

Astrolab mini141

High performance, phase stable, low loss



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

Product Description

mini141 is a superior alternative to custom length, pre defined bend configuration semi-rigid cable. mini141® has a microporous dielectric for low loss and improved phase stability. mini141® has precision stainless steel SMA plug connectors on each end.

Product Features

- Precision stainless steel SMA plug connectors
- Microporous dielectric for insertion loss lower than .141" semi-rigid cable
- Stock delivery on standard lengths
- Eliminates need for costly right angle connectors
- Triple shielded for high isolation
- Guaranteed 25 lbs. pull force
- Frequency range up to 26.5 GHz
- 99.9% 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

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

Phase Versus Flexure Reference Data

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

	TEST ONE	TEST TWO
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°

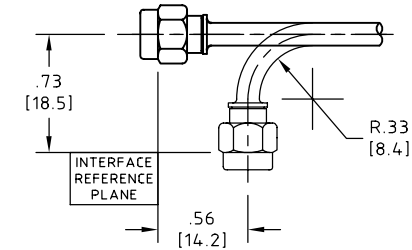
ASTROLAB P/N	REFERENCE	DIM. "L"	2.0 GHz		12.4 GHz		18.0 GHz		26.5 GHz	
			VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB
mini141-2.5	32022E-2-29094CR-2.5	2.50 (63.5)	1.18 : 1	0.13	1.27 : 1	0.27	1.35 : 1	0.39	1.40 : 1	0.52
mini141-3	32022E-2-29094CR-3	3.00 (76.2)	1.18 : 1	0.13	1.27 : 1	0.29	1.35 : 1	0.42	1.40 : 1	0.55
mini141-3.5	32022E-2-29094CR-3.5	3.50 (88.9)	1.18 : 1	0.14	1.27 : 1	0.31	1.35 : 1	0.44	1.40 : 1	0.58
mini141-4	32022E-2-29094CR-4	4.00 (101.6)	1.18 : 1	0.15	1.27 : 1	0.33	1.35 : 1	0.46	1.40 : 1	0.60
mini141-4.5	32022E-2-29094CR-4.5	4.50 (114.3)	1.18 : 1	0.16	1.27 : 1	0.35	1.35 : 1	0.48	1.40 : 1	0.63
mini141-5	32022E-2-29094CR-5	5.00 (127.0)	1.18 : 1	0.16	1.27 : 1	0.37	1.35 : 1	0.51	1.40 : 1	0.66
mini141-5.5	32022E-2-29094CR-5.5	5.50 (139.7)	1.18 : 1	0.17	1.27 : 1	0.38	1.35 : 1	0.53	1.40 : 1	0.69
mini141-6	32022E-2-29094CR-6	6.00 (152.4)	1.18 : 1	0.18	1.27 : 1	0.40	1.35 : 1	0.55	1.40 : 1	0.72
mini141-6.5	32022E-2-29094CR-6.5	6.50 (165.1)	1.18 : 1	0.18	1.27 : 1	0.42	1.35 : 1	0.57	1.40 : 1	0.74
mini141-7	32022E-2-29094CR-7	7.00 (177.8)	1.18 : 1	0.19	1.27 : 1	0.44	1.35 : 1	0.60	1.40 : 1	0.77
mini141-8	32022E-2-29094CR-8	8.00 (203.2)	1.18 : 1	0.21	1.27 : 1	0.48	1.35 : 1	0.64	1.40 : 1	0.83
mini141-9	32022E-2-29094CR-9	9.00 (228.6)	1.18 : 1	0.22	1.27 : 1	0.51	1.35 : 1	0.69	1.40 : 1	0.88
mini141-10	32022E-2-29094CR-10	10.00 (254.0)	1.18 : 1	0.24	1.27 : 1	0.55	1.35 : 1	0.73	1.40 : 1	0.94
mini141-11	32022E-2-29094CR-11	11.00 (279.4)	1.18 : 1	0.25	1.27 : 1	0.59	1.35 : 1	0.78	1.40 : 1	0.99
mini141-12	32022E-2-29094CR-12	12.00 (304.8)	1.18 : 1	0.26	1.27 : 1	0.63	1.35 : 1	0.82	1.40 : 1	1.05
mini141-13	32022E-2-29094CR-13	13.00 (330.2)	1.18 : 1	0.30	1.27 : 1	0.68	1.35 : 1	0.89	1.40 : 1	1.13
mini141-14	32022E-2-29094CR-14	14.00 (355.6)	1.18 : 1	0.31	1.27 : 1	0.72	1.35 : 1	0.93	1.40 : 1	1.18
mini141-15	32022E-2-29094CR-15	15.00 (381.0)	1.18 : 1	0.33	1.27 : 1	0.76	1.35 : 1	0.98	1.40 : 1	1.24
mini141-16	32022E-2-29094CR-16	16.00 (406.4)	1.18 : 1	0.34	1.27 : 1	0.79	1.35 : 1	1.02	1.40 : 1	1.29
mini141-	32022E-2-29094CR-						8A		8B	

CONTROL DRAWING

mini141-XX

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ALL mini141 CABLE ASSEMBLIES ARE 99.9% LEAD FREE BY WEIGHT.



SHOWN ABOVE IS TYPICAL INSTALLATION

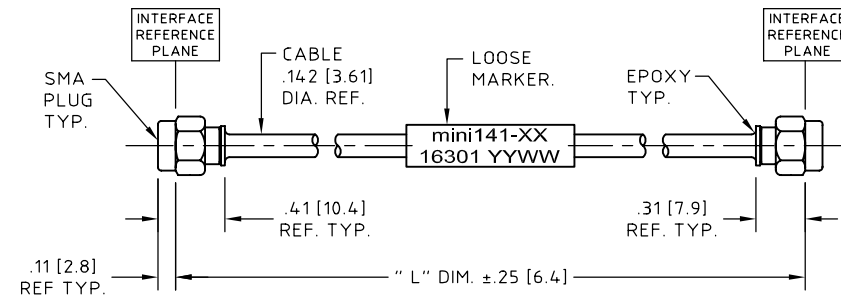
SEE NOTE 8

NOTES:

- DESCRIPTION:
CABLE ASSEMBLY, SMA PLUG TO SMA PLUG.
- CABLE:
COAXIAL CABLE ASTROLAB P/N 32022E MEETS OR EXCEEDS MIL-DTL-17 SEE ASTROLAB CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -A-, SMA PLUG:
ASTROLAB P/N 29094CR-32-22 IAW MIL-STD-348. SEE ASTROLAB CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -B-, SMA PLUG:
SAME AS CONNECTOR -A-.
- MARKING:
MATERIAL, WHITE HEAT SHRINKABLE SLEEVING PER SAE-AMS-DTL-23053. MARKING, .060 [1.52] MIN. TALL CHARACTERS IN CONTRASTING COLOR AND IAW MIL-STD-130. DATE CODE PER MIL-STD-1285 MARKING PERMANENCE IAW SAE-AMS-81531.

NOTES CONTINUED:

- 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.
- 8A. 18 GHz FORMULA,
ATTENUATION (dB) = .55 dB/FT. X L(ft.)+ .27 dB
- 8B. 26.5 GHz FORMULA,
ATTENUATION (dB) = .67 dB/FT. X L(ft.)+ .38 dB



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	02/12/02
MECH. DPD	02/12/02
Q.C. AG	02/12/02



ASTROLAB® INC.
WARREN, NJ
THIS DRAWING CONTAINS PATENTABLE AND PROPRIETARY INFORMATION. THE DESIGN CANNOT BE USED WITHOUT WRITTEN PERMISSION OF ASTROLAB

CABLE ASSY, TYPE mini141, SMA PLUG TO SMA PLUG.

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. mini141-XX	REV M
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