

# 1.85mm DESIGN FEATURES & SPECIFICATIONS

**1.85mm DESIGN FEATURES:** SGMC Microwaves 1.85mm series are precision grade connectors designed for use with microwave applications requiring excellent performance up to 65 GHz. Optimum results are achieved with the use of a 1.85mm outer conductor diameter and air dielectric. The 1.85mm series is mechanically compatible with 2.4mm connector series. The 1.85mm interface is designed to insure the outer conductors of mating connectors engage and align before the center contacts engage preventing damage to the female center contact tines. SGMC offers an extensive line of 1.85mm precision adapters, receptacles, and cable connectors for various semi-rigid and flexible coaxial cables. Special designs are also available upon request.

- Frequency Range: DC to 65 GHz
- Mechanically compatible with 2.4mm connector series
- Ruggedized construction for repeatability and reliability
- Phase matched adapters
- Captivated Center Contact
- Low VSWR and insertion loss



## 1.85mm SPECIFICATIONS (General)

### ELECTRICAL

<b>Frequency Range:</b>	DC to 65 GHz
<b>Nominal Impedance:</b>	50 Ohms
<b>Temperature Range:</b>	-240°C to +204°C
<b>VSWR:</b> (Individual results may vary)	1.35:1 Max
<b>Insertion Loss:</b>	0.50 dB Max

### MECHANICAL

<b>Mating:</b>	M7 X 0.75 threaded coupling
<b>Recommended Mating Torque:</b>	8-10 inch-pounds
<b>Coupling Proof Torque:</b>	15 inch-pounds minimum
<b>Coupling Nut Retention:</b>	Axial force is 60 in-lb minimum (Male Only)
<b>Contact Retention:</b>	Axial force is 4 pounds minimum
<b>Contact Torque:</b>	4.0 inch-ounces minimum
<b>Connector Durability:</b>	500 cycles minimum

### ENVIRONMENTAL

<b>Corrosion (salt spray):</b>	MIL-STD-202, Method 101, Test Condition B (5% Salt Solution)
<b>Vibration:</b>	MIL-STD-202, Method 204, Test Condition D (20 Gs)
<b>Shock:</b>	MIL-STD-202, Method 213, Test Condition I (100 Gs)
<b>Temperature Cycling:</b>	MIL-STD-202, Method 102, Test Condition C
<b>Moisture Resistance:</b>	MIL-STD-202, Method 106

### MATERIAL

<b>Body Components:</b>	Corrosion resistant Type 303 (Stainless Steel) Non-Magnetic, per ASTM-A-484 and ASTM-A-582
<b>Center Contacts:</b>	Beryllium Copper per ASTM-B-196, alloy C17300, ASTM Temper (condition) TD04
<b>Dielectric:</b>	PCTFE (KEL-F) per ASTM-D-1430-03 Group 01, Class 1, Grade 3
<b>Gaskets &amp; "O" Rings:</b>	Silicone Rubber per ZZ-R-765 & MIL-R-5847 Class 2 A&B, Grades 50~70. (A-A-59588)

### FINISH

<b>Body Components:</b>	Passivated per ASTM-A-967 & AMS-QQ-P-35
<b>Center Contacts:</b>	Gold Plate to a minimum thickness of 50 micro inches per ASTM-B-488, Type 2, Code C, Class 1, over 50 micro inches minimum of Nickel per AMS-QQ-N-290, Class 1

(Consult factory for individual product specifications)

DWG NO.	1.85mm Series	<b>SGMC MICROWAVE</b> <a href="http://www.sgmcmicrowave.com">www.sgmcmicrowave.com</a>	REVISIONS		
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