Product Data Sheet **LCF38-50JFN**

3/8" CELLFLEX® Low-Loss Foam-Dielectric Coaxial Cable

Product Description

CELLFLEX® 3/8" low loss flexible cable; flame retardant/ halogen free jacket

Application: OEM jumpers, BTS inter-cabinet connections, GPS lines, Riser-rated In-Building, Microwave IF cabling

3/8" 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.

Technical Features

Structure

Inner conductor:	Copper-Clad Aluminum Wire	[mm (in)]	3.1 (0.12)
Dielectric:	Foam Polyethylene	[mm (in)]	7.2 (0.28)
Outer conductor:	Corrugated Copper	[mm (in)]	9.5 (0.37)
Jacket:	Polyethylene, PE, Metalhydroxite Filling	[mm (in)]	11.2 (0.44)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	0.12 (0.08)
Minimum bending radius, single bending	[mm (in)]	50 (2)
Minimum bending radius, repeated bending	[mm (in)]	95 (4)
Bending moment	[Nm (lb-ft)]	1.9 (1.4)
Max. tensile force	[N (lb)]	530 (119)
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	[%]	88
Capacitance	[pF/m (pF/ft)]	76.0 (23.2)
Inductance	[µH/m (µH/ft)]	0.190 (0.058)
Max. operating frequency	[GHz]	13.5
Jacket spark test RMS	[V]	5000
Peak power rating	[kW]	15.4
RF Peak voltage rating	[V]	1240
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	3.8 (1.16)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	2.9 (0.88)

Recommended Temperature Range

Storage temperature	[°C (°F)]	-70 to +85 (-94 to +185)
Installation temperature	[°C (°F)]	-25 to +60 (-13 to +140)
Operation temperature	[°C (°F)]	-50 to +85 (-58 to +185)

Other Characteristics

Fire Performance:	Flame Retardant, LS0H		
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	0.237	0.0724	15.4
1.0	0.336	0.102	15.4
1.5	0.412	0.125	15.4
2.0	0.476	0.145	15.2
10	1.07	0.325	6.79
20	1.51	0.461	4.79
30	1.86	0.566	3.90
50	2.41	0.734	3.01
88	3.21	0.978	2.26
100	3.43	1.04	2.12
108	3.56	1.09	2.04
150	4.21	1.28	1.72
174	4.55	1.39	1.59
200	4.89	1.49	1.48
300	6.02	1.84	1.20
400	7.00	2.13	1.04
450	7.44	2.27	0.975
500	7.86	2.40	0.923
512	7.96	2.43	0.911
600	8.65	2.64	0.838
700	9.38	2.86	0.773
800	10.1	3.07	0.720
824	10.2	3.12	0.709
894	10.7	3.25	0.679
900	10.7	3.27	0.677
925	10.9	3.31	0.667
960	11.1	3.38	0.654
1000	11.3	3.45	0.640
1250	12.8	3.89	0.568
1500	14.1	4.29	0.515
1700	15.1	4.59	0.481
1800	15.5	4.74	0.467
2000	16.5	5.01	0.441
2100	16.9	5.15	0.429
2200	17.3	5.28	0.418
2400	18.2	5.54	0.399
3000	20.5	6.26	0.353
3500	22.4	6.82	0.324
4000	24.1	7.35	0.301
5000	27.4	8.34	0.265
6000	30.3	9.25	0.239
7000	33.2	10.1	0.219
8000	35.8	10.9	0.202
9000	38.4	11.7	0.189
10000	40.8	12.4	0.178
12000	45.5	13.9	0.159
13500	48.8	14.9	0.149

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