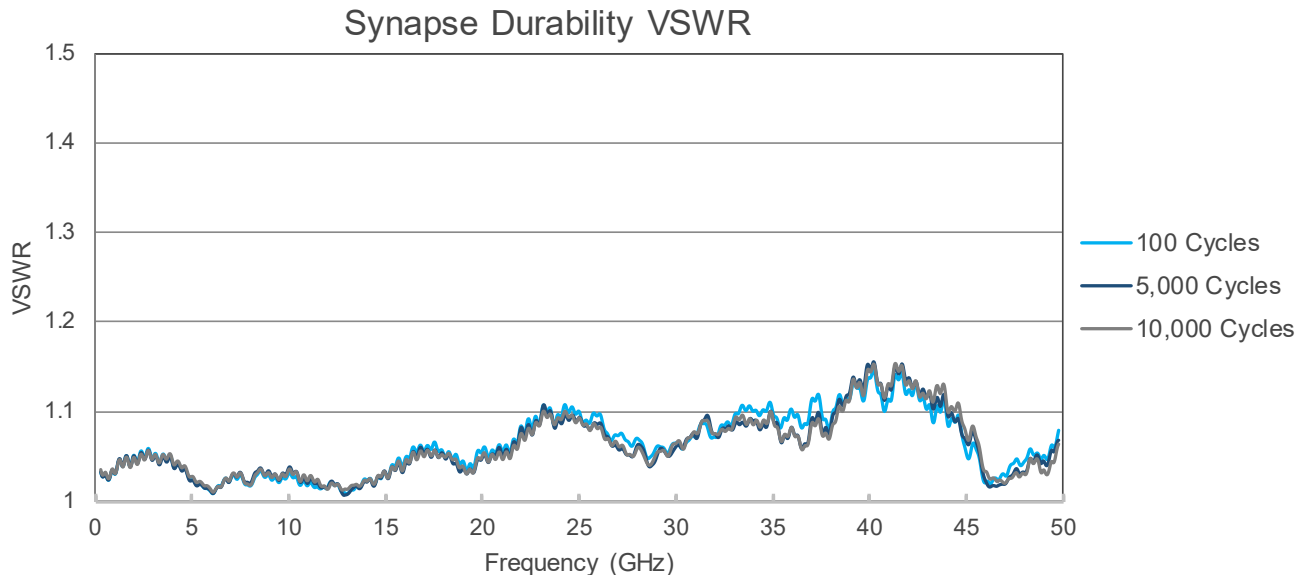
Applications

- Test and Instrumentation
- High-mating Cycle Automated Testing Equipment (ATE)
- Military and Aerospace Radar Transmit/Receive Units
- Space and High Reliability Communications and GPS
- Harsh Environment Applications (High Vibration, Extreme Temperatures)



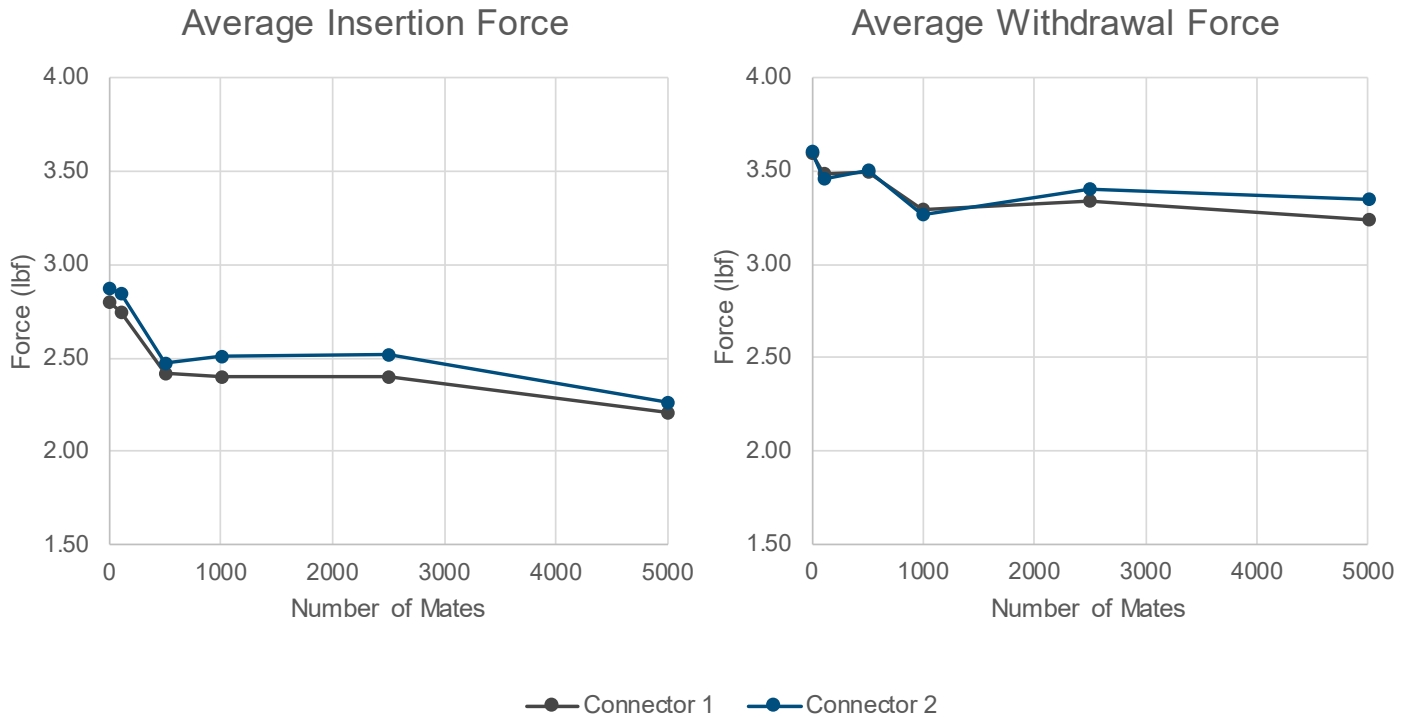
Proven Performance through 10K+ Mating Cycles

The synapse interface was designed to withstand dynamic mating conditions while maintaining stable electrical performance. The proprietary design keeps a continuous electrical ground under rotation (twisting), pulling (tensile force) and radial (side) loading. The interface has been tested beyond 10k mating cycles without significant electrical or mechanical degradation. The plot below shows VSWR performance (un-gated) of a mated set of cables over 10k mating cycles.



Compliance that Lasts

In any RF blindmate connector, the spring force holding the mated interfaces together degrades over time. Conventional push-on connectors often lose significant ‘holding’ force after just a few mating cycles. The Synapse retention mechanism is designed to last without degradation and can be tuned to any specific insertion/withdrawal force that the application demands.



Electrical and Mechanical Specs	
Max Frequency	50 GHz
VSWR	$1.05 + .005 * f$
Insertion Loss	$.03 * \sqrt{f}$
DWV	325 VRMS
Mating Cycles	10,000
Temperature Rating	-65°C to 165°C
Vibration	MIL-STD-202, Method 204, Condition D, 20Gs
Shock	MIL-STD-202, Method 107, Condition B, -65°C to 125°C

P/N	Description
1180-6051	Synapse Male to 1.85mm Male Adapter
1180-6052	Synapse Female to 1.85mm Male Adapter
7080-0840	Synapse Male to 2.92mm Male 12" Cable Assembly for .047 Cable
7080-0841	Synapse Female to 2.92mm Male 12" Cable Assembly for .047 Cable
7080-0842	Synapse Male to 2.92mm Male 12" Cable Assembly for SV 87 Low Loss Cable
7080-0843	Synapse Female to 2.92mm Male 12" Cable Assembly for SV 87 Low Loss Cable