

## Astrolab microbend MVR

### High performance, ultra low profile, 65.0GHz



microbend® MVR

microbend® MVR True Flexible Coaxial Cable Assemblies

#### **Product Description**

microbend® MVR has all the benefits of the microbend® in a 65 GHz, high bandwidth cable assembly with an SMPM female connector on one end and a 1.85/2.4mm plug connector on the other. microbend® MVR replaces custom length, predefined bend configuration .047 semi-rigid cable with true flexible, standard length coax cable for use as internal interconnections between modules in microwave and optical fiber switching systems.

#### **Product Features**

- Precision SMPM female connector mateable with GPPO™ from Corning Gilbert
- Precision 2.4mm/1.85mm compatible plug connector
- Stock delivery on standard lengths
- Triple shielded for high isolation
- Eliminates need for costly right angle connectors
- Lower insertion loss than .047 semi-rigid cable
- Qualified 40Gbit/second transmission cable assembly
- Frequency range up to 65 GHz
- Guaranteed 10 lb. pull force
- 100% lead free

#### **Environmental Limits**

Temperature Range: -55°C to +125°C

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

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

Mechanical Shock : per Mil-Std-202, Method 213, Test Condition A, 40 Gs

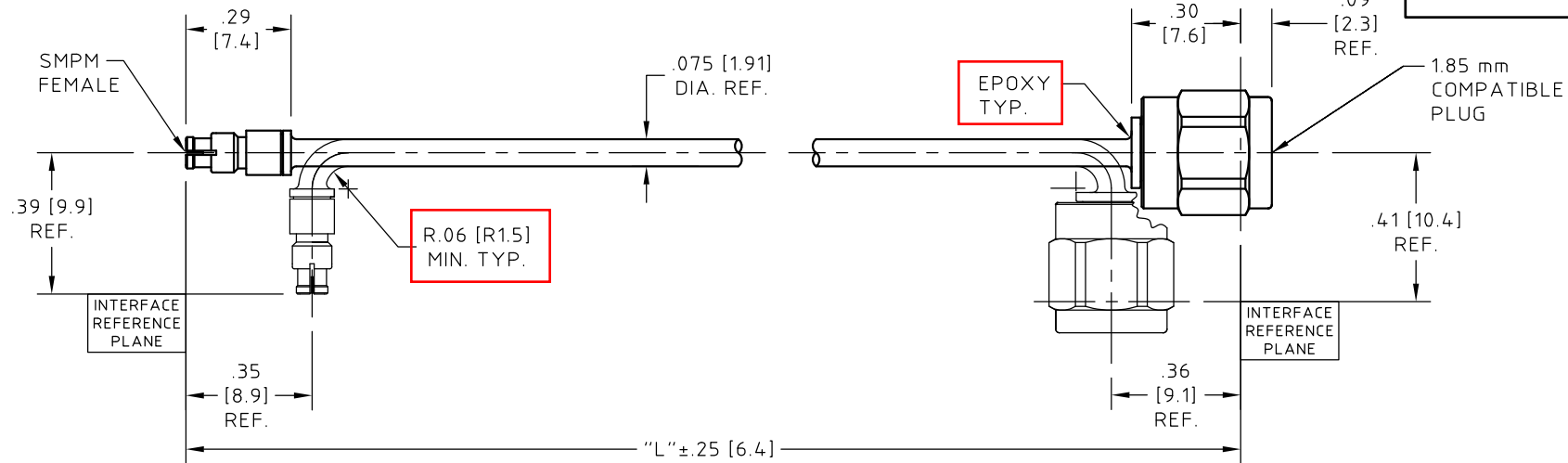
#### **Phase Versus Flexure Reference Data**

Astrolab performed phase tests on hundreds of microbend® cable assemblies. Following are two standard Astrolab tests with the corresponding data. In test one microbend® MVR-5 assembly's were flexed 90° in a 0.1 inch radius directly behind the connector. In test two, microbend® MVR-5 assembly's were flexed 180° with a 0.25 inch radius in the middle. Typical data is listed here:

	<b>TEST ONE</b>	<b>TEST TWO</b>
40 GHz.	2.9°	6.5°
26.5 GHz.	1.5°	4.5°
18 GHz.	1.0°	3.5°
12.4 GHz.	0.6°	2.3°
2 GHz.	0.1°	0.4°

# CONTROL DRAWING

MICROBEND MVR-xx



NOTES:

NOTES CONTINUED:

HUBER+SUHNER Astrolab PART NUMBER	DIMENSION "L"	12.4 GHz		18.0 GHz		40.0 GHz		65.0 GHz	
		VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB
MICROBEND MVR-2.5	2.50 (63.5)	1.33:1	0.51	1.40:1	0.62	1.60:1	1.07	1.80:1	1.42
MICROBEND MVR-3	3.00 (76.2)	1.33:1	0.56	1.40:1	0.68	1.60:1	1.16	1.80:1	1.54
MICROBEND MVR-3.5	3.50 (88.9)	1.33:1	0.61	1.40:1	0.74	1.60:1	1.26	1.80:1	1.66
MICROBEND MVR-4	4.00 (101.6)	1.33:1	0.66	1.40:1	0.80	1.60:1	1.35	1.80:1	1.79
MICROBEND MVR-4.5	4.50 (114.3)	1.33:1	0.71	1.40:1	0.86	1.60:1	1.44	1.80:1	1.91
MICROBEND MVR-5	5.00 (127.0)	1.33:1	0.76	1.40:1	0.92	1.60:1	1.54	1.80:1	2.03
MICROBEND MVR-5.5	5.50 (139.7)	1.33:1	0.81	1.40:1	0.98	1.60:1	1.63	1.80:1	2.16
MICROBEND MVR-6	6.00 (152.4)	1.33:1	0.86	1.40:1	1.05	1.60:1	1.73	1.80:1	2.28
MICROBEND MVR-7	7.00 (177.8)	1.33:1	0.95	1.40:1	1.17	1.60:1	1.91	1.80:1	2.53
MICROBEND MVR-8	8.00 (203.2)	1.33:1	1.05	1.40:1	1.29	1.60:1	2.10	1.80:1	2.77
MICROBEND MVR-9	9.00 (228.6)	1.33:1	1.15	1.40:1	1.41	1.60:1	2.29	1.80:1	3.02
MICROBEND MVR-10	10.00 (254.0)	1.33:1	1.25	1.40:1	1.53	1.60:1	2.48	1.80:1	3.27
MICROBEND MVR-11	11.00 (279.4)	1.33:1	1.35	1.40:1	1.65	1.60:1	2.66	1.80:1	3.51
MICROBEND MVR-12	12.00 (304.8)	1.33:1	1.45	1.40:1	1.77	1.60:1	2.85	1.80:1	3.76
MICROBEND MVR-15	15.00 (381.0)	1.33:1	1.76	1.40:1	2.13	1.60:1	3.41	1.80:1	4.50
MICROBEND MVR-16	16.00 (406.4)	1.33:1	1.85	1.40:1	2.26	1.60:1	3.60	1.80:1	4.75
MICROBEND MVR-20	20.00 (508.0)	1.33:1	2.25	1.40:1	2.74	1.60:1	6.35	1.80:1	5.73
MICROBEND MVR-									

- DESCRIPTION,  
CABLE ASSEMBLY, SMPM FEMALE TO 1.85mm COMPATIBLE PLUG.  
THE CABLE ASSEMBLY IS RUGGEDIZED AND SUITABLE FOR COMPLEX, CONGESTED INSTALLATIONS.  
WHEN INSTALLED AND BEND AT THE MINIMUM BEND RADIUS, THE ASSEMBLY WILL TOLERATE MULTIPLE ±90° ROTATIONS AT THE CABLE CONNECTOR JUNCTION.
- CABLE,  
COAXIAL CABLE HUBER+SUHNER Astrolab P/N 32041E (HIGH PERFORMANCE) astro - STEEL - flex I MEETS OR EXCEEDS MIL-DTL-17.  
SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -A-, SMPM FEMALE:  
HUBER+SUHNER Astrolab P/N 29971CR-32-41 IAW MIL-STD-348.  
SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.

- CONNECTOR -B-, 1.85mm COMPATIBLE PLUG:  
HUBER+SUHNER Astrolab P/N 29890CR-32-41-1  
SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.
- MARKING:  
ALL MARKING WILL BE DONE ON PACKAGING.
- ELECTRICAL CHARACTERISTICS:  
IMPEDANCE, 50.0 Ohms NOMINAL.  
FREQUENCY, OPERATING, 70.0 GHz MAX.  
TESTED TO 65.0 GHz.  
INSERTION LOSS AND VSWR, SEE CHART.
- MECHANICAL:  
OPERATING TEMPERATURE RANGE, -55° C TO +125° C.  
MECHANICAL PERFORMANCE,  
PULL STRENGTH TO 10 Lbs. [44.5N]

**ROHS 5/6 COMPLIANT**

UNLESS OTHERWISE SPECIFIED  
CONCENTRICITY .004 T.I.R.  
CORNERS AND FILLETS .005  
MAX. RADIUS OR CHAMFER.  
SURFACE FINISH 63 RMS  
MICROINCHES OR BETTER.

FRACTIONS	± 1/16
X	± .030
XX	± .015
XXX	± .005
ANGLES	± 1°
DO NOT SCALE DRAWING	

NAME	DATE
PREP. AP	10/31/03
ELEC. RF	11/17/03
MECH. GSG	11/17/03
Q.C. AG	11/17/03

THIS DRAWING CONTAINS PATENTABLE AND PROPRIETARY INFORMATION. THE DESIGN CANNOT BE USED WITHOUT WRITTEN PERMISSION OF HUBER + SUHNER ASTROLAB.

TITLE <b>CABLE ASSEMBLY, SMPM FEMALE TO 1.85mm COMPATIBLE PLUG</b>			
THDS. TO BE IN ACCORD WITH U.S. DEPT. OF COMM. SCREW THD. STD. FOR FEDERAL SERVICES 1950 SUPL. TO HANDBOOK H 28.	SCALE 2:1	CODE IDENT. 16301	DWG NO. MICROBEND MVR-xx
P			REV P

P	MICROBEND MVR-15 ADDED	12/08/16	EF	
REV.	DESCRIPTION	DATE	BY	APPROVED