Product Data Sheet **LCF14-50J**

1/4" CELLFLEX® Low loss Flexible Cable

Product Description

CELLFLEX® 1/4" low loss flexible cable

Application: OEM jumpers, BTS inter-cabinet connections, GPS lines, Microwave IF cabling

1/4" CELLFLEX® Superflexible 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.

Technical Features

Structure

Inner conductor:	Copper-Clad Aluminum Wire	[mm (in)]	2.4 (0.09)
Dielectric:		[mm (in)]	6.0 (0.24)
Outer conductor:	Corrugated Copper	[mm (in)]	7.5 (0.3)
Jacket:	Polyethylene, PE	[mm (in)]	10 (0.39)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	0.11 (0.074)
Minimum bending radius, single bending	[mm (in)]	40 (1.6)
Minimum bending radius, repeated bending	[mm (in)]	120 (5)
Bending moment	[Nm (lb-ft)]	1.9 (1.4)
Max. tensile force	[N (lb)]	890 (200)
Recommended / maximum clamp spacing	[m (ft)]	0.5 / 1.0 (1.75 / 3.25)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 1.5
Relative propagation velocity	[%]	83
Capacitance	[pF/m (pF/ft)]	80 (24)
Inductance	[µH/m (µH/ft)]	0.205 (0.063)
Max. operating frequency	[GHz]	15.8
Jacket spark test RMS	[V]	5000
Peak power rating	[kW]	10.9
RF Peak voltage rating	[V]	1050
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	6.1 (1.86)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	4.4 (1.34)

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.		

Frequency	Attenuation		Power
[MHz]	[dB/100m]	[dB/100ft]	[kW]
0.5	0.291	0.089	10.9
1.0	0.412	0.126	10.9
1.5	0.505	0.154	10.9
2.0	0.583	0.178	10.9
10	1.31	0.399	5.56
20	1.86	0.566	3.92
30	2.28	0.695	3.20
50	2.95	0.900	2.47
88	3.94	1.20	1.85
100	4.20	1.28	1.73
108	4.37	1.33	1.67
150	5.17	1.58	1.41
174	5.58	1.70	1.30
200	6.00	1.83	1.21
300	7.40	2.25	0.985
400	8.59	2.62	0.848
450	9.13	2.78	0.798
500	9.65	2.94	0.755
512	9.77	2.98	0.745
600	10.6	3.24	0.686
700	11.5	3.51	0.632
800	12.4	3.77	0.589
824	12.6	3.83	0.580
894	13.1	4.00	0.556
900	13.2	4.01	0.554
925	13.4	4.07	0.546
960	13.6	4.15	0.535
1000	13.9	4.24	0.523
1250	15.7	4.78	0.464
1500	17.3	5.27	0.421
1700	18.5	5.64	0.393
1800	19.1	5.82	0.381
2000	20.2	6.16	0.360
2100	20.8	6.33	0.351
2200	21.3	6.49	0.342
2400	22.3	6.81	0.326
3000	25.3	7.70	0.288
3500	27.5	8.39	0.265
4000	29.7	9.05	0.245
5000	33.7	10.3	0.216
6000	37.4	11.4	0.195
7000	40.8	12.4	0.178
8000	44.1	13.5	0.165
9000	47.3	14.4	0.154
10000	50.3	15.3	0.145
12000	56.1	17.1	0.130
14000	61.5	18.8	0.118
15800	66.2	20.2	0.110

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