Semflex, Inc.

LAI Series — "Vital Links"™

LOW ATTENUATION INTERCONNECT CABLE ASSEMBLY

LAI-290 Group **Frequency Range: DC-18 GHz**

The **LAI 290** Interconnect Assembly series incorporates low attenuation LAI 290 cable and high performance connectors providing excellent interconnect cables for a wide range of applications to 18 GHz. These assemblies feature low loss double shielded cable with a standard FEP Teflon® jacket and optional Polyurethane jackets. The double shielded construction of these cables give outstanding shielding effectiveness of greater than –100dB @ 18 GHz. The assemblies feature precision stainless steel connector designs including N, Extended TNC and SMA that are available in male, right angles and bulkhead versions. All the connector interfaces are designed to meet MIL-C-39012, MIL-STD-348A or applicable industry specs. These cable assemblies feature low loss, plus add good phase and temperature stability over a wide range of applications up to 18 GHz.

FEATURES

Precision high performance stainless steel connectors

FEP and polyurethane jacket options

Double shielded for >-100 dB leakage at 18 GHz

Low loss PTFE tape dielectric

CONNECTORS

SMA, Extended TNC, N,

Straight male, right angle male and bulkhead female

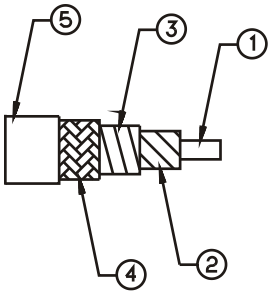
CABLE SIZE

.290 inches, nominal outer diameter (FEP)

APPLICATIONS

High performance, low loss RF signal distribution
High temperature (+200°C); low temperature (-65°C)
High power signal distribution

Cable Construction



1. Center conductor: Silver plated copper *
2. Dielectric: Microporous PTFE
3. Outer conductor: Silver plated copper flat braid*, Helically wrapped
4. Braid: Silver plated copper round braid *
5. Jacket options: Extruded FEP, polyurethane

* Silver plating per ASTM-B-298

Teflon is a registered trademark of the DuPont Corporation

LOW ATTENUATION INTERCONNECT CABLE ASSEMBLY

LAI-290 Group Frequency Range: DC-18 GHz

ELECTRICALS

Velocity of Propagation	%	85
RF Leakage Min. @ 18GHz	dB/ft	-100
Impedance	Nominal	50
Capacitance	pF/ft (pF/m)	24 (78.72)
Delay	ns/ft (ns/m)	1.20 (3.94)
Breakdown Voltage	kV	>15
Phase Stability vs Flexure	deg/(deg of bend per GHz)	<.0003

MECHANICAL/ENVIRONMENTAL

Nominal Diameter	inches (cm)	.290 (.737)
Minimum Bend Radius	inches (cm)	1.6 (4.064)
Temperature	DEG. C	-65/+200
Weight	lb./ft (g/m)	.09 (134)

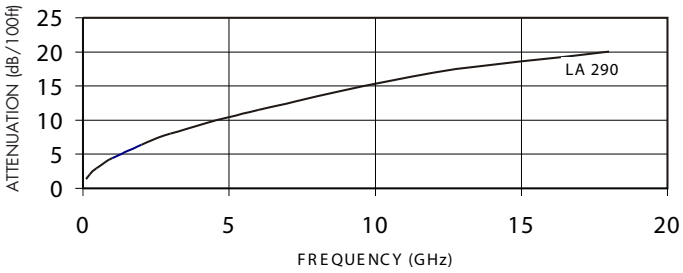
MATERIALS AND FINISHES CONNECTOR

Body	Stainless steel
Nut	Stainless steel
Gasket	Silicone Rubber
Contact	BeCu / Gold plated
Insulator	PTFE

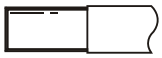
MATERIALS AND FINISHES CABLE

Cable Jacket	FEP
Outer Shield	Silver Copper
Inter Conductor	Silver Copper
Dielectric	Micro-porous PTFE
Center Conductor	Silver Copper

LA 290 CABLE
ATTENUATION vs FREQUENCY

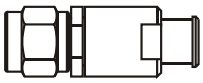


JACKET OPTIONS



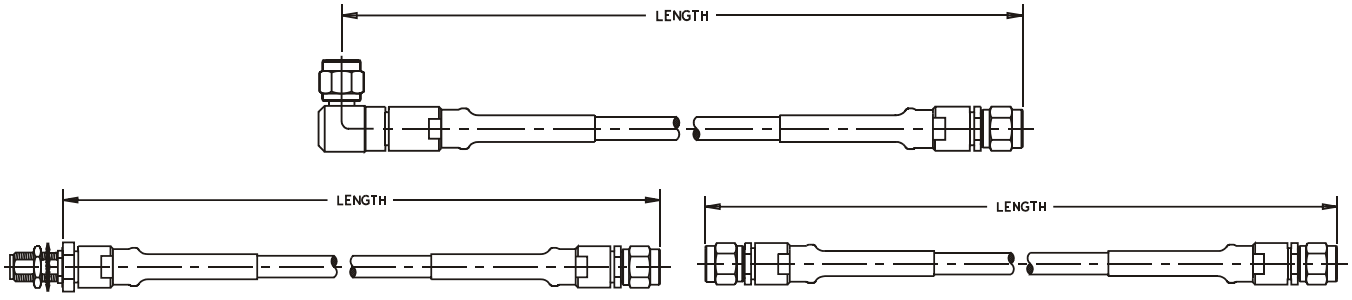
DESCRIPTION	CODE
FEP JACKET	BF
POLYURETHANE JACKET	BP

CONNECTOR CODES



CONNECTOR STYLE	FREQ GHz	MALE		FEMALE
		STR	RA	BULKHD
SMA	18	S1	S2	S4
N TYPE	18	N1	N2	N4
*ETNC	18	ET1	ET2	ET4

* EXTENDED FREQUENCY RANGE



HOW TO SPECIFY PART NUMBER

□□□ L 2 9 □□ □□□ □□□

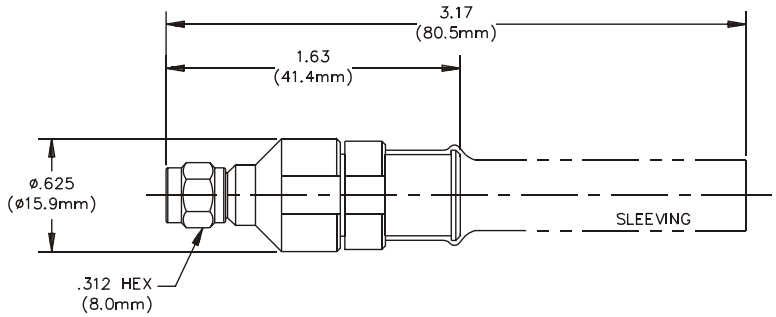
CONNECTOR TYPE	CABLE	OPTION	CONNECTOR TYPE	STANDARD LENGTH (INCHES)

FOR EXAMPLE: SMA STRAIGHT MALE TO SMA STRAIGHT FEMALE, FEP JACKET, 36 INCHES LONG.
NOTE: USE LEADING ZEROS WHEN SPECIFYING LENGTH.

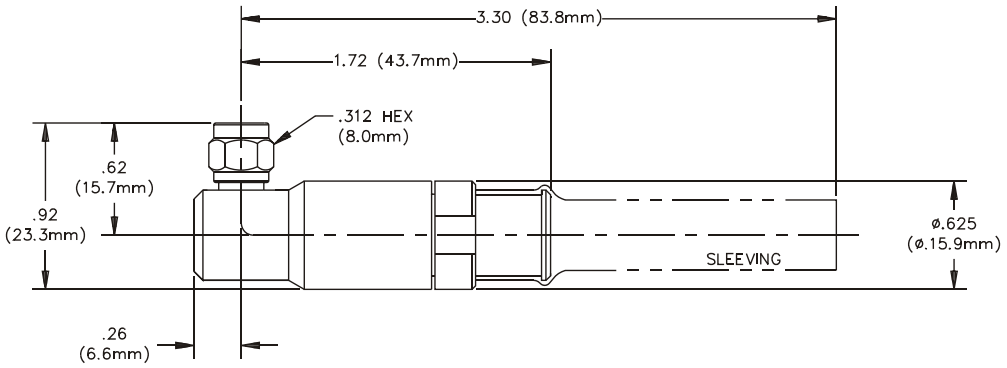
PART NUMBER IS: S1 L29 BF S3 036

LA GROUP CONNECTORS (SMA)

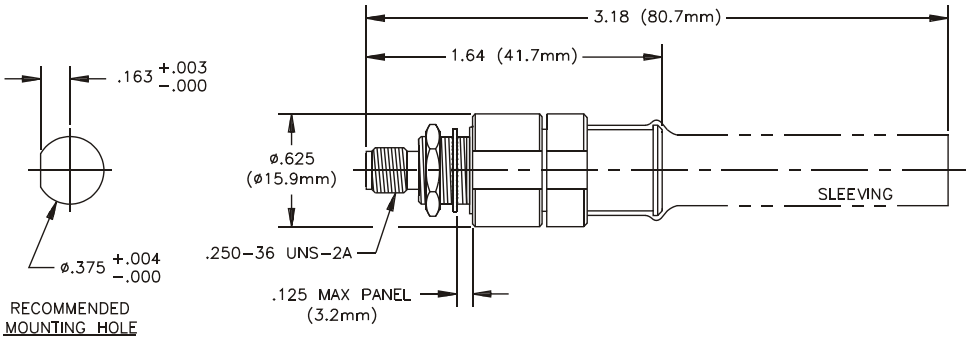
SMA MALE
P/N 21040-111



SMA LRA MALE
P/N 21041-111

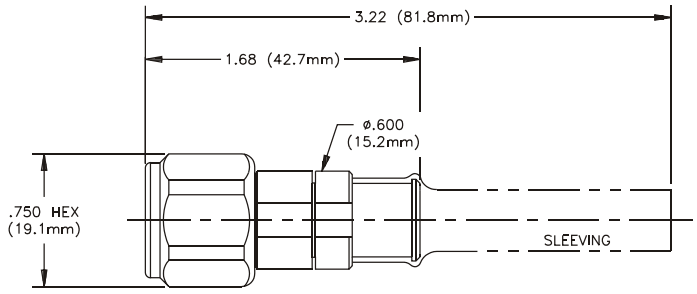


SMA BHD FEMALE
P/N 21042-111

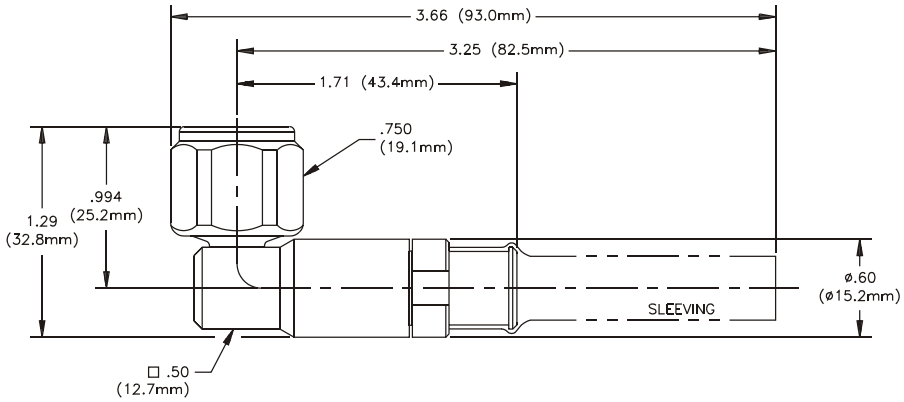


LA GROUP CONNECTORS (N Type)

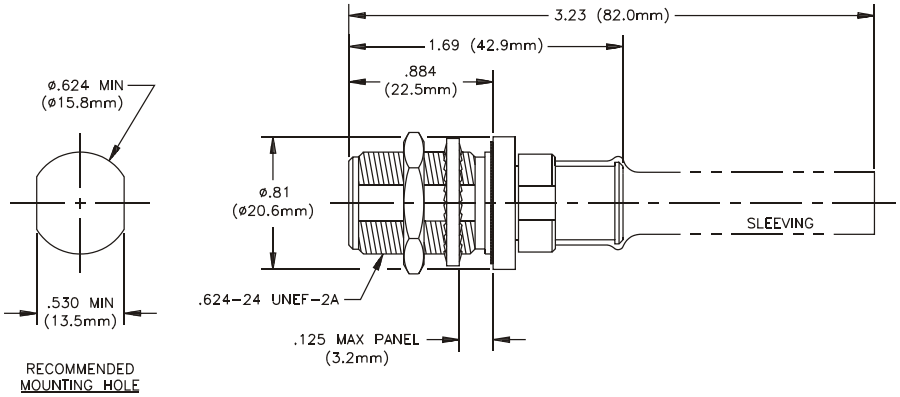
N TYPE MALE
P/N 21037-111



N TYPE LRA MALE
P/N 21038-111

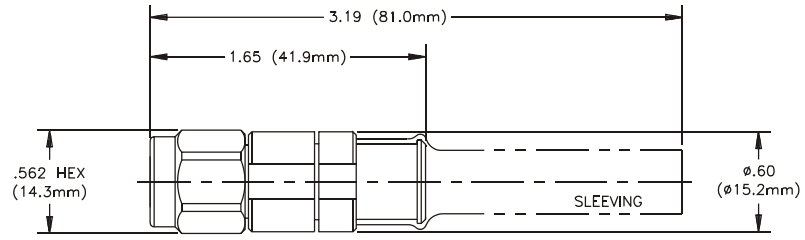


N TYPE BHD FEMALE
P/N 21039-111

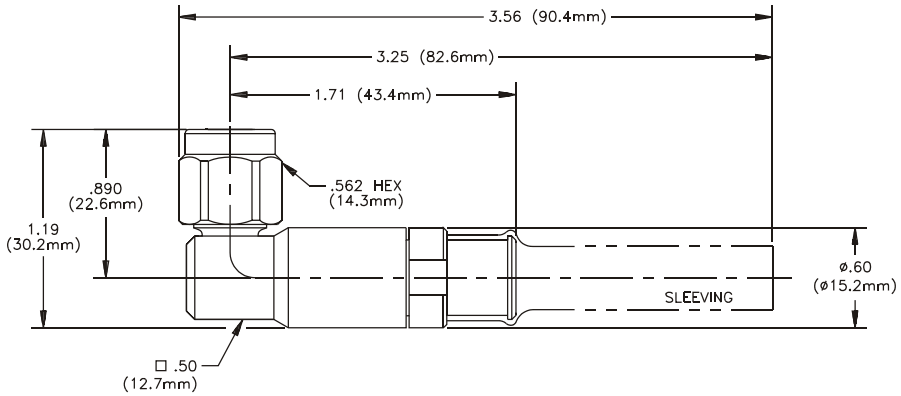


LA GROUP CONNECTORS (ETNC Type)

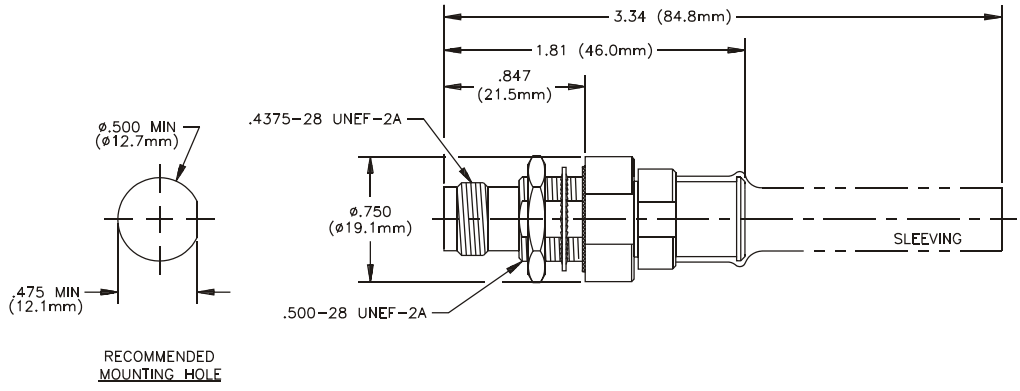
ETNC MALE
P/N 21043-111



ETNC LRA MALE
P/N 21044-111



ETNC BHD FEMALE
P/N 21045-111



VSWR TABLE FOR LAI CABLE ASSEMBLIES

	SMA STRAIGHT	SMA RIGHT ANGLE	N STRAIGHT	N RIGHT ANGLE	ETNC STRAIGHT	ETNC
SMA STRAIGHT	1.30:1 @ 18 GHz	1.35:1 @ 18 GHz	1.35:1 @ 18 GHz	1.35:1 @ 18 GHz	1.40:1 @ 18 GHz	1.40:1 @ 18 GHz
SMA RIGHT ANGLE	1.35:1 @ 18 GHz	1.40:1 @ 18 GHz	1.40:1 @ 18 GHz	1.40:1 @ 18 GHz	1.45:1 @ 18 GHz	1.45:1 @ 18 GHz
N STRAIGHT	1.35:1 @ 18 GHz	1.40:1 @ 18 GHz	1.35:1 @ 18 GHz	1.35:1 @ 18 GHz	1.40:1 @ 18 GHz	1.45:1 @ 18 GHz
N RIGHT ANGLE	1.35:1 @ 18 GHz	1.40:1 @ 18 GHz	1.35:1 @ 18 GHz	1.45:1 @ 18 GHz	1.45:1 @ 18 GHz	1.45:1 @ 18 GHz
ETNC STRAIGHT	1.40:1 @ 18 GHz	1.40:1 @ 18 GHz	1.40:1 @ 18 GHz	1.45:1 @ 18 GHz	1.40:1 @ 18 GHz	1.45:1 @ 18 GHz
ETNC	1.30:1 @ 18 GHz	1.35:1 @ 18 GHz	1.35:1 @ 18 GHz	1.40:1 @ 18 GHz	1.35:1 @ 18 GHz	1.40:1 @ 18 GHz