

Astrolab Minibend L

High performance, low loss, phase stable, true flexible cable

also available as an 'R' ruggedized assembly



The low loss version of the original minibend®

Product Description

minibend® L is an enhanced, low loss version of the minibend flexible coaxial cable assembly which is designed for use in low profile, internal, point-to-point interconnections between RF modules within communications systems. minibend® L replaces small custom semi-rigid cable with standard flexible cables eliminating the need for predefined custom lengths and bend configurations. minibend® L provides you with a preassembled and tested high performance, cost effective alternative in a variety of standard lengths.

Product Features

- Microporous dielectric for insertion loss lower than .086" semi-rigid cable.
- Precision stainless steel SMA plug connectors (Patented - US Patent Office)
- Stock delivery on standard lengths
- 99.9% lead free
- Eliminates need for costly right angle connectors
- Guaranteed 15 lbs. pull force
- Triple shielded for high isolation
- Frequency range up to 26.5 GHz
- Low Cost

Also available in LA (with SSMA plug connectors, 26.5 GHz), LS (with SMA plug/SMP socket connectors, 18 GHz) and L2S (with SMP socket connectors, 18 GHz) versions.

Environmental Limits:

Temperature Range: -55°C to +165°C

Thermal Shock: per Mil-Std-202, Method 107, Test Cond. A

Vibration: per Mil-Std-202, Method 214, Test Cond. B

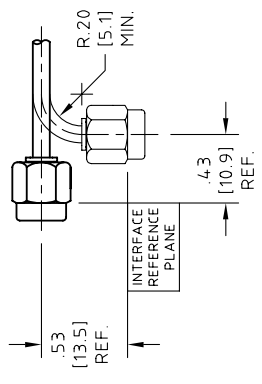
Shock: per Mil-Std-202, Method 213, Test Cond. A, 40Gs

Phase Versus Flexure Reference Data

Astrolab performed phase tests on hundreds of minibend cable assemblies. Following are two standard Astrolab tests with the corresponding data. In test one minibend® L-6 assembly's were flexed 90° in a 0.25 inch radius directly behind the connector. In test two, minibend® L-16 assemblies were flexed 180° with a 0.4 inch radius in the middle. Typical data is recorded here:

| | TEST ONE | TEST TWO |
|-----------|-----------------|-----------------|
| 26.5 GHz. | 1.3° | 0.8° |
| 18 GHz. | 0.9° | 0.7° |
| 12.4 GHz. | 0.7° | 0.4° |
| 1 GHz. | 0.1° | 0.1° |

CONTROL DRAWING
minibend L-XX
U



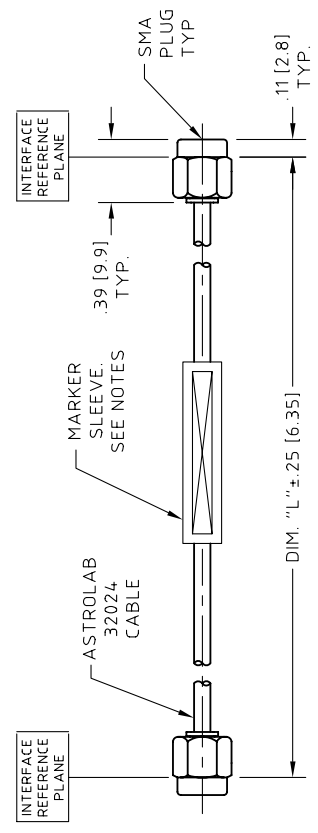
SHOWN ABOVE IS TYPICAL INSTALLATION.

ROHS 5/6 COMPLIANT

| ASSEMBLY NO. | DIM. "L" | 1.0 GHz VSWR | 1.0 GHz LOSS, dB | 12.4 GHz VSWR | 12.4 GHz LOSS, dB | 18 GHz VSWR | 18 GHz LOSS, dB | 26.5 GHz VSWR | 26.5 GHz LOSS, dB |
|----------------|----------------|--------------|------------------|---------------|-------------------|-------------|-----------------|---------------|-------------------|
| minibend L-2.5 | 2.50 (63.50) | 1.16 | 0.13 | 1.25 | 0.33 | 1.37 | 0.44 | 1.45 | 0.54 |
| minibend L-3 | 3.00 (76.20) | 1.16 | 0.14 | 1.25 | 0.36 | 1.37 | 0.47 | 1.45 | 0.58 |
| minibend L-3.5 | 3.50 (88.90) | 1.16 | 0.15 | 1.25 | 0.39 | 1.37 | 0.51 | 1.45 | 0.63 |
| minibend L-4 | 4.00 (101.60) | 1.16 | 0.16 | 1.25 | 0.42 | 1.37 | 0.54 | 1.45 | 0.67 |
| minibend L-4.5 | 4.50 (114.30) | 1.16 | 0.17 | 1.25 | 0.45 | 1.37 | 0.58 | 1.45 | 0.72 |
| minibend L-5 | 5.00 (127.00) | 1.16 | 0.18 | 1.25 | 0.48 | 1.37 | 0.62 | 1.45 | 0.76 |
| minibend L-5.5 | 5.50 (139.70) | 1.16 | 0.19 | 1.25 | 0.51 | 1.37 | 0.65 | 1.45 | 0.80 |
| minibend L-6 | 6.00 (152.40) | 1.16 | 0.20 | 1.25 | 0.54 | 1.37 | 0.69 | 1.45 | 0.85 |
| minibend L-6.5 | 6.50 (165.10) | 1.16 | 0.21 | 1.25 | 0.57 | 1.37 | 0.72 | 1.45 | 0.89 |
| minibend L-7 | 7.00 (177.80) | 1.16 | 0.22 | 1.25 | 0.60 | 1.37 | 0.76 | 1.45 | 0.94 |
| minibend L-8 | 8.00 (203.20) | 1.16 | 0.25 | 1.25 | 0.66 | 1.37 | 0.84 | 1.45 | 1.03 |
| minibend L-9 | 9.00 (228.60) | 1.16 | 0.26 | 1.25 | 0.73 | 1.37 | 0.91 | 1.45 | 1.12 |
| minibend L-10 | 10.00 (254.00) | 1.16 | 0.28 | 1.25 | 0.79 | 1.37 | 0.98 | 1.45 | 1.21 |
| minibend L-11 | 11.00 (279.40) | 1.16 | 0.30 | 1.25 | 0.85 | 1.37 | 1.06 | 1.45 | 1.30 |
| minibend L-12 | 12.00 (304.80) | 1.16 | 0.31 | 1.25 | 0.91 | 1.37 | 1.13 | 1.45 | 1.39 |
| minibend L-13 | 13.00 (330.20) | 1.16 | 0.33 | 1.25 | 0.97 | 1.37 | 1.20 | 1.45 | 1.48 |
| minibend L-14 | 14.00 (355.60) | 1.16 | 0.35 | 1.25 | 1.03 | 1.37 | 1.28 | 1.45 | 1.57 |
| minibend L-15 | 15.00 (381.00) | 1.16 | 0.37 | 1.25 | 1.10 | 1.37 | 1.35 | 1.45 | 1.66 |
| minibend L-16 | 16.00 (406.40) | 1.16 | 0.39 | 1.25 | 1.17 | 1.37 | 1.42 | 1.45 | 1.75 |
| minibend L- | | | | | | | | | |

NOTES:

- DESCRIPTION:
CABLE ASSEMBLY, SMA PLUG TO SMA PLUG.
- CABLE:
COAXIAL CABLE ASTROLAB P/N 32024 MEETS OR EXCEEDS MIL-DTL-17 SEE ASTROLAB CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -A-, SMA PLUG:
ASTROLAB P/N 29094C-32-24 IAW MIL-STD-348.
SEE ASTROLAB CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -B-, SMA PLUG:
SAME AS CONNECTOR -A-.
- MARKING:
LOOSE, WHITE SLEEVING CAPTIVATED ON THE CABLE ASSEMBLY. MARKING WILL INCLUDE THE ASTROLAB PART NUMBER, CAGE CODE AND DATE CODE OF DATE OF MANUFACTURE. OTHER MARKING AS DEFINED BY CUSTOMER.
- ELECTRICAL CHARACTERISTICS:
NO MARKING ON CABLE ASSEMBLIES SHORTER THAN 3.0". MARKING ON PACKING ONLY.
IMPEDANCE:
50.0 Ohms NOMINAL.
FREQUENCY, INSERTION LOSS AND VSWR SEE CHART.
- MECHANICAL:
OPERATING TEMPERATURE RANGE, -55° C TO +125° C.
PULL STRENGTH TO 15.0 LBS. [67 N].



| NAME | DATE | PREP. | ELEC. | MECH. | Q.C. | TITLE | SCALE | CODE IDENT. | DWG NO. | REV | |
|---|---------------|----------|-------|----------|------|---|----------------------|-------------|---------------|-----|--|
| GSG | 08/11/98 | GSG | RF | GSG | | ASTROLAB ® WARREN, NJ THIS DRAWING CONTAINS PATENTABLE AND PROPRIETARY INFORMATION. THE DESIGN CANNOT BE USED WITHOUT WRITTEN PERMISSION OF ASTROLAB | 1:1 | 16301 | minibend L-XX | U | |
| UNLESS OTHERWISE SPECIFIED, CONSTRUCTION SHALL BE TO THE CORNERS AND FILLETS .005 MAX. RADIUS OR CHAMFER SURFACE FINISH 63 RMS MICRONS OR BETTER. | | | | | | | FRACTIONS | ± 1/16 | | | |
| | | | | | | | X | ± .030 | | | |
| | | | | | | | XXX | ± .015 | | | |
| | | | | | | | ANGLES | ± 1° | | | |
| | | | | | | | DO NOT SCALE DRAWING | | | | |
| CABLE ASSEMBLY, minibend L TYPE, SMA PLUG TO SMA PLUG. | | | | | | | | | | | |
| THOS. TO BE IN ACCORD WITH U.S. DEPT. OF COMM. SCREW THD. STDS. FOR FEDERAL SERVICES 1950 SUPL. TO HANDBOOK H 28. | | | | | | | | | | | |
| U | ECN No. 13954 | 05/23/11 | EF | | | | | | | | |
| REV. | DESCRIPTION | DATE | BY | APPROVED | | | | | | | |