

**LCF12-50JFNL****1/2" CELLFLEX® Lite Low-Loss Foam-Dielectric Coaxial Cable**

CELLFLEX® Lite 1/2" low loss flexible cable

**Feature / 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.
- **Meets or Exceeds: IEC 60754-1, -2; IEC 60332-1-1, -2, -2; IEC 61034-1, -2; IEC 60332-3-24 (formerly IEC 60332-3-C)**

**Technical features****APPLICATIONS**

| Applications | Indoor | Wireless Communication | HF Defense | Microwave | Mobile Radio | Cable Solutions |
|--------------|--------|------------------------|------------|-----------|--------------|-----------------|
|--------------|--------|------------------------|------------|-----------|--------------|-----------------|

**STRUCTURE**

|                          |                                          |
|--------------------------|------------------------------------------|
| Cable Type               | Foam-Dielectric, Corrugated              |
| Size                     | 1/2                                      |
| Jacket Option            | Black                                    |
| Inner Conductor Diameter | 4.8mm (0.19in)                           |
| Inner Conductor Material | Copper-Clad Aluminum Wire                |
| Dielectric Diameter      | 11.3mm (0.44in)                          |
| Dielectric Material      | Foam Polyethylene                        |
| Outer Conductor Diameter | 13.8mm (0.54in)                          |
| Outer Conductor Material | Corrugated Aluminum                      |
| Jacket Diameter          | 15.9mm (0.62in)                          |
| Jacket Material          | Polyethylene, PE, Metalhydroxite Filling |

**TESTING AND ENVIRONMENTAL**

|                                       |                                                                                     |
|---------------------------------------|-------------------------------------------------------------------------------------|
| Fire Performance                      | Flame Retardant, LS0H                                                               |
| Flame Retardant Jacket Specifications | Meets/Exceeds: IEC 60754-1, -2; IEC 60332-1, -3.C; UL 1581; UL 1666; NEC type CATVR |
| Installation Temperature              | -25°C to 60°C (-13°F to 140°F)                                                      |
| Storage Temperature                   | -70°C to 85°C (-94°F to 185°F)                                                      |
| Operation Temperature                 | -50°C to 85°C (-58°F to 185°F)                                                      |



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ELECTRICAL SPECIFICATIONS

|                                |                                                                                      |
|--------------------------------|--------------------------------------------------------------------------------------|
| Impedance                      | 50 +/- 1 Ω                                                                           |
| Maximum Frequency              | 8.8 GHz                                                                              |
| Velocity                       | 87 %                                                                                 |
| Capacitance                    | 76pF/m (23.2pF/ft)                                                                   |
| Inductance                     | 0.19μH/m (0.058μH/ft)                                                                |
| Peak Power Rating              | 38 kW                                                                                |
| RF Peak Voltage                | 1950 Volts                                                                           |
| Jacket Spark                   | 8000 Volt RMS                                                                        |
| Inner Conductor dc Resistance  | 1.6ohm/1000 m (0.49ohm/1000 ft)                                                      |
| Outer Conductor dc Resistance  | 2.8ohm/1000 m (0.85ohm/1000 ft)                                                      |
| Return Loss (VSWR) Performance | Standard (for 40-2700, 3300-4200, 4400-5925 MHz) or Premium                          |
| Phase Stabilized               | Phase stabilized and phase matched cables and assemblies are available upon request. |

MECHANICAL SPECIFICATIONS

|                                     |                      |
|-------------------------------------|----------------------|
| Cable Weight                        | 0.19kg/m (0.12lb/ft) |
| Minimum Bending Radius              | 70mm (3in)           |
| Minimum Bending Radius              | 125mm (5in)          |
| Bending Moment                      | 6.5 (4.8)            |
| Tensile Strength                    | 800N (180lb)         |
| Recommended / Maximum Clamp Spacing | 0.6 / 1 (2 / 3.25)   |



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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 |
|----------------|-------------|--------------|-----------|
| 1              | 0.233       | 0.071        | 38        |
| 1.5            | 0.285       | 0.087        | 31.2      |
| 2              | 0.329       | 0.1          | 27.1      |
| 10             | 0.739       | 0.225        | 12        |
| 20             | 1.05        | 0.319        | 8.48      |
| 30             | 1.29        | 0.392        | 6.9       |
| 50             | 1.66        | 0.507        | 5.36      |
| 88             | 2.22        | 0.676        | 4.01      |
| 100            | 2.37        | 0.722        | 3.76      |
| 108            | 2.46        | 0.751        | 3.62      |
| 150            | 2.91        | 0.888        | 3.06      |
| 174            | 3.14        | 0.958        | 2.83      |
| 200            | 3.38        | 1.03         | 2.63      |
| 300            | 4.16        | 1.27         | 2.14      |
| 400            | 4.83        | 1.47         | 1.84      |
| 450            | 5.13        | 1.57         | 1.73      |
| 500            | 5.42        | 1.65         | 1.64      |
| 512            | 5.49        | 1.67         | 1.62      |
| 600            | 5.97        | 1.82         | 1.49      |
| 700            | 6.47        | 1.97         | 1.38      |
| 750            | 6.71        | 2.04         | 1.33      |
| 800            | 6.94        | 2.12         | 1.28      |
| 824            | 7.05        | 2.15         | 1.26      |
| 894            | 7.36        | 2.24         | 1.21      |
| 900            | 7.39        | 2.25         | 1.2       |
| 925            | 7.49        | 2.28         | 1.19      |
| 960            | 7.64        | 2.33         | 1.16      |
| 1000           | 7.81        | 2.38         | 1.14      |
| 1250           | 8.79        | 2.68         | 1.01      |
| 1400           | 9.34        | 2.85         | 0.953     |
| 1500           | 9.69        | 2.95         | 0.918     |
| 1700           | 10.4        | 3.16         | 0.856     |
| 1800           | 10.7        | 3.26         | 0.832     |
| 2000           | 11.3        | 3.45         | 0.788     |
| 2100           | 11.6        | 3.54         | 0.767     |
| 2200           | 11.9        | 3.63         | 0.748     |
| 2400           | 12.5        | 3.81         | 0.712     |
| 2500           | 12.8        | 3.89         | 0.695     |
| 2600           | 13.1        | 3.98         | 0.679     |
| 2700           | 13.3        | 4.06         | 0.669     |
| 3000           | 14.1        | 4.3          | 0.631     |
| 3500           | 15.4        | 4.69         | 0.578     |
| 4000           | 16.6        | 5.05         | 0.536     |



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|       |      |      |       |
|-------|------|------|-------|
| 5000  | 18.8 | 5.72 | 0.473 |
| 6000  | 20.8 | 6.34 | 0.428 |
| 7000  | 22.7 | 6.92 | 0.392 |
| 8000  | 24.5 | 7.47 | 0.363 |
| 9000  | 26.2 | 8    | 0.34  |
| 10000 | 27.9 | 8.5  | 0.319 |
| 11700 | 30.6 | 9.33 | 0.291 |

External Document Links

Notes

Phase stabilized versions available upon request.

NOTES

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