PRODUCT DATASHEET

UCF114-50JA

1-1/4" CELLFLEX® Premium Attenuation Ultraflexible Low-Loss Foam-Dielectric Coaxial Cable

CELLFLEX®1-1/4" premium attenuation low loss Ultraflexible cable support CBRS, C-Band up to 4.1GHz



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

FEATURES / BENEFITS

- **Ultra Low Attenuation**
  The further reduced attenuation of CELLFLEX® premium attenuation coaxial cable results in extremly efficient signal transfer in your RF system, especially at high frequencies.
- **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 Technologies 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

APPLICATIONS

Applications		Main feed line, intended for outdoor usage

STRUCTURE

Size		1-1/4
Jacket Option		Black
Inner Conductor Diameter	mm (in)	13.8 (0.55)
Inner Conductor Material		Corrugated Copper Tube
Dielectric Diameter	mm (in)	31 (1.22)
Dielectric Material		Foam Polyethylene
Outer Conductor Diameter	mm (in)	36 (1.42)
Outer Conductor Material		Corrugated Copper
Jacket Diameter	mm (in)	39 (1.54)
Jacket Material		Polyethylene, PE
Cable Type		Foam-Dielectric, Corrugated

All values nominal unless tolerances provided; information contained in the present datasheet is subject to confirmation at time of ordering

TESTING AND ENVIRONMENTAL

Fire Performance		Halogene Free
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)

ELECTRICAL SPECIFICATIONS

Impedance	Ω	50 +/- 1
Maximum Frequency	GHz	3.6
Velocity	%	89
Capacitance	pF/m (pF/ft)	75 (22.9)
Inductance	uH/m (uH/ft)	0.184 (0.056)
Peak Power Rating	kW	178
RF Peak Voltage	Volts	4200
Jacket Spark	Volt RMS	10000
Inner Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	1.94 (0.59)
Outer Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	0.55 (0.17)
Return Loss (VSWR) Performance		20 (1.22) @ 450-617 MHz 24 (1.13) @ 617-960 MHz 24 (1.13) @ 1695-2200 MHz 20 (1.22) @ 2300-2700 MHz 15 (1.43) @ 3500-3600 MHz
Min. Return Loss (Max. VSWR)	dB (VSWR)	24 (1.135)
Phase Stabilized		Phase stabilized and phase matched cables and assemblies are available upon request.
Temperature & Power		Standard

MECHANICAL SPECIFICATIONS

Cable Weight, Nominal	kg/m (lb/ft)	0.79 (0.53)
Minimum Bending Radius, Single Bend	mm (in)	150 (6)
Minimum Bending Radius, Repeated Bends	mm (in)	250 (10)
Bending Moment	Nm (lb-ft)	36 (25.6)
Tensile Strength	N (lb)	2900 (650)
Recommended / Maximum Clamp Spacing	m (ft)	1 / 1.2 (3.25 / 4)

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ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.06	0.02	178
1	0.08	0.03	131
1.5	0.10	0.03	107
2	0.12	0.04	92.30
10	0.27	0.08	41
20	0.38	0.12	28.80
30	0.47	0.14	23.40
50	0.61	0.19	18
88	0.82	0.25	13.50
100	0.88	0.27	12.60
108	0.91	0.28	12.10
150	1.09	0.33	10.20
174	1.17	0.36	9.42
200	1.26	0.39	8.75
300	1.57	0.48	7.05
400	1.83	0.56	6.04
450	1.95	0.59	5.67
500	2.06	0.63	5.35
512	2.09	0.64	5.29
600	2.28	0.70	4.85
700	2.48	0.76	4.45
800	2.67	0.82	4.14
824	2.72	0.83	4.07
894	2.84	0.87	3.89
900	2.85	0.87	3.87
925	2.90	0.88	3.81
960	2.96	0.90	3.74
1000	3.03	0.92	3.65
1250	3.43	1.05	3.22
1500	3.81	1.16	2.90
1800	4.23	1.29	2.61
2000	4.50	1.37	2.46
2200	4.75	1.45	2.33
2300	4.88	1.49	2.27
3000	5.71	1.74	1.94
3300	6.04	1.84	1.83

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External Document Links	Notes

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