PRODUCT DATASHEET

# SCF12-50JFN

1/2" CELLFLEX® Superflexible Foam-Dielectric Coaxial Cable

CELLFLEX® 1/2" superflexible cable support CBRS, C-Band and LAA up to 6GHz; flame retardant/ halogen free jacket

### FEATURES / BENEFITS

- **Low Attenuation**
  The low attenuation of CELLFLEX® coaxial cable results in highly efficient signal transferin 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 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)**

1/2" CELLFLEX® Superflexible Foam Dielectric Coaxial Cable

## Technical features

### APPLICATIONS

| | | |
|---|---|---|
| **Applications** | | OEM jumpers, Main feed transitions to equipment, GPS lines, Riser-rated In-Building, CPR classified cable |

### STRUCTURE

| | | |
|---|---|---|
| **Size** | | 1/2 |
| **Jacket Option** | | Black |
| **Inner Conductor Diameter** | mm (in) | 3.56 (0.14) |
| **Inner Conductor Material** | | Copper-Clad Aluminum Wire |
| **Dielectric Diameter** | mm (in) | 9.3 (0.366) |
| **Dielectric Material** | | Foam Polyethylene |
| **Outer Conductor Diameter** | mm (in) | 12.3 (0.48) |
| **Outer Conductor Material** | | Corrugated Copper |
| **Jacket Diameter** | mm (in) | 13.75 (0.54) |
| **Jacket Material** | | Polyethylene, PE, Metalhydroxite Filling |
| **Cable Type** | | Foam-Dielectric, Superflexible |

## TESTING AND ENVIRONMENTAL

| | | |
|---|---|---|
| **Fire Performance** | | Flame Retardant, LS0H |
| **Flame Retardant Jacket Specifications** | | Meets/Exceeds: IEC 60754-1, -2; IEC 60332-1-1, -2;<br>IEC 61034-1, -2; IEC 60332-3-24 (formerly IEC 60332-3-C);<br>UL 1581; UL 1666; NFPA130; NEC type CATVR; EN45545-2(GER production);<br>CPR: https://products.rfsworld.com/userfiles/cpr/rfs-products-cpr-compliance.pdf |
| **Installation Temperature** | °C(°F) | -25 to 60 (-13 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 | 10.6 |
| **Velocity** | % | 77 |
| **Capacitance** | pF/m (pF/ft) | 86 (26) |
| **Inductance** | uH/m (uH/ft) | 0.215 (0.066) |
| **Peak Power Rating** | kW | 24 |
| **RF Peak Voltage** | Volts | 1550 |
| **Jacket Spark** | Volt RMS | 5000 |
| **Inner Conductor dc Resistance** | Ω/1000 m (Ω/1000 ft) | 2.97 (0.9) |
| **Outer Conductor dc Resistance** | Ω/1000 m (Ω/1000 ft) | 6.5 (1.88) |
| **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<br>16 (1.37) @ 5150-6000 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) | 0.15 (0.1) |
| **Minimum Bending Radius, Repeated Bends** | mm (in) | 32 (1.3) |
| **Bending Moment** | Nm (lb-ft) | 2.5 (1.84) |
| **Tensile Strength** | N (lb) | 650 (146) |
| **Recommended / Maximum Clamp Spacing** | m (ft) | 0.3 / 0.5 (1 / 1.64) |

## ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|---|---|---|---|
| **0.5** | 0.22 | 0.07 | 24 |
| **1** | 0.31 | 0.10 | 22.60 |
| **1.5** | 0.38 | 0.12 | 18.40 |
| **2** | 0.44 | 0.14 | 16 |
| **10** | 1.00 | 0.30 | 7.10 |
| **20** | 1.41 | 0.43 | 5.01 |
| **30** | 1.73 | 0.53 | 4.08 |
| **50** | 2.25 | 0.69 | 3.14 |
| **88** | 3.01 | 0.92 | 2.35 |
| **100** | 3.21 | 0.98 | 2.20 |
| **108** | 3.34 | 1.02 | 2.11 |
| **150** | 3.96 | 1.21 | 1.78 |
| **174** | 4.27 | 1.30 | 1.65 |
| **200** | 4.60 | 1.40 | 1.53 |
| **300** | 5.68 | 1.73 | 1.24 |
| **400** | 6.61 | 2.01 | 1.07 |
| **450** | 7.04 | 2.14 | 1 |
| **500** | 7.44 | 2.27 | 0.95 |
| **512** | 7.53 | 2.30 | 0.94 |
| **600** | 8.20 | 2.50 | 0.86 |
| **700** | 8.91 | 2.71 | 0.79 |
| **750** | 9.24 | 2.82 | 0.76 |
| **800** | 9.57 | 2.92 | 0.74 |
| **824** | 9.72 | 2.96 | 0.73 |
| **894** | 10.20 | 3.10 | 0.69 |
| **900** | 10.20 | 3.11 | 0.69 |
| **925** | 10.40 | 3.16 | 0.68 |
| **960** | 10.60 | 3.22 | 0.67 |
| **1000** | 10.80 | 3.29 | 0.65 |
| **1250** | 12.20 | 3.72 | 0.58 |
| **1400** | 13 | 3.96 | 0.54 |
| **1500** | 13.50 | 4.11 | 0.52 |
| **1700** | 14.50 | 4.41 | 0.49 |
| **1800** | 14.90 | 4.55 | 0.47 |
| **2000** | 15.80 | 4.82 | 0.45 |
| **2100** | 16.30 | 4.96 | 0.43 |

| | | | |
|---|---|---|---|
| **2200** | 16.70 | 5.09 | 0.42 |
| **2400** | 17.50 | 5.35 | 0.40 |
| **2500** | 17.90 | 5.47 | 0.39 |
| **2600** | 18.40 | 5.59 | 0.38 |
| **2700** | 18.80 | 5.72 | 0.38 |
| **3000** | 19.90 | 6.07 | 0.36 |
| **3500** | 21.80 | 6.63 | 0.32 |
| **4000** | 23.50 | 7.16 | 0.30 |
| **5000** | 26.80 | 8.16 | 0.26 |
| **6000** | 29.80 | 9.09 | 0.24 |
| **7000** | 32.70 | 9.97 | 0.22 |
| **8000** | 35.50 | 10.80 | 0.20 |
| **9000** | 38.10 | 11.60 | 0.19 |
| **10000** | 40.60 | 12.40 | 0.17 |

External Document Links

Notes

Phase stabilized versions available upon request.

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