PRODUCT DATASHEET

# LCF78-50JFNA

7/8" CELLFLEX® Premium Attenuation Low-Loss Foam-Dielectric Coaxial Cable

CELLFLEX®7/8" premium attenuation low loss flexible cable support CBRS, C-Band up to 4.2GHz; flame retardant/ halogen free jacket



7/8" CELLFLEX® Low-Loss Foam Dielectric Coaxial Cable

### FEATURES / BENEFITS

- **Ultra Low Attenuation**
  The further reduced attenuation of CELLFLEX® premium attenuation coaxial cable results in extremly 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 Technologies 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;IEC 61034-1, -2; IEC 60332-3-24 (formerly IEC 60332-3-C)**

## Technical features

### APPLICATIONS

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

### STRUCTURE

| | | |
|---|---|---|
| **Size** | | 7/8 |
| **Jacket Option** | | Black |
| **Inner Conductor Diameter** | mm (in) | 9.1 (0.358) |
| **Inner Conductor Material** | | Copper Tube |
| **Dielectric Diameter** | mm (in) | 21.5 (0.846) |
| **Dielectric Material** | | Foam Polyethylene |
| **Outer Conductor Diameter** | mm (in) | 25.2 (0.992) |
| **Outer Conductor Material** | | Corrugated Copper |
| **Jacket Diameter** | mm (in) | 27.8 (1.094) |
| **Jacket Material** | | Polyethylene, PE, Metalhydroxite Filling |
| **Cable Type** | | Foam-Dielectric, Corrugated |



All values nominal unless tolerances provided; information contained in the present datasheet is subject to confirmation at time of ordering

## TESTING AND ENVIRONMENTAL

| | | |
|---|---|---|
| **Fire Performance** | | Flame Retardant, LS0H |
| **Flame Retardant Jacket Specifications** | | Meets/Exceeds: IEC 60754-1, -2; IEC 60332-1-1, -2; IEC 61034-1, -2; IEC 60332-3-24 (formerly IEC 60332-3-C); UL 1581; UL 1666;NFPA130 (ed. 2014) Ch.12 (NFPA70 ) via UL-1685/FT4/IEEE1202; NEC type CATVR; CPR: https://products.rfsworld.com/userfiles/cpr/rfs-products-cpr-compliance.pdf |
| **Installation Temperature** | °C(°F) | -15 to 60 (5 to 140) |
| **Storage Temperature** | °C (°F) | -70 to 85 (-94 to 185) |
| **Operation Temperature** | °C(°F) | -50 to 85 (-58 to 185) |

## ELECTRICAL SPECIFICATIONS

| | | |
|---|---|---|
| **Impedance** | Ω | 50 +/- 1 |
| **Maximum Frequency** | GHz | 5 |
| **Velocity** | % | 88 |
| **Capacitance** | pF/m (pF/ft) | 74 (22.5) |
| **Inductance** | uH/m (uH/ft) | 0.185 (0.056) |
| **Peak Power Rating** | kW | 85 |
| **RF Peak Voltage** | Volts | 2920 |
| **Jacket Spark** | Volt RMS | 8000 |
| **Inner Conductor dc Resistance** | Ω/1000 m (Ω/1000 ft) | 2.04 (0.62) |
| **Outer Conductor dc Resistance** | Ω/1000 m (Ω/1000 ft) | 2 (0.61) |
| **Return Loss (VSWR) Performance** | | 20 (1.22) @ 450-617 MHz<br>24 (1.13) @ 617-960 MHz<br>24 (1.13) @ 1695-2200 MHz<br>20 (1.22) @ 2300-2700 MHz<br>18 (1.28) @ 3500-4200 MHz |
| **Phase Stabilized** | | Phase stabilized and phase matched cables and assemblies are available upon request. |
| **Temperature & Power** | | Standard |

## MECHANICAL SPECIFICATIONS

| | | |
|---|---|---|
| **Cable Weight, Nominal** | kg/m (lb/ft) | 0.39 (0.26) |
| **Minimum Bending Radius, Single Bend** | mm (in) | 120 (5) |
| **Minimum Bending Radius, Repeated Bends** | mm (in) | 250 (10) |
| **Bending Moment** | Nm (lb-ft) | 13 (10) |
| **Tensile Strength** | N (lb) | 1440 (324) |
| **Recommended / Maximum Clamp Spacing** | m (ft) | 0.8 / 1 (2.75 / 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 |
|---|---|---|---|
| **0.5** | 0.08 | 0.02 | 91 |
| **1** | 0.11 | 0.03 | 74.20 |
| **1.5** | 0.14 | 0.04 | 60.70 |
| **2** | 0.16 | 0.05 | 52.40 |
| **10** | 0.36 | 0.11 | 23.30 |
| **20** | 0.51 | 0.16 | 16.40 |
| **30** | 0.63 | 0.19 | 13.40 |
| **50** | 0.81 | 0.25 | 10.30 |
| **88** | 1.09 | 0.33 | 7.69 |
| **100** | 1.16 | 0.35 | 7.22 |
| **108** | 1.21 | 0.37 | 6.93 |
| **150** | 1.43 | 0.44 | 5.86 |
| **174** | 1.55 | 0.47 | 5.41 |
| **200** | 1.66 | 0.51 | 5.05 |
| **300** | 2.06 | 0.63 | 4.07 |
| **400** | 2.40 | 0.73 | 3.49 |
| **450** | 2.55 | 0.78 | 3.29 |
| **500** | 2.70 | 0.82 | 3.10 |
| **512** | 2.73 | 0.83 | 3.07 |
| **600** | 2.98 | 0.91 | 2.81 |
| **700** | 3.23 | 0.99 | 2.59 |
| **750** | 3.36 | 1.02 | 2.49 |
| **800** | 3.48 | 1.06 | 2.41 |
| **824** | 3.53 | 1.08 | 2.37 |
| **894** | 3.69 | 1.13 | 2.27 |
| **900** | 3.71 | 1.13 | 2.26 |
| **925** | 3.76 | 1.15 | 2.23 |
| **960** | 3.84 | 1.17 | 2.18 |
| **1000** | 3.93 | 1.20 | 2.13 |
| **1250** | 4.44 | 1.35 | 1.89 |
| **1400** | 4.73 | 1.44 | 1.77 |
| **1500** | 4.91 | 1.50 | 1.71 |
| **1700** | 5.27 | 1.61 | 1.59 |
| **1800** | 5.44 | 1.66 | 1.54 |
| **2000** | 5.77 | 1.76 | 1.45 |
| **2100** | 5.93 | 1.81 | 1.41 |



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| | | | |
|---|---|---|---|
| **2200** | 6.09 | 1.86 | 1.38 |
| **2400** | 6.40 | 1.95 | 1.31 |
| **2500** | 6.55 | 2 | 1.28 |
| **2600** | 6.70 | 2.04 | 1.25 |
| **2700** | 6.84 | 2.09 | 1.23 |
| **3000** | 7.27 | 2.22 | 1.15 |
| **3500** | 7.95 | 2.42 | 1.05 |
| **4000** | 8.60 | 2.62 | 0.97 |
| **4900** | 9.69 | 2.95 | 0.87 |
| **5000** | 9.81 | 2.99 | 0.85 |

External Document Links

Notes



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