



## 1/4" Superflexible Foam Dielectric, FSJ Series – 50-ohm



### FSJ1-50A

| Description                                   | Type No.              |
|---|-----------------------|
| <b>Cable Ordering Information</b>             |                       |
| <b>Standard Superflexible Cable</b>           |                       |
| 1/4" Standard Cable, Standard Jacket          | <b>FSJ1-50A</b>       |
| <b>Fire Retardant Cables</b>                  |                       |
| 1/4" Fire Retardant Jacket (CATVX)            | <b>FSJ1RN-50B</b>     |
| 1/4" Fire Retardant Jacket (CATVR)            | <b>FSJ1RN-50B</b>     |
| <b>Low VSWR and Specialized Cables</b>        |                       |
| 1/4" Low VSWR, specify operating band         | <b>FSJ1P-50A-(**)</b> |
| Phase Stabilized and Phase Measured Cable     | See page 590          |
| <b>Jumper Cable Assemblies – See page 584</b> |                       |

\*\* Insert suffix number from "Low VSWR Specifications" table, page 476.

#### Characteristics

| Electrical   |               |
|--|---------------|
| Impedance, ohms                                      | 50 ± 1        |
| Maximum Frequency, GHz                               | 20.4          |
| Velocity, percent                                    | 84            |
| Peak Power Rating, kW                                | 6.4           |
| dc Resistance, ohms/1000 ft (1000 m)                 |               |
| Inner  | 3.0 (9.8)     |
| Outer  | 2.0 (6.5)     |
| dc Breakdown, volts                                  | 1600          |
| Jacket Spark, volts RMS                              | 5000          |
| Capacitance, pF/ft (m)                               | 24.2 (79.4)   |
| Inductance, µH/ft (m)                                | 0.061 (0.200) |
| Mechanical   |               |
| Outer Conductor                                      | Copper        |
| Inner Conductor                                      | Cu-Clad Al    |
| Diameter over Jacket, standard jacket, in (mm)       | 0.29 (7.4)    |
| Diameter over Jacket, fire-retardant jacket, in (mm) | 0.29 (7.4)    |
| Diameter Copper Outer Conductor, in (mm)             | 0.25 (6.4)    |
| Diameter Inner Conductor, in (mm)                    | 0.075 (1.9)   |
| Minimum Bending Radius, in (mm)                      | 1 (25)        |
| Number of Bends, minimum (typical)                   | 15 (20)       |
| Bending Moment, lb-ft (N•m)                          | 0.8 (1.1)     |
| Cable Weight, lb/ft (kg/m)                           | 0.045 (0.067) |
| Tensile Strength, lb (kg)                            | 150 (68)      |
| Flat Plate Crush Strength, lb/in (kg/mm)             | 100 (1.8)     |

#### Attenuation and Average Power

| Frequency MHz | Attenuation dB/100 ft | Attenuation dB/100 m | Average Power, kW |
|---------------|-----------------------|----------------------|-------------------|
| 0.5           | 0.124                 | 0.407                | 6.40              |
| 1             | 0.176                 | 0.577                | 6.40              |
| 1.5           | 0.215                 | 0.707                | 6.40              |
| 2             | 0.249                 | 0.816                | 6.40              |
| 10            | 0.559                 | 1.83                 | 3.97              |
| 20            | 0.792                 | 2.60                 | 2.80              |
| 30            | 0.973                 | 3.19                 | 2.28              |
| 50            | 1.26                  | 4.14                 | 1.76              |
| 88            | 1.68                  | 5.52                 | 1.32              |
| 100           | 1.79                  | 5.89                 | 1.23              |
| 108           | 1.87                  | 6.13                 | 1.19              |
| 150           | 2.21                  | 7.25                 | 1.00              |
| 174           | 2.39                  | 7.82                 | 0.929             |
| 200           | 2.56                  | 8.41                 | 0.865             |
| 300           | 3.16                  | 10.4                 | 0.701             |
| 400           | 3.67                  | 12.1                 | 0.603             |
| 450           | 3.91                  | 12.8                 | 0.567             |
| 500           | 4.13                  | 13.5                 | 0.537             |
| 512           | 4.18                  | 13.7                 | 0.530             |
| 600           | 4.54                  | 14.9                 | 0.488             |
| 700           | 4.93                  | 16.2                 | 0.450             |
| 800           | 5.29                  | 17.4                 | 0.419             |
| 824           | 5.38                  | 17.6                 | 0.412             |
| 894           | 5.61                  | 18.4                 | 0.395             |
| 960           | 5.83                  | 19.1                 | 0.380             |
| 1000          | 5.96                  | 19.6                 | 0.372             |
| 1250          | 6.72                  | 22.0                 | 0.330             |
| 1500          | 7.41                  | 24.3                 | 0.299             |
| 1700          | 7.94                  | 26.0                 | 0.279             |
| 1800          | 8.19                  | 26.9                 | 0.271             |
| 2000          | 8.67                  | 28.5                 | 0.256             |
| 2100          | 8.91                  | 29.2                 | 0.249             |
| 2200          | 9.14                  | 30.0                 | 0.243             |
| 2300          | 9.37                  | 30.7                 | 0.237             |
| 3000          | 10.9                  | 35.6                 | 0.204             |
| 3400          | 11.6                  | 38.2                 | 0.191             |
| 4000          | 12.8                  | 41.8                 | 0.174             |
| 5000          | 14.5                  | 47.5                 | 0.153             |
| 6000          | 16.1                  | 52.7                 | 0.138             |
| 8000          | 19.0                  | 62.4                 | 0.117             |
| 10000         | 21.7                  | 71.2                 | 0.102             |
| 12000         | 24.2                  | 79.4                 | 0.092             |
| 14000         | 26.6                  | 87.2                 | 0.084             |
| 16000         | 28.8                  | 94.6                 | 0.077             |
| 18000         | 31.0                  | 101.7                | 0.072             |
| 19000         | 32.1                  | 105.2                | 0.069             |
| 20000         | 33.1                  | 108.6                | 0.067             |
| 20400         | 33.5                  | 110.0                | 0.066             |

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient 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.