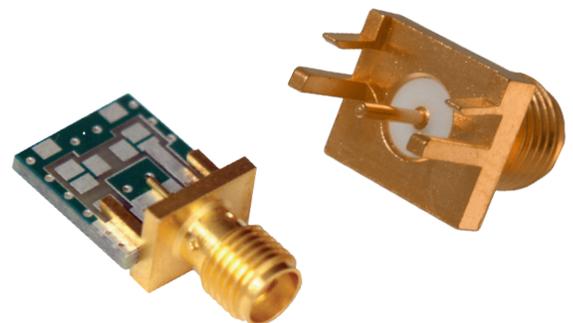
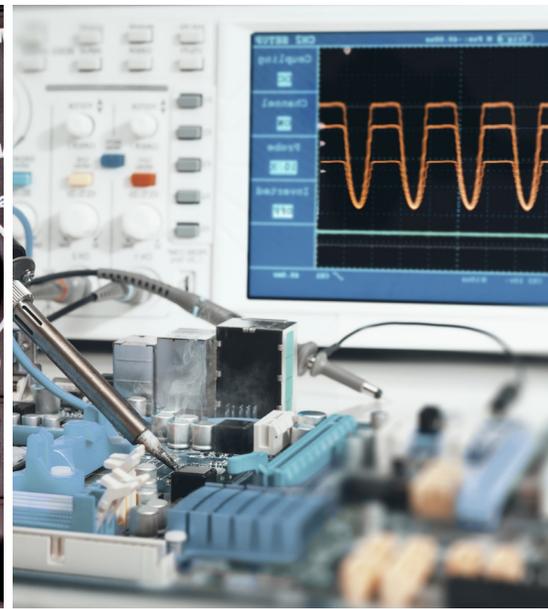
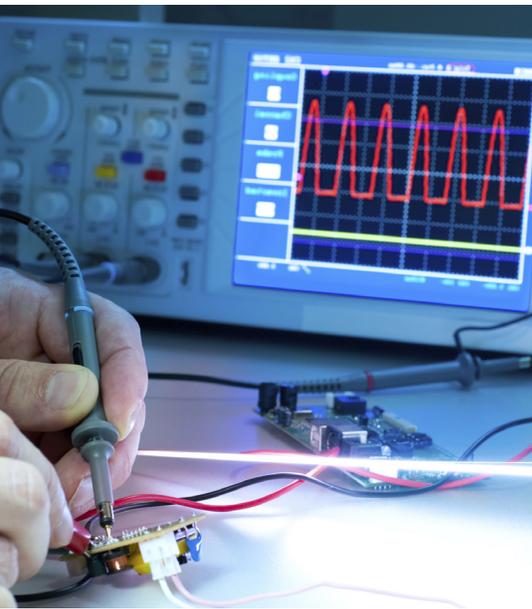


SMA Self-Fixture End Launch Connectors

An ideal solution for design engineers who are obligated to cut manufacturing costs and complexity out of their circuit board system.

For those microwave engineers who are required to transition microwave energy from coaxial to planar transmission line structures on even higher frequency board substrates, Cinch Connectivity Solutions recommends the Johnson line of High Frequency End Launch, Self-Fixture connectors which can operate up to 26.5GHz with good Return Loss values.



SPECIFICATIONS

Electrical Ratings

| | |
|--|--|
| Impedance: | 50 Ohms |
| Frequency Range: | 0-18 GHz (26.5 GHz for High Frequency Model) |
| VSWR: | Dependent upon application |
| Working Voltage (VRMS max): | 335 V @ Sea Level, 85 V @ 70,000 feet altitude |
| Dielectric Withstanding Voltage (VRMS min at sea level): | 1000 |
| Insulation Resistance: | 5000megohms min |
| Contact Resistance (milliohms max): | 3.0 Initial, 4.0 after environmental |
| Corona Level (Volts min at 70,000 feet): | 250 |
| RF High Potential Withstanding Voltage: | (VRMS min tested at 4 and 7 MHz): 670 |

Mechanical Ratings

| | |
|--------------------------|---|
| Engagement Design: | MIL-PRF-39012, Series SMA Engagement/Disengagement Force: 2 lb-in max |
| Mating Torque: | 7 to 10 lb-in |
| Coupling Proof Torque: | 15 lb-in min |
| Coupling Nut Retention: | 60 lbs min |
| Contact Retention Force: | 6 lbs min axial force, 4 oz-in min torque |
| Durability: | 500 cycles min |

Environmental Specifications

K ccrq mpCvaccbq rf c ?nnjg_` jc N_p_ep_nf mdK G+NPd+17. / 0

| | |
|-----------------------|--------------------------------------|
| Temperature Range: | -65° to + 165° C |
| Thermal Shock: | MIL-STD-202, Method 107, Condition B |
| Corrosion: | MIL-STD-202, Method 101, Condition B |
| Shock: | MIL-STD-303, Method 213, Condition |
| Vibration: | MIL-STD-202, Method 204, Condition D |
| Moisture Resistance : | MIL-STD-202, Method 106 |

Material Specifications

| | |
|-----------------------|--|
| Bodies: | Brass per ASTM B16, gold plated* per MIL-DTL-45204 .00001" min. or nickel plated per SAE-AMS-QQ-N-290 |
| Contacts: | Male - brass per ASTM B16, gold plated per MIL-DTL-45204 .00003" min. Female - beryllium copper per ASTM B196, gold plated per MIL-DTL-45204 .00003" min. |
| Nut Retention Spring: | Beryllium copper per ASTM B196. Unplated |
| Insulators: | PTFE fluorocarbon per ASTM 4894 and ASTM 4895 |
| Mounting Hardware: | Brass per ASTM B16 or SAE-AMS-QQ-N-290, gold plated per MIL-DTL-45204 .00001 min. or nickel plated per SAE-AMS-QQ-N-290 |

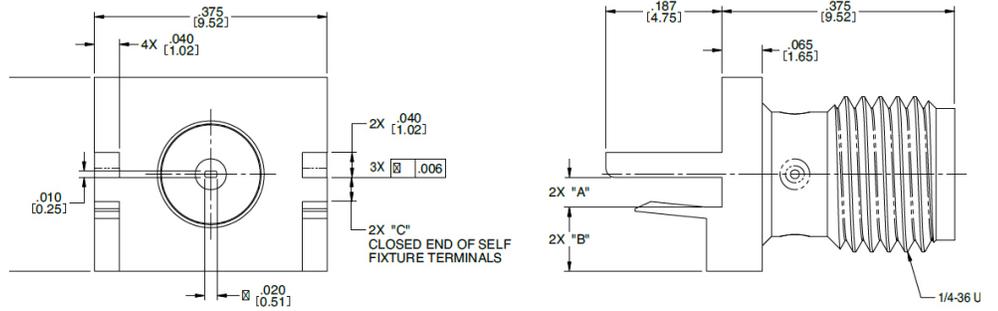
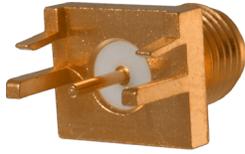
* All gold plated parts include a .00005" min. nickel underplate barrier layer.

* Board thickness is demonstrated in inches (millimeters).



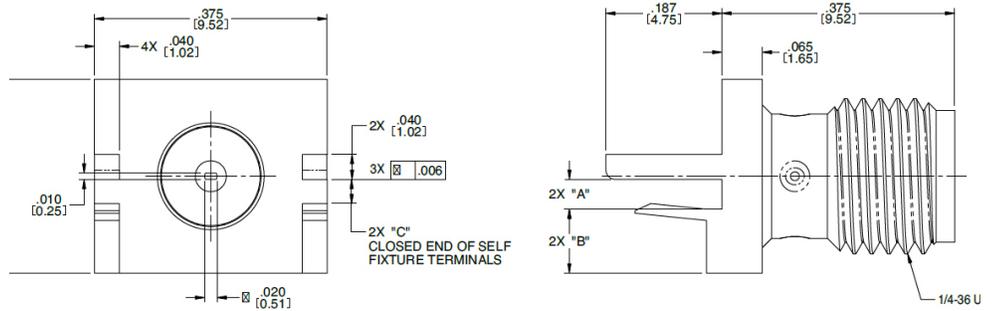
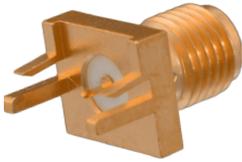
JACK ASSEMBLY DESIGN

Gold Plated, Round Contact



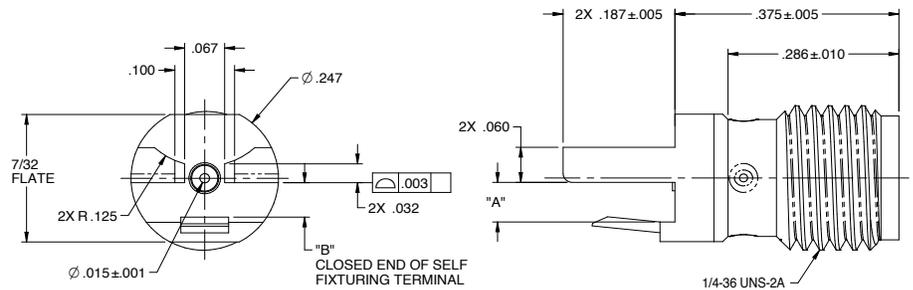
| Part No. | Freq. Range | Board Thickness | "A" | "B" | "C" |
|--------------|-------------|-----------------|-----------------|-----------------|-----------------|
| 142-0791-801 | 0-18 GHz | .062in / 1.57mm | .068in / 1.73mm | .083in / 2.11mm | .059in / 1.50mm |

Gold Plated, Tab Contact



| Part No. | Freq. Range | Board Thickness | "A" | "B" | "C" |
|--------------|-------------|-----------------|------------------|-----------------|-----------------|
| 142-0791-811 | 0-18 GHz | .042in / 1.07mm | .048 in / 1.22mm | .103in / 2.62mm | .039in / 0.99mm |
| 142-0791-821 | 0-18 GHz | .062in / 1.57mm | .068in / 1.73mm | .083in / 2.11mm | .059in / 1.50mm |

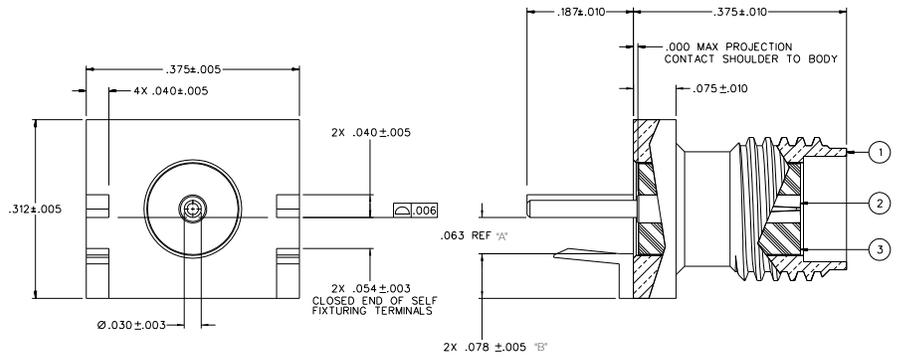
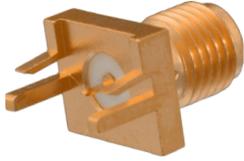
Gold Plated, Round Contact, High Frequency



| Part No. | Freq. Range | Board Thickness | "A" | "B" |
|--------------|-------------|-----------------|-----------------|-----------------|
| 142-1701-821 | 0-26.5 GHz | .062in / 1.57mm | .068in / 1.73mm | .059in / 1.50mm |
| 142-1701-831 | 0-26.5 GHz | .059in / 1.49mm | .063in / 1.60mm | .054in / 1.37mm |

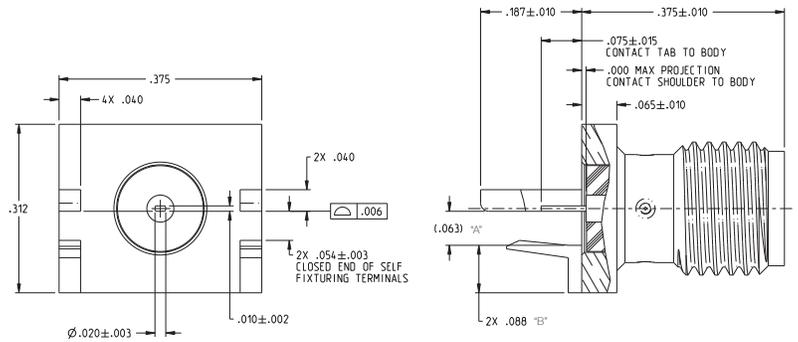
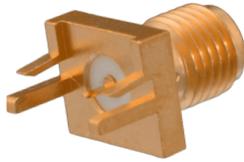
JACK ASSEMBLY DESIGN

Gold Plated, Round Contact



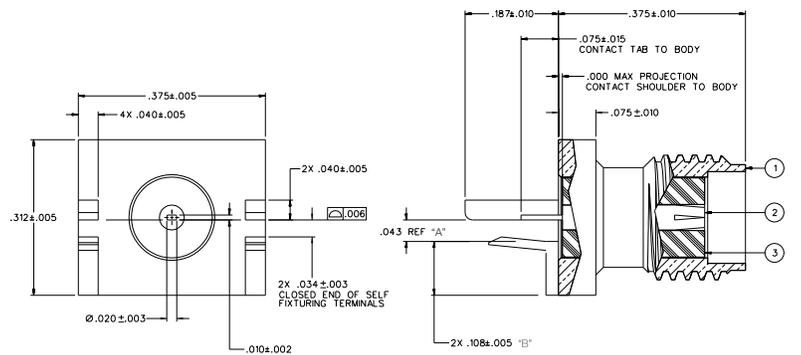
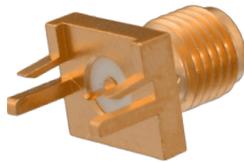
| Part No. | Freq. Range | Board Thickness | "A" | "B" |
|--------------|-------------|-----------------|-----------------|-----------------|
| 142-1701-841 | 0-18 GHz | .059 | .063in / 1.60mm | .078in / 1.98mm |

Gold Plated, Tab Contact



| Part No. | Freq. Range | Board Thickness | "A" | "B" |
|--------------|-------------|-----------------|-----------------|-----------------|
| 142-1701-851 | 0-18 GHz | .059 | .063in / 1.60mm | .088in / 2.24mm |

Gold Plated, Tab Contact



| Part No. | Freq. Range | Board Thickness | "A" | "B" |
|--------------|-------------|-----------------|-----------------|-----------------|
| 142-1701-871 | 0-18 GHz | .039 | .043in / 1.09mm | .108in / 2.74mm |

SMA Self-Fixture End Launch Connectors

These enhanced end launch connectors properly align and hold the center contact of a coaxial connector to the circuit board plane without the need for special fixtures. This is done with specially designed connector legs that tightly grip a range of substrate thicknesses until the soldering operation to couple the two is complete. Additionally, these connectors feature redesigned contacts and insulator material that work in tangent to form an optimized connection point. While the contact maintains proper impedance under aggressive torque and axial stresses, the insulator acts as a seal by compressing itself into the board edge during soldering. This creates a barrier between the inner and outer conductors and protects against solder bridging.

No mounting screws. No adapters. No more aftermarket tools or ad hoc devices on your assembly lines. These unique connectors will overcome the problematic gaps and discontinuities associated with inconsistent soldering process. These connectors can save your products from the poor connections that degrade signal quality and provide optimal Return Loss values between 0-18 GHz.

The High Frequency End Launch connectors, works in a similar fashion to the self-fixturing connectors by attaching directly to coplanar waveguide circuit board and operates with respectable Return Loss values up to 26.5 GHz. The in-line connector design minimizes reflections as compared to a right-angle (perpendicular) PC mount transition.



Applications for these connectors include:

- Automated Test Equipment
- Broadband MMIC Power Amplifiers
- Cellular Linear Power Amplifiers
- DBS Low-Noise Block Down Convertors
- Global Positioning Satellite Antennas
- GPS and Phased Array Antennas
- High Speed Routers and Switches
- Microwave Filters, Mixers and Combiners
- RFID (Radio Frequency Identification) Tags
- Remote Sensing and Metering
- Radar Systems
- Phased Array Antennas
- Wireless Antennas

