



1/4" CELLFLEX® Superflexible Foam-Dielectric Coaxial Cable

Product Description

CELLFLEX® 1/4" superflexible cable

Application: OEM jumpers, BTS inter-cabinet connections, GPS lines



1/4" CELLFLEX® Superflexible Foam Dielectric Coaxial Cable

Features/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 RF/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.

| Frequency [MHz] | Attenuation | | Power [kW] |
|-----------------|-------------|------------|------------|
| | [dB/100m] | [dB/100ft] | |
| 0.5 | 0.401 | 0.122 | 5.50 |
| 1.0 | 0.568 | 0.173 | 5.50 |
| 1.5 | 0.696 | 0.212 | 5.50 |
| 2.0 | 0.804 | 0.245 | 5.50 |
| 10 | 1.81 | 0.550 | 3.66 |
| 20 | 2.56 | 0.781 | 2.58 |
| 30 | 3.15 | 0.960 | 2.10 |
| 50 | 4.08 | 1.24 | 1.62 |
| 88 | 5.45 | 1.66 | 1.21 |
| 100 | 5.82 | 1.77 | 1.14 |
| 108 | 6.06 | 1.85 | 1.09 |
| 150 | 7.17 | 2.19 | 0.922 |
| 174 | 7.75 | 2.36 | 0.854 |
| 200 | 8.33 | 2.54 | 0.794 |
| 300 | 10.3 | 3.13 | 0.643 |
| 400 | 12.0 | 3.65 | 0.553 |
| 450 | 12.7 | 3.88 | 0.519 |
| 500 | 13.5 | 4.10 | 0.491 |
| 512 | 13.6 | 4.15 | 0.485 |
| 600 | 14.8 | 4.52 | 0.446 |
| 700 | 16.1 | 4.91 | 0.411 |
| 800 | 17.3 | 5.27 | 0.382 |
| 824 | 17.6 | 5.35 | 0.376 |
| 894 | 18.4 | 5.59 | 0.360 |
| 900 | 18.4 | 5.61 | 0.359 |
| 925 | 18.7 | 5.70 | 0.354 |
| 960 | 19.1 | 5.81 | 0.347 |
| 1000 | 19.5 | 5.94 | 0.339 |
| 1250 | 22.0 | 6.71 | 0.300 |
| 1500 | 24.3 | 7.41 | 0.272 |
| 1700 | 26.1 | 7.94 | 0.254 |
| 1800 | 26.9 | 8.20 | 0.246 |
| 2000 | 28.5 | 8.69 | 0.232 |
| 2100 | 29.3 | 8.93 | 0.226 |
| 2200 | 30.1 | 9.2 | 0.220 |
| 2400 | 31.6 | 9.6 | 0.209 |
| 3000 | 35.8 | 10.9 | 0.185 |
| 3500 | 39.1 | 11.9 | 0.169 |
| 4000 | 42.2 | 12.9 | 0.157 |
| 5000 | 48.0 | 14.6 | 0.138 |
| 6000 | 53.4 | 16.3 | 0.124 |
| 7000 | 58.6 | 17.8 | 0.113 |
| 8000 | 63.4 | 19.3 | 0.104 |
| 9000 | 68.1 | 20.8 | 0.097 |
| 10000 | 72.6 | 22.1 | 0.091 |
| 12000 | 81 | 24.8 | 0.081 |
| 14000 | 89 | 27.2 | 0.074 |
| 16000 | 97 | 29.6 | 0.068 |
| 18000 | 105 | 31.9 | 0.063 |
| 20000 | 112 | 34.2 | 0.059 |
| 20400 | 113 | 34.6 | 0.058 |

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

Technical Features

Structure

| | | | |
|------------------|---------------------------|-----------|-------------|
| Inner conductor: | Copper-Clad Aluminum Wire | [mm (in)] | 1.9 (0.075) |
| Dielectric: | Foam Polyethylene | [mm (in)] | 4.3 (0.17) |
| Outer conductor: | Corrugated Copper | [mm (in)] | 6.5 (0.26) |
| Jacket: | Polyethylene, PE | [mm (in)] | 7.8 (0.31) |

Mechanical Properties

| | | |
|--|----------------|-------------------------|
| Weight, approximately | [kg/m (lb/ft)] | 0.07 (0.05) |
| Minimum bending radius, single bending | [mm (in)] | |
| Minimum bending radius, repeated bending | [mm (in)] | 25 (1) |
| Bending moment | [Nm (lb-ft)] | 0.7 (0.5) |
| Max. tensile force | [N (lb)] | 600 (135) |
| Recommended / maximum clamp spacing | [m (ft)] | 0.2 / 0.2 (0.67 / 0.67) |

Electrical Properties

| | | |
|-------------------------------|-------------------|---------------|
| Characteristic impedance | [Ω] | 50 +/- 1 |
| Relative propagation velocity | [%] | 82 |
| Capacitance | [pF/m (pF/ft)] | 82 (25) |
| Inductance | [μH/m (μH/ft)] | 0.207 (0.063) |
| Max. operating frequency | [GHz] | 20.4 |
| Jacket spark test RMS | [V] | 5000 |
| Peak power rating | [kW] | 5.5 |
| RF Peak voltage rating | [V] | 740 |
| DC-resistance inner conductor | [Ω/km (Ω/1000ft)] | 10.4 (3.17) |
| DC-resistance outer conductor | [Ω/km (Ω/1000ft)] | 6.6 (2.01) |

Recommended Temperature Range

| | | |
|--------------------------|-----------|------------------------|
| Storage temperature | [°C (°F)] | -70 to 85 (-94 to 185) |
| Installation temperature | [°C (°F)] | -40 to 60 (-40 to 140) |
| Operation temperature | [°C (°F)] | -50 to 85 (-58 to 185) |

Other Characteristics

Fire Performance: Halogene Free

VSWR Performance: Standard [dB (VSWR)]

Contact RFS for your VSWR performance specification for your required frequency band.

Other Options: Phase stabilized and phase matched cables and assemblies are available upon request.

All information contained in the present datasheet is subject to confirmation at time of ordering