

Astrolab mini141 K

High performance, phase stable, low loss, 40GHz



The High Performance, Low Loss, Phase Stable, Low Profile minibend®

Product Description

mini141® K is the 40 GHz. version of the mini141® with 2.9 mm plug connections on each end. mini141® K replaces custom length, predefined bend configuration .141 semi-rigid cable with true flexible, low loss microporous dielectric, phase stable coax cable for use as interconnections between RF modules in microwave systems.

Product Features

- Precision 2.9mm mini141® plug connectors (Patented - US Patent Office)
- Microporous dielectric for insertion loss lower than .141" semi-rigid cable
- Stock delivery on standard lengths
- Triple shielded for high isolation
- Eliminates need for costly right angle connectors
- Guaranteed 25 lbs. pull force
- Frequency range up to 40 GHz
- 99.9% lead free
- Low Cost

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

Phase Versus Flexure Reference Data

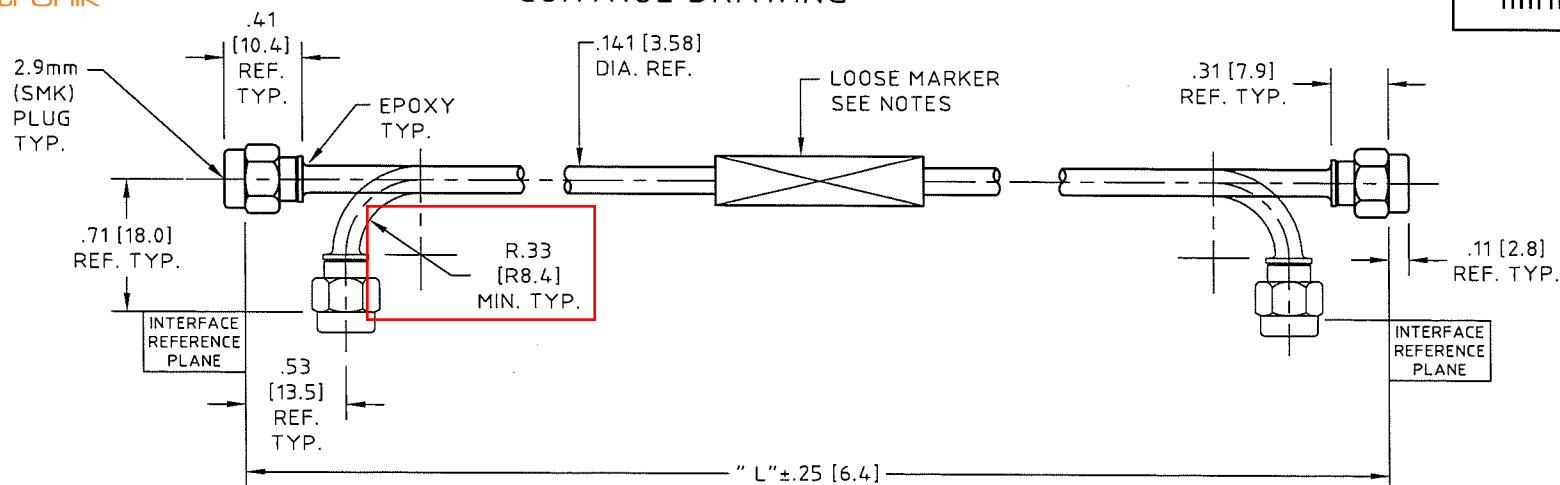
Astrolab performed phase tests on hundreds of mini141® K cable assemblies. Following are two standard Astrolab tests with the corresponding data. In test one, mini141® K-12 assembly's were flexed 90° in a 0.5 inch radius directly behind the connector. In test two, mini141® K-12 assembly's were flexed 180° with a 1.0 inch radius in the middle. Typical data is listed here:

	TEST ONE	TEST TWO
40 GHz.	2.2°	2.0°
26.5 GHz.	1.9°	1.6°
18 GHz.	1.4°	0.75°
12.4 GHz.	0.8°	0.4°
2 GHz.	0.15°	0.15°

CONTROL DRAWING

mini141 K-XX

M



H+S Astrolab PART NUMBER	DIMENSION "L" IN	2.0 GHz		18.0 GHz		26.5 GHz		4.0 GHz	
		VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB
mini141 K-2.5	2.50 (63.5)	1.15:1	0.13	1.35:1	0.37	1.40:1	0.45	1.45:1	0.68
mini141 K-3	3.00 (76.2)	1.15:1	0.14	1.35:1	0.39	1.40:1	0.48	1.45:1	0.71
mini141 K-3.5	3.50 (88.9)	1.15:1	0.15	1.35:1	0.41	1.40:1	0.50	1.45:1	0.74
mini141 K-4	4.00 (101.6)	1.15:1	0.16	1.35:1	0.43	1.40:1	0.53	1.45:1	0.78
mini141 K-4.5	4.50 (114.3)	1.15:1	.017	1.35:1	0.46	1.40:1	0.56	1.45:1	0.82
mini141 K-5	5.00 (127.0)	1.15:1	0.17	1.35:1	0.48	1.40:1	0.59	1.45:1	0.85
mini141 K-5.5	5.50 (139.7)	1.15:1	0.19	1.35:1	0.50	1.40:1	0.62	1.45:1	0.89
mini141 K-6	6.00 (152.4)	1.15:1	0.19	1.35:1	0.53	1.40:1	0.65	1.45:1	0.92
mini141 K-6.5	6.50 (165.1)	1.15:1	0.20	1.35:1	0.55	1.40:1	0.68	1.45:1	0.96
mini141 K-7	7.00 (177.8)	1.15:1	0.20	1.35:1	0.57	1.40:1	0.70	1.45:1	0.99
mini141 K-8	8.00 (203.2)	1.15:1	0.22	1.35:1	0.62	1.40:1	0.76	1.45:1	1.06
mini141 K-9	9.00 (228.6)	1.15:1	0.23	1.35:1	0.66	1.40:1	0.81	1.45:1	1.13
mini141 K-10	10.00 (254.0)	1.15:1	0.25	1.35:1	0.71	1.40:1	0.87	1.45:1	1.20
mini141 K-11	11.00 (279.4)	1.15:1	0.26	1.35:1	0.75	1.40:1	0.92	1.45:1	1.27
mini141 K-12	12.00 (304.8)	1.15:1	0.27	1.35:1	0.80	1.40:1	0.98	1.45:1	1.34
mini141 K-13	13.00 (330.2)	1.15:1	0.29	1.35:1	0.85	1.40:1	1.04	1.45:1	1.41
mini141 K-14	14.00 (355.6)	1.15:1	0.30	1.35:1	0.89	1.40:1	1.09	1.45:1	1.48
mini141 K-15	15.00 (381.0)	1.15:1	0.32	1.35:1	0.94	1.40:1	1.15	1.45:1	1.55
mini141 K-16	16.00 (406.4)	1.15:1	0.33	1.35:1	0.98	1.40:1	1.20	1.45:1	1.62
mini141 K-									

NOTES:

- DESCRIPTION,
CABLE ASSEMBLY, 2.9mm (SMK) PLUG TO 2.9 mm (SMK) PLUG.
- CABLE,
COAXIAL CABLE H+S Astrolab P/N 32022E
MEETS OR EXCEEDS MIL-DTL-17
SEE H+S Astrolab CONTROL DRAWING
FOR MATERIALS AND FINISHES.
- CONNECTOR -A-, 2.9mm (SMK) PLUG:
H+S Astrolab P/N 29094KCR-32-22
IAW MIL-STD-348.
SEE H+S Astrolab CONTROL DRAWING
FOR MATERIALS AND FINISHES.
- CONNECTOR -B-, 2.9mm (SMK) PLUG:
SAME AS CONNECTOR A.
- MARKING:
LOOSE, WHITE SLEEVING CAPTIVATED
ON THE CABLE ASSEMBLY.
MARKING WILL INCLUDE THE H+S Astrolab
PART NUMBER, CAGE CODE
AND DATE CODE OF DATE OF
MANUFACTURE.

NOTES CONTINUED:

- OTHER MARKING AS DEFINED BY CUSTOMER.
NO MARKING ON CABLE ASSEMBLIES SHORTER
THAN 3.0", MARKING ON PACKING ONLY.
- ELECTRICAL CHARACTERISTICS:
IMPEDANCE,
50.0 Ohms NOMINAL.
FREQUENCY, INSERTION LOSS
AND VSWR, SEE CHART.
 - MECHANICAL:
OPERATING TEMPERATURE
RANGE, -55° C TO +125° C.
CABLE ASSEMBLY LENGTH
"L" MEASURED IAW
MIL-PRF-55427.

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.	BG	12/05/01
ELEC.	RF	12/05/01
MECH.	GSG	12/05/01
Q.C.	AG	12/05/01

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

TITLE
CABLE ASSY, 2.9mm (SMK) PLUG TO 2.9mm (SMK) PLUG, mini141 TYPE.

M	COMPANY LOGO UPDATED	01/14/13	EF	BY	APPROVED	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.	REV
REV.	DESCRIPTION	DATE	BY	APPROVED	DO NOT SCALE DRAWING	1:1	16301	mini141 K-XX	M	