Technical Data Sheet | UCF114-50JA

1-1/4" CELLFLEX® Ultraflexible Foam-Dielectric Coaxial Cable

Product Description

CELLFLEX® 1-1/4" SERIES "A" low loss ultraflexible cable

Features/Benefits

• Low Attenuation
The low attenuation of CELLFLEX® coaxial cable results in highly efficient signal transfer in your RF system.
• Complete Shielding
The solid outer conductor of CELLFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
• Low VSWR
Special low VSWR versions of CELLFLEX® coaxial cables contribute to low system noise.
• Outstanding Intermodulation Performance
CELLFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.
• High Power Rating
Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, CELLFLEX® cable provides safe long term operating life at high transmit power levels.
• Wide Range of Application
Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects.

Technical Features

Cable Type	Foam-Dielectric, Ultraflexible
Size	1-1/4"
Jacket	Standard
Return Loss (VSWR) Performance	Standard
Maximum Return Loss, dB (VSWR)	Contact RFS for your VSWR performance specification for your required frequency band.
Impedance, Ohm	50 +/- 1
Maximum Frequency, GHz	3.6
Velocity, percent	89
Peak Power Rating, kW	178
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft)	2.20 (0.67)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	0.62 (0.19)
RF Peak Voltage, Volts	4200
Jacket Spark, Volt RMS	10000
Capacitance, pF/m (pF/ft)	75 (22.9)
Inductance, µH/m (µH/ft)	0.184 (0.056)
Outer Conductor Material	Corrugated Copper
Inner Conductor Material	Corrugated Copper Tube
Diameter over Jacket Nominal, mm (in)	39.0 (1.54)
Diameter Outer Conductor, mm (in)	36.0 (1.42)
Diameter Inner Conductor, mm (in)	13.6 (0.54)
Diameter Dielectric, mm (in)	31.2 (1.23)
Minimum Bending Radius, Single Bend, mm (in)	150 (6.0)
Minimum Bending Radius, Repeated Bends, mm (in)	250 (10)
Bending Moment, N•m (lb-ft)	36.0 (25.6)
Cable Weight, kg/m (lb/ft)	0.81 (0.55)

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Tensile Strength, N (lb)	2900 (650)
Flat Plate Crush Strength, N/mm (lb/in)	25.5 (140)
Recommended / Maximum Clamp Spacing, m (ft)	1.0 / 1.2 (3.25 / 4.0)
Installation Temperature, °C(°F)	-40 to +60 (-40 to +140)
Storage Temperature, °C (°F)	-70 to +85 (-94 to +185)
Operation Temperature, °C(°F)	-50 to +85 (-58 to +185)
Phase Stabilized	Phase stabilized and phase matched cables and assemblies are available upon request.
Applications	Main feed line

Notes

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UCF114-50JA/JFNA ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft.	Average Power kW
0.5	0.060	0.018	178
1	0.085	0.026	131
1.5	0.104	0.032	107
2	0.120	0.037	92.2
10	0.271	0.083	40.8
20	0.386	0.118	28.7
30	0.475	0.145	23.3
50	0.619	0.189	17.9
88	0.831	0.253	13.3
100	0.889	0.271	12.4
108	0.926	0.282	11.9
150	1.10	0.336	10.0
174	1.19	0.364	9.26
200	1.29	0.392	8.60
300	1.60	0.488	6.90
400	1.87	0.571	5.90
450	2.00	0.610	5.53
500	2.12	0.646	5.21
512	2.15	0.655	5.14
600	2.35	0.716	4.71
700	2.56	0.781	4.32
800	2.76	0.842	4.00
824	2.81	0.856	3.93
894	2.94	0.897	3.75
900	2.96	0.901	3.74
925	3.00	0.915	3.68
960	3.07	0.935	3.60
1000	3.14	0.957	3.52
1250	3.57	1.09	3.09
1500	3.98	1.21	2.78
1700	4.28	1.31	2.58
1800	4.43	1.35	2.49
2000	4.72	1.44	2.34
2100	4.86	1.48	2.27
2200	5.00	1.52	2.21
2400	5.27	1.61	2.10
3000	6.05	1.84	1.83
3300	6.42	1.96	1.72

Standard Conditions:
For attenuation: VSWR 1.0, cable temperature 20° C (68° F).
For average power: VSWR 1.0, ambient temperature 40° C (104°F), inner conductor temperature 100° C (212° F). No solar loading.

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