

SMP-L™ Interconnect Series



SMP-L Connectors with Secure-Lok™ feature

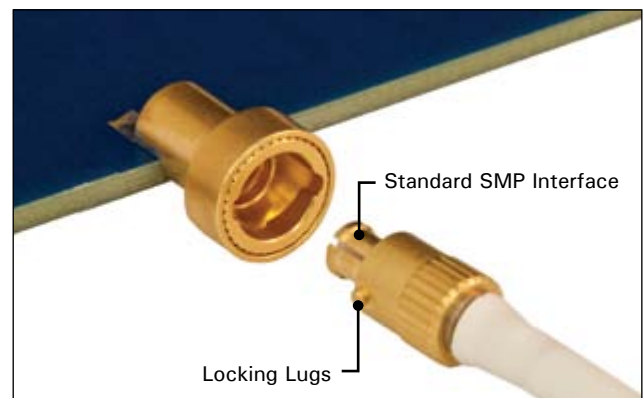
INTRODUCTION

The introduction of push-on blindmateable connectors, such as the SMP, galvanized the RF/Microwave industry as their use enabled designers to increase package density. This created the ability to stack PC boards while also simplifying the assembly and test of these designs.

Carlisle Interconnect Technologies (CarlisleIT) advances the design of the traditional push-on connectors with our new line of SMP-L connectors by adding a patent pending locking mechanism referred to as Secure-Lok™ to the standard SMP interface. Susceptibility to vibration and other environmental factors has historically limited designers to use threaded connectors such as the SMA, Type N, etc. Secure-Lok™ makes the SMP-L series of push-on connectors ideal for rugged military and commercial applications. SMP-L connectors and cables provide a strong retention force and are also available in sealed IP-67 compliant options.

FEATURES

- » Frequency Range: DC - 40 GHz
- » Unique locking mechanism in a push-on configuration
- » Superior ruggedability and performance compared to standard push-on connectors
- » Fully compatible with SMP standard product line
- » IP67-compliant options available



Secure-Lok™ Mechanism

CABLE CONNECTORS

Technical drawing of the TLL40-1111A cable assembly, showing a perspective view, a top-down view of the connector, and a side view with dimensions.

Labels and dimensions:

- Dimensions:** .563 (main body length), 135 (cable length).
- Labels:** R.P., SMP FEMALE INTERFACE PER MIL-STD-348, SECURE-LOK™ FEATURE, CENTER CONDUCTOR, TO ACCEPT FLEX CABLE TLL40-1111A.

PCB CONNECTORS

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Technical drawings of the SMP connector showing various views and dimensions:

- Top View:** Shows the overall diameter of $\text{Ø } .310 \pm .001$. The notch width is $(2X .010)$ and the notch depth is $2X .069 \pm .002$. A section line A-A is indicated.
- Side View:** Shows the profile of the connector. Key dimensions include:
 - Overall width: $(\text{Ø } .402)$
 - Central bore diameter: $(\text{Ø } .230)$
 - Inner bore diameter: $(\text{Ø } .142)$
 - Center conductor diameter: $(\text{Ø } .015)$
 - Base diameter: $(\text{Ø } .100)$
- Labels:**
 - SMP MALE INTERFACE PER MIL-STD-348 (SMOOTH BORE):** Points to the main body of the connector.
 - SECURE-LOK™ FEATURE:** Points to the locking mechanism on the side.
 - 2 NOTCHES:** Points to the notches on the top view.

SHROUDS

Technical drawing of a 10-48 UNS-28 screw with a recommended PCB mounting pattern. The drawing includes a perspective view of the screw, a side cross-section view with dimensions, and a top-down view of the mounting pattern. Dimensions include thread length (AS REQ'D), chamfer (Ø.005 X 45°), thread diameter (Ø.320 AS REQ'D), and mounting hole dimensions (Ø.066 ±.003, Ø.185 ±.003, Ø.193). The mounting pattern shows a 2X (.045 WIDE X .050 DEEP) SCREWDRIVE SLOT.

Metal	Specification
BeCu (Beryllium Copper)	ASTM B 196 and/or ASTM B 197
Brass	ASTM B 36, B121, B16, B16M
Stainless Steel	ASTM A484/ A582 or A555/581
Iron-Nickel-Cobalt	ASTM F-15
Dielectric	Specification
Virgin PTFE Fluorocarbon	ASTM D 1710 and ASTM D 1457
Polyamide-imide	ASTM D5204 Group 2 Class 1
Glass	Corning 7070 or Equivalent
Finish	Specification
Gold (75u in. Typ.)	ASTM-B488 Type 1, Class 1.25
Nickel (100u in. Typ.)	SAE AMS-QQ-N-290
Passivation	ASTM A967

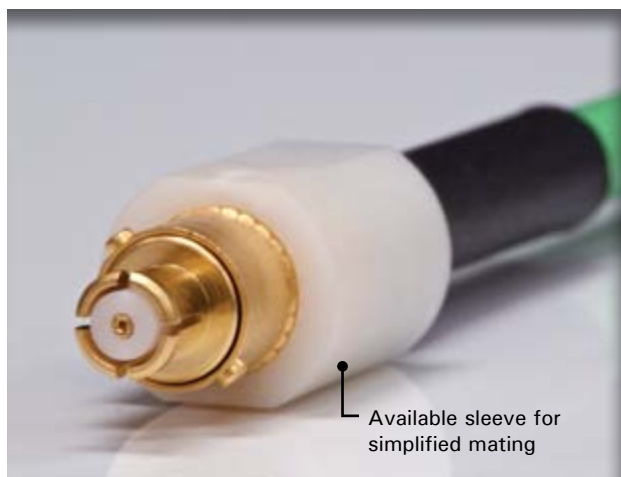
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SPECIFICATIONS

Parameter		Specification
Impedance		50 Ω
Frequency range		DC – 40 GHz
VSWR		1.3 : 1 (DC-26 GHz) 1.5 : 1 (26-40 GHz)
Insertion Loss		.06 X \sqrt{f} GHz
DWV @ sea level		500 Vrms
Insulation Resistance		1000 M Ω min
RF High Pot. @ 5MHz:		325 Vrms
Corona Level @ 70,000'		190 Vrms
Inner Conductor Resistance		6.0 M Ω
RF Leakage		-80 dB (DC-3GHz) -65dB (3-18GHz)
Force to Engage	Smooth Bore	1.5 lbs
Force to Disengage	Smooth Bore	1.0 lbs
Coupling Nut Retention Force		>100 lbs
Temperature range		-55°C to +165°C
Environmental	Thermal Shock	MIL-STD-202, Method 107, Cond. B
	Moisture Resistance	MIL-STD-202, Method 106, except step 7b
	Corrosion	MIL-STD-202, Method 101, Cond. B
	Vibration	MIL-STD-202, Method 204, Cond. D
	Shock	MIL-STD-202, Method 213, Cond. I



P698SL-1CC PC Board connector



1-L6L6-794-42XX Cable Assembly

ORDERING INFORMATION

Configuration*	Part Number	Description
Cable Connectors	P657SL-1CC	SMP-L (female) for 0.047" (TLL26-5047) flexible cable
	P657SL-2CC	SMP-L (female) for 0.085" (TLL40-1087) flexible cable
	P657SL-3CC	SMP-L (female) for 0.1111" (TLL40-1111A) flexible cable
PCB Connectors	P606SL-1CC	SMP-L (male) edge mount connector
	P698SL-1CC	SMP-L (male) board mount connector
Shrouds	P674SL-1CCSF	SMP-L (male) thread-in shroud
	P675SL-1	SMP-L press-in shroud
	P678SL-1CCSF	SMP-L (male) 2-hole flange mount connector

*SMP-L product line is compatible with standard SMP connectors. Refer to the SMP product line brochure for selection of Bullets, Field-replaceable connectors, Hermetic, and other configurations.

Cable Assemblies Part Number		Description
1-L6L6-047-42XX	XX = Length in inches	SMP-L (female) to SMP-L (female) 0.047" flexible cable
1-L6L6-794-42XX		SMP-L (female) to SMP-L (female) 0.085" flexible cable
1-L6L6-11A-42XX		SMP-L (female) to SMP-L (female) 0.1111" flexible cable