

Astrolab minibend V

High performance, 65 GHz.



The '65 GHz' minibend®

Product Description

minibend® V is the millimeter wave (65 GHz) version of the original minibend® designed for use in high speed (40 GB/sec.) low dispersion applications. minibend® V has an Astrolab designed plug connector that mates with industry standard 1.85 mm and 2.4 mm connections.

Product Features

- Precision 2.4 mm / 1.85 mm compatible plug connectors
- Stock delivery on standard lengths
- Eliminates need for costly right angle connectors
- Qualified 40 Gbit / second transmission cable assembly
- Connector pull strength 70% stronger than standard minibend and torque resistant utilizing minibend® R technology (Patented - US Patent Office)
- Triple shielded for high isolation
- Frequency range up to 65 GHz
- 100% lead free

Environmental Limits

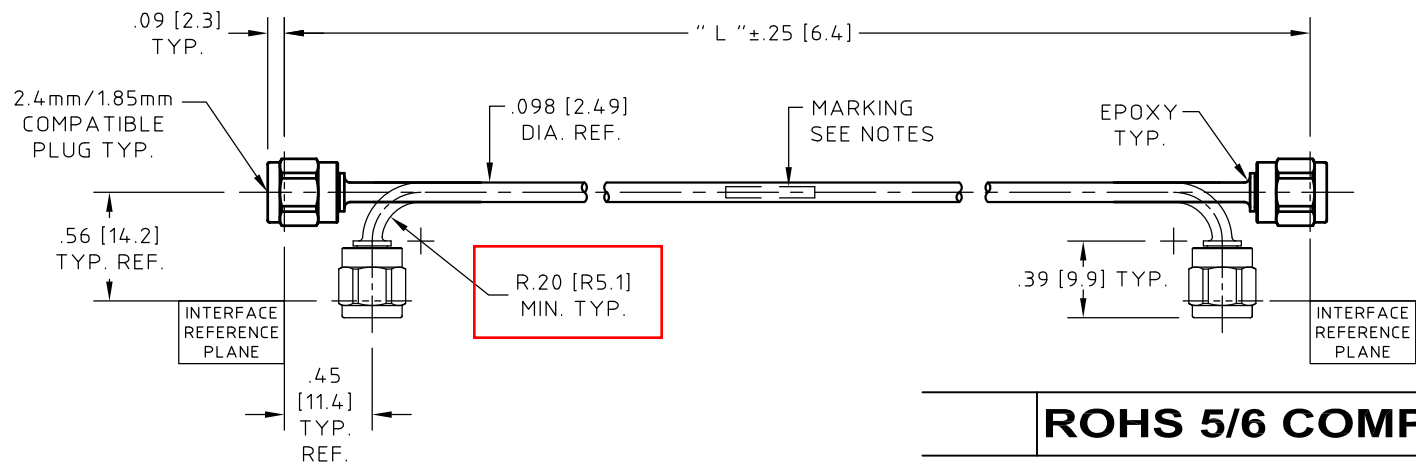
Temperature Range:	-60°C to +165°C
Thermal Shock:	per Mil-Std-202, Method 107, Test Condition A
Vibration:	per Mil-Std-202, Method 214, Test Condition B
Shock:	per Mil-Std-202, Method 213, Test Condition A, 40Gs

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® V-12 assembly's were flexed 90° in a 0.5 inch radius directly behind the connector. In test two, minibend® V-12 assemblies were flexed 180° with a 1.0 inch radius in the middle. Typical data is recorded here:

	TEST ONE	TEST TWO
65 GHz.	2.45°	3.7°
50 GHz.	2.3°	3.6°
40 GHz.	2.0°	3.2°
26.5 GHz.	1.9°	2.4°
18 GHz.	1.1°	1.6°
12.4 GHz.	0.8°	1.4°
2 GHz.	0.15°	0.2°

Z



ROHS 5/6 COMPLIANT

NOTES:

- DESCRIPTION,
CABLE ASSEMBLY, 2.4mm/1.85mm COMPATIBLE PLUG TO 2.4mm/1.85mm COMPATIBLE PLUG, RUGGEDIZED AND SUITABLE FOR COMPLEX, CONGESTED INSTALLATIONS.
WHEN INSTALLED AND BEND AT THE MINIMUM BEND RADIUS, CABLE ASSEMBLY WILL TOLERATE MULTIPLE ±90° ROTATIONS AT THE CABLE CONNECTOR JUNCTION.
- CABLE,
COAXIAL CABLE HUBER+SUHNER Astrolab P/N 32081SE MEETS OR EXCEEDS MIL-DTL-17.
SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -A-, 2.4mm/1.85mm COMPATIBLE PLUG:
HUBER+SUHNER Astrolab P/N 29880CR-32-81SE INTERFACE DIMENSIONS IAW MIL-STD-348.
SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -B-, 2.4mm/1.85mm COMPATIBLE PLUG:
SAME AS CONNECTOR -A-.

NOTES CONTINUED:

- MARKING:
MARKING APPROXIMATELY CENTERED DIRECTLY ON CABLE AS FOLLOWS:
MINIBEND V-xx YYWW
WHERE xx DENOTES THE LENGTH OF THE CABLE ASSEMBLY AND YYWW THE DATE CODE FOR DATE OF MANUFACTURE.
NO MARKING ON CABLE ASSEMBLIES SHORTER THAN 3.00 [76.2].
MARKING ON PACKAGING ONLY.
- ELECTRICAL CHARACTERISTICS:
IMPEDANCE,
50.0 Ohms NOMINAL.
FREQUENCY, INSERTION LOSS AND VSWR
SEE CHART.
- MECHANICAL:
OPERATING TEMPERATURE RANGE,
-60° C TO +165° C.
PULL STRENGTH TO 25.0 LBS. [111.2 N].
- ATTENUATION FORMULAS:
8A. CALCULATE AT 50.0 GHz
(dB) = 2.10 dB/FT. X L(ft.)+.55 dB
8B. CALCULATE AT 65.0 GHz
(dB) = 2.45 dB/FT. X L(ft.)+.60 dB

HUBER+SUHNER Astrolab PART NUMBER	DIMENSION "L"	2.0 GHz		26.5 GHz		50.0 GHz		65.0 GHz	
		VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB
minibend V-2.5	2.50 [63.5]	1.20:1	0.19	1.45:1	0.62	1.55:1	0.99	1.60:1	1.12
minibend V-3	3.00 [76.2]	1.20:1	0.20	1.45:1	0.68	1.55:1	1.08	1.60:1	1.22
minibend V-3.5	3.50 [88.9]	1.20:1	0.22	1.45:1	0.74	1.55:1	1.16	1.60:1	1.32
minibend V-4	4.00 [101.6]	1.20:1	0.23	1.45:1	0.80	1.55:1	1.25	1.60:1	1.42
minibend V-4.5	4.50 [114.3]	1.20:1	0.25	1.45:1	0.86	1.55:1	1.34	1.60:1	1.53
minibend V-5	5.00 [127.0]	1.20:1	0.26	1.45:1	0.92	1.55:1	1.43	1.60:1	1.63
minibend V-5.5	5.50 [139.7]	1.20:1	0.28	1.45:1	0.98	1.55:1	1.51	1.60:1	1.73
minibend V-6	6.00 [152.4]	1.20:1	0.30	1.45:1	1.05	1.55:1	1.60	1.60:1	1.83
minibend V-6.5	6.50 [165.1]	1.20:1	0.31	1.45:1	1.11	1.55:1	1.69	1.60:1	1.93
minibend V-7	7.00 [177.8]	1.20:1	0.33	1.45:1	1.17	1.55:1	1.78	1.60:1	2.03
minibend V-7.5	7.50 [190.5]	1.20:1	0.34	1.45:1	1.23	1.55:1	1.86	1.60:1	2.14
minibend V-8	8.00 [203.2]	1.20:1	0.36	1.45:1	1.29	1.55:1	1.95	1.60:1	2.24
minibend V-9	9.00 [228.6]	1.20:1	0.39	1.45:1	1.41	1.55:1	2.13	1.60:1	2.44
minibend V-10	10.00 [254.0]	1.20:1	0.42	1.45:1	1.54	1.55:1	2.30	1.60:1	2.64
minibend V-11	11.00 [279.4]	1.20:1	0.45	1.45:1	1.66	1.55:1	2.48	1.60:1	2.85
minibend V-12	12.00 [304.8]	1.20:1	0.48	1.45:1	1.78	1.55:1	2.65	1.60:1	3.05
minibend V-		1.20:1		1.45:1		1.55:1		1.60:1	

SEE NOTE 8

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. E.H.	05/08/00
ELEC. RF	06/12/00
MECH. GSG	05/17/00
Q.C.	



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

TITLE
CABLE ASSEMBLY, 2.4mm/1.85mm COMPATIBLE PLUG.

Z	ECN No. 15523	04/24/13	EB		THDS. TO BE IN ACCORD WITH U.S. DEPT. OF COMM. SCREW THD. STDS. FOR FEDERAL SERVICES 1950 SUPL. TO HANDBOOK H 28.	SCALE 1:1	CODE IDENT. 16301	DWG NO. minibend V-XX	REV Z
REV.	DESCRIPTION	DATE	BY	APPROVED					