



LCF158-50JA

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



CELLFLEX® 1-5/8" low loss cable

Features / Benefits

- **Ultra Low Attenuation**
The reduced attenuation of CELLFLEX® coaxial cable results in extremely efficient signal transfer in your RF system, especially at high frequencies.
- **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

| | |
|--------------------------|------------------------|
| Cable Type | LCF |
| Size | 1-5/8" |
| Jacket Option | Outdoor |
| Inner Conductor Material | Corrugated Copper Tube |
| Dielectric Material | Foam Polyethylen |
| Outer Conductor Material | Corrugated Copper |
| Jacket Material | Black Polyethylen |

MECHANICAL SPECIFICATION

| | |
|---------------------------------------|-----------------------|
| Inner Conductor Diameter | 17.6mm (0.693in) |
| Dielectric Diameter | 40.9mm (1.61in) |
| Outer Conductor Diameter | 46.4mm (1.827in) |
| Jacket Diameter | 50.2mm (1.976in) |
| Cable Weight | 1.07kg/m (0.719lb/ft) |
| Min. Bending Radius, Single Bend | 200mm (7.874in) |
| Min. Bending Radius, Repeated Bends | 500mm (19.685in) |
| Bending Moment | 42Nm (30.996ft-lbf) |
| Tensile Strength | 2,500N (562.022lb) |
| Max. Pulling Length per Hoisting Grip | 60m (2,362.205in) |
| Recommended Clamp Spacing | 1.2m (3.937ft) |
| Max. Clamp Spacing | 1.5m (4.921ft) |



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ELECTRICAL SPECIFICATION

| | |
|--------------------------------|---|
| Impedance | 50 ±1 Ω |
| Max. Operating Frequency | 2.75 GHz |
| Velocity | 90 % |
| Capacitance | 74pF/m (22.555pF/ft) |
| Peak Power Rating | 310 kW |
| RF Peak Voltage | 5.6 kV |
| Jacket Spark | 5 kV |
| DC-Resistance Inner Conductor | 1.3Ω/km (0.396Ω/kft) |
| DC-Resistance Outer Conductor | 0.47Ω/km (0.143Ω/kft) |
| Return Loss (VSWR) Performance | Standard 20dB (1.222) / Premium 23/24dB (1.152/1.135) on specified frequencies. |

TESTING AND ENVIRONMENTAL

| | |
|-----------------------------------|---|
| Fire Performance | Halogen Free |
| Compliance | RoHS 2011/65/EU China RoHS SJ/T 11364-2006 IEC 60754-1/-2 Halogen Acid Gases REACH (EC 1907/2006) IEC 60754-1/-2 Halogen Acid Gases |
| Phase Stabilized | Phase stabilized and phase matched cables are available upon request. |
| Installation Temperature, Minimum | -40°C (-40°F) |
| Installation Temperature, Maximum | 60°C (140°F) |
| Storage Temperature, Minimum | -70°C (-94°F) |
| Storage Temperature, Maximum | 85°C (185°F) |
| Operation Temperature, Minimum | -50°C (-58°F) |
| Operation Temperature, Maximum | 85°C (185°F) |



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ATTENUATION AND POWER RATING

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|---|--------------|-----------|
| 75 | 0.55 | 0.17 | 20.22 |
| 100 | 0.64 | 0.20 | 17.40 |
| 150 | 0.80 | 0.24 | 14.06 |
| 200 | 0.93 | 0.28 | 12.06 |
| 450 | 1.44 | 0.44 | 7.78 |
| 700 | 1.84 | 0.56 | 6.1 |
| 800 | 1.98 | 0.6 | 5.66 |
| 870 | 2.08 | 0.63 | 5.4 |
| 900 | 2.12 | 0.65 | 5.29 |
| 960 | 2.2 | 0.67 | 5.1 |
| 1800 | 3.16 | 0.96 | 3.55 |
| 2000 | 3.36 | 1.02 | 3.34 |
| 2200 | 3.56 | 1.08 | 3.15 |
| 2400 | 3.74 | 1.14 | 2.99 |
| 2600 | 3.93 | 1.2 | 2.85 |
| 2700 | 4.02 | 1.22 | 2.79 |
| 2750 | 4.06 | 1.24 | 2.76 |
| Note | Standard Conditions: For attenuation: VSWR 1.0, cable temperature 20°C (68°F). For average power: VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F). No solar loading. | | |

NOTES

LCFXX-50JTC: TC cables (temperature cycled) are cables that are aged in order to reduce hysteresis effects. Available upon request.