Product Data Sheet **LCF214-50JA**

2-1/4" CELLFLEX® Low-Loss Foam-Dielectric Coaxial Cable

Product Description

CELLFLEX® 2-1/4" SERIES "A" low loss flexible cable

Application: Main feed line

2-1/4" CELLFLEX® Low-Loss Foam Dielectric Coaxial 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.

Frequency	Attenuation		Power
[MHz]	[dB/100m]	[dB/100ft]	[kW]
0.5	0.0369	0.0112	321
1.0	0.0523	0.0160	226
1.5	0.0642	0.0196	184
2.0	0.0743	0.0226	159
10	0.169	0.0514	70.0
20	0.241	0.0736	49.1
30	0.298	0.0909	39.7
50	0.390	0.119	30.4
88	0.528	0.161	22.4
100	0.566	0.172	20.9
108	0.590	0.180	20.1
150	0.706	0.215	16.8
174	0.766	0.233	15.5
200	0.827	0.252	14.3
300	1.04	0.317	11.4
400	1.23	0.373	9.62
450	1.31	0.400	9.04
500	1.39	0.425	8.52
512	1.41	0.431	8.40
600	1.55	0.473	7.64
700	1.70	0.519	6.96
750	1.77	0.540	6.69
800	1.84	0.562	6.43
824	1.88	0.572	6.30
894	1.97	0.601	6.01
900	1.98	0.603	5.98
925	2.01	0.613	5.89
960	2.06	0.627	5.75
1000	2.11	0.643	5.61
1250	2.42	0.738	4.89
1400	2.60	0.792	4.55
1500	2.71	0.827	4.37
1700	2.94	0.895	4.03
1800	3.05	0.929	3.88
2000	3.26	0.993	3.63
2100	3.36	1.03	3.52
2200	3.47	1.06	3.41

Attenuation at 20°C (68°F) cable temperature
Mean power rating at 40°C (104°F) ambient temperature

Technical Features

Structure

Inner conductor:	Corrugated Copper Tube	[mm (in)]	20.8 (0.82)
Dielectric:	Foam Polyethylene	[mm (in)]	49.0 (1.93)
Outer conductor:	Corrugated Copper	[mm (in)]	56.1 (2.21)
Jacket:	Polyethylene, PE	[mm (in)]	59.9 (2.36)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	1.70 (1.14)
Minimum bending radius, single bending	[mm (in)]	280 (11)
Minimum bending radius, repeated bending	[mm (in)]	560 (22)
Bending moment	[Nm (lb-ft)]	81.0 (60.0)
Max. tensile force	[N (lb)]	2610 (587)
Recommended / maximum clamp spacing	[m (ft)]	1.5 / 2.0 (5.0 / 6.6)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 1
Relative propagation velocity	[%]	88
Capacitance	[pF/m (pF/ft)]	75.0 (22.9)
Inductance	[µH/m (µH/ft)]	0.190 (0.058)
Max. operating frequency	[GHz]	2.2
Jacket spark test RMS	[V]	10000
Peak power rating	[kW]	425
RF Peak voltage rating	[V]	6520
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	0.92 (0.28)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	0.31 (0.09)

Recommended Temperature Range

Storage temperature	[°C (°F)]	-70 to +85 (-94 to +185)
Installation temperature	[°C (°F)]	-40 to +60 (-40 to +140)
Operation temperature	[°C (°F)]	-50 to +85 (-58 to +185)

Other Characteristics

Fire Performance:	Halogene Free		
VSWR Performance:	Standard	[dB (VSWR)]	Contact RFS for your VSWR performance specification for your required frequency band.

Other Options: Phase stabilized and phase matched cables and assemblies are available upon request.