

Astrolab Minibend KR - ruggedized assembly

High performance, 40 GHz



minibend® R when installed and bent at the minimum bend radius will tolerate multiple 90° rotations at the cable/connector junction.

Note: The 'R' ruggedization can be added to any minibend connector

The 40 GHz version of the original minibend®

Product Description

minibend K is a 40 GHz 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 K replaces small custom semi-rigid cable with standard flexible cables eliminating the need for predefined custom lengths and bend configurations. minibend K provides you with a preassembled and tested high performance, cost effective alternative in a variety of standard lengths.

Product Features

- Precision 2.9 mm minibend® plug connectors (Patented - US Patent Office)
- Stock delivery on standard lengths
- Eliminates need for costly right angle connectors
- Guaranteed 15 lbs. pull force
- Triple shielded for high isolation
- Frequency range up to 40 GHz
- Low Cost
- 99.9% lead free

Environmental Limits

Temperature Range: -55°C to +125°C

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

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

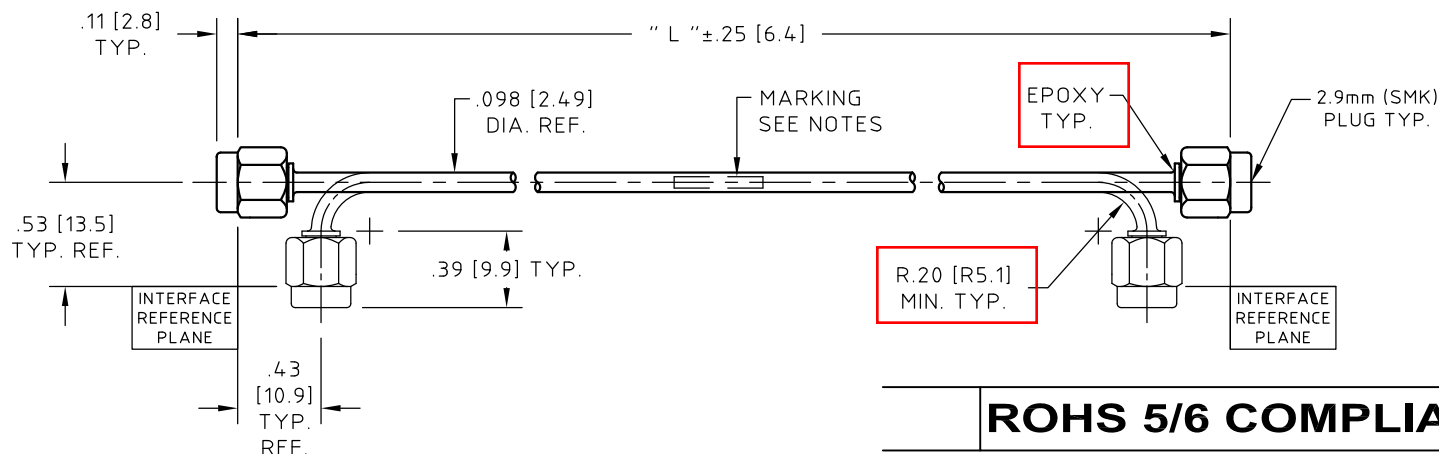
Shock: per Mil-Std-202, Method 213, Test Cond. A, 40Gs

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® K-6 assembly's were flexed 90° in a 0.25 inch radius directly behind the connector. In test two, minibend® K-16 assemblies were flexed 180° with a 0.4 inch radius in the middle. Typical data is recorded here:

	TEST ONE	TEST TWO
40 GHz.	2.0°	6.1°
26.5 GHz.	1.5°	4.1°
18 GHz.	1.2°	2.9°
12.4 GHz.	0.9°	1.8°
1 GHz.	0.1°	0.2°

S



ROHS 5/6 COMPLIANT

NOTES:

- DESCRIPTION,
CABLE ASSEMBLY, 2.9mm (SMK) PLUG TO 2.9mm (SMK) 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 32081E MEETS OR EXCEEDS MIL-DTL-17.
SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -A-, 2.9mm (SMK) PLUG:
HUBER+SUHNER Astrolab P/N 29094KCR-32-81
INTERFACE DIMENSIONS IAW MIL-STD-348.
SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -B-, 2.9mm (SMK) PLUG:
SAME AS CONNECTOR -A-.

NOTES CONTINUED:

- MARKING:
MARKING APPROXIMATELY CENTERED DIRECTLY ON CABLE AS FOLLOWS:
MINIBEND KR-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,
-55° C TO +125° C.
PULL STRENGTH TO 25.0 LBS [111.2 N].
- ATTENUATION FORMULAS:
8A. CALCULATE AT 26.5 GHz
(dB) = 1.45 dB/FT. X L(ft.)+.31 dB
8B. CALCULATE AT 40.0 GHz
(dB) = 1.84 dB/FT. X L(ft.)+.50 dB

HUBER+SUHNER Astrolab PART NUMBER	DIMENSION "L"	2.0 GHz		26.5 GHz		40.0 GHz	
		VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB
minibend KR-2.5	2.50 [63.5]	1.20:1	0.18	1.45:1	0.62	1.50:1	0.88
minibend KR-3	3.00 [76.2]	1.20:1	0.19	1.45:1	0.68	1.50:1	0.96
minibend KR-3.5	3.50 [88.9]	1.20:1	0.21	1.45:1	0.74	1.50:1	1.03
minibend KR-4	4.00 [101.6]	1.20:1	0.23	1.45:1	0.80	1.50:1	1.10
minibend KR-4.5	4.50 [114.3]	1.20:1	0.24	1.45:1	0.86	1.50:1	1.17
minibend KR-5	5.00 [127.0]	1.20:1	0.26	1.45:1	0.92	1.50:1	1.25
minibend KR-5.5	5.50 [139.7]	1.20:1	0.27	1.45:1	0.98	1.50:1	1.32
minibend KR-6	6.00 [152.4]	1.20:1	0.29	1.45:1	1.04	1.50:1	1.39
minibend KR-7	7.00 [177.8]	1.20:1	0.32	1.45:1	1.17	1.50:1	1.54
minibend KR-8	8.00 [203.2]	1.20:1	0.35	1.45:1	1.29	1.50:1	1.68
minibend KR-9	9.00 [228.6]	1.20:1	0.38	1.45:1	1.41	1.50:1	1.83
minibend KR-10	10.00 [254.0]	1.20:1	0.41	1.45:1	1.53	1.50:1	1.97
minibend KR-11	11.00 [279.4]	1.20:1	0.44	1.45:1	1.65	1.50:1	2.12
minibend KR-12	12.00 [304.8]	1.20:1	0.47	1.45:1	1.78	1.50:1	2.26
minibend KR-13	13.00 [330.2]	1.20:1	0.50	1.45:1	1.90	1.50:1	2.41
minibend KR-14	14.00 [355.6]	1.20:1	0.53	1.45:1	2.02	1.50:1	2.55
minibend KR-15	15.00 [381.0]	1.20:1	0.57	1.45:1	2.14	1.50:1	2.70
minibend KR-16	16.00 [406.4]	1.20:1	0.60	1.45:1	2.26	1.50:1	2.84
minibend KR-		1.20:1		1.45:1		1.50:1	

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	± 1/32
X	± .015
XX	± .010
XXX	± .005
ANGLES	± 1°
DO NOT SCALE DRAWING	

NAME	DATE
PREP. EF	05/07/01
ELEC. RF	05/07/01
MECH. GSG	05/07/01
Q.C.	

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

TITLE	CABLE ASSEMBLY, 2.9mm PLUG TO 2.9mm PLUG, RUGGEDIZED		
THDS. TO BE IN ACCORD WITH U.S. DEPT. OF COMM. SCREW THD. STDS. FOR FEDERAL SERVICES 1950 SUPL. TO HANDBOOK H 28.	SCALE	CODE IDENT.	DWG NO.
	1:1	16301	minibend KR-XX
			REV S

S	ECN No. 15490	04/18/13	EB	
REV.	DESCRIPTION	DATE	BY	APPROVED