Product Data Sheet **LCF158-50JFNL**

1-5/8" CELLFLEX® Lite Low-Loss Foam-Dielectric Coaxial Cable

Product Description

CELLFLEX® Lite 1-5/8" low loss flexible cable

Application: Main feed line, Riser-rated In-Building

Features/Benefits

- **It represents a light-weight transmission line solution**
  The light weight of CELLFLEX® Lite coaxial cable results in reduced work-force and lifting gear.
- **It is easy to transport, handle and install**
  CELLFLEX® Lite coaxial cables enable savings in shipping cost.
- **It exhibits a cost-efficient alternative to copper transmission line**
  CELLFLEX® Lite coaxial cable helps to reduce CAPEX spending.
- **It offers a user-friendly compatibility with RFS's existing range of accessories**
  CELLFLEX® Lite coaxial cable requires less inventory additions, thus reduced OPEX.
- **It enables trouble-free installation and operation**
  CELLFLEX® Lite coaxial cable avoids downtime and reduces OPEX.
- **The attenuation is comparable to the industry standard in traditional cable**
  CELLFLEX® Lite coaxial cable maintains uncompromised coverage.
- **Specially developed connectors exhibit low and stable intermodulation performance**
  CELLFLEX® Lite coaxial cable exceeds present PIM standards ensuring no dropped calls.
- **It is available with UV-resistant polyethylene or flame-retardant jackets**
  CELLFLEX® Lite coaxial cable can be used outside and in indoor applications where restrictions apply.
- **It exceeds industry standard for return loss performance**
  CELLFLEX® Lite coaxial cable means zero risk in network planning.

Technical Features

Structure

Inner conductor:	Corrugated Copper Tube	[mm (in)]	17.6 (0.69)
Dielectric:	Foam Polyethylene	[mm (in)]	40.9 (1.61)
Outer conductor:	Corrugated Aluminium	[mm (in)]	46.5 (1.83)
Jacket:	Polyethylene, PE, Metalhydroxite Filling	[mm (in)]	50.3 (1.98)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	0.78 (0.52)
Minimum bending radius, single bending	[mm (in)]	200 (8)
Minimum bending radius, repeated bending	[mm (in)]	500 (20)
Bending moment	[Nm (lb-ft)]	46.0 (34.0)
Max. tensile force	[N (lb)]	1800 (405)
Recommended / maximum clamp spacing	[m (ft)]	1.2 / 1.5 (4.0 / 5.0)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 1
Relative propagation velocity	[%]	90
Capacitance	[pF/m (pF/ft)]	74.0 (22.5)
Inductance	[µH/m (µH/ft)]	0.185 (0.056)
Max. operating frequency	[GHz]	2.75
Jacket spark test RMS	[V]	10000
Peak power rating	[kW]	310
RF Peak voltage rating	[V]	5600
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	1.30 (0.396)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	0.68 (0.205)

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)]	18 (1.288:1)
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	0.0480	0.0146	244
1.0	0.0680	0.0207	172
1.5	0.0834	0.0254	140
2.0	0.0963	0.0294	121
10	0.217	0.0662	53.9
20	0.309	0.0942	37.9
30	0.380	0.116	30.8
50	0.495	0.151	23.6
88	0.663	0.202	17.6
100	0.709	0.216	16.5
108	0.738	0.225	15.9
150	0.877	0.267	13.3
174	0.948	0.289	12.3
200	1.02	0.311	11.5
300	1.27	0.387	9.21
400	1.48	0.452	7.91
450	1.58	0.481	7.41
500	1.67	0.510	7.01
512	1.70	0.517	6.88
600	1.85	0.564	6.32
700	2.01	0.614	5.82
750	2.09	0.638	5.60
800	2.17	0.661	5.39
824	2.21	0.672	5.29
894	2.31	0.704	5.06
900	2.32	0.707	5.04
925	2.35	0.718	4.98
960	2.40	0.733	4.88
1000	2.46	0.750	4.76
1250	2.79	0.851	4.19
1400	2.98	0.908	3.93
1500	3.10	0.945	3.77
1700	3.33	1.02	3.51
1800	3.45	1.05	3.39
2000	3.67	1.12	3.19
2100	3.77	1.15	3.10
2200	3.88	1.18	3.02
2400	4.08	1.24	2.87
2500	4.18	1.28	2.80
2600	4.28	1.31	2.73
2700	4.38	1.34	2.67
2750	4.43	1.35	2.64

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