



## 1-5/8" Foam Dielectric, LDF Series – 50-ohm

### LDF7-50A

| Description                             | Type No.              |
|---|-----------------------|
| <b>Cable Ordering Information</b>       |                       |
| <b>Standard Cable</b>                   |                       |
| 1-5/8" Standard Cable, Standard Jacket  | <b>LDF7-50A</b>       |
| <b>Fire Retardant Cable</b>             |                       |
| 1-5/8" Fire Retardant Jacket (CATVR)    | <b>LDF7RN-50A</b>     |
| <b>Low VSWR and Specialized Cables</b>  |                       |
| 1-5/8" Low VSWR, specify operating band | <b>LDF7P-50A-(**)</b> |

\*\* Insert suffix number from "Low VSWR Specifications" table, page 522.

#### Characteristics

| <b>Electrical</b>                             |               |
|---|---------------|
| Impedance, ohms                               | 50 ± 1        |
| Maximum Frequency, GHz                        | 2.5           |
| Velocity, percent                             | 88            |
| Peak Power Rating, kW                         | 315           |
| dc Resistance, ohms/1000 ft (1000 m)          |               |
| Inner   | 0.25 (0.83)   |
| Outer   | 0.16 (0.52)   |
| dc Breakdown, volts                           | 11000         |
| Jacket Spark, volts RMS                       | 10000         |
| Capacitance, pF/ft (m)                        | 23.1 (75.8)   |
| Inductance, μH/ft (m)                         | 0.058 (0.190) |
| <b>Mechanical</b>                             |               |
| Outer Conductor                               | Copper        |
| Inner Conductor                               | Copper Tube   |
| Diameter over Jacket, in (mm)                 | 1.98 (50)     |
| Diameter over Copper Outer Conductor, in (mm) | 1.825 (46.3)  |
| Diameter Inner Conductor, in (mm)             | 0.681 (17.3)  |
| Nominal Inside Transverse Dimensions, cm      | 4.05          |
| Minimum Bending Radius, in (mm)               | 20 (510)      |
| Number of Bends, minimum (typical)            | 15 (50)       |
| Bending Moment, lb-ft (N•m)                   | 40 (54.2)     |
| Cable Weight, lb/ft (kg/m)                    | 0.82 (1.2)    |
| Tensile Strength, lb (kg)                     | 800 (363)     |
| Flat Plate Crush Strength, lb/in (kg/mm)      | 120 (2.1)     |

#### Attenuation and Average Power

| Frequency MHz | Attenuation dB/100 ft | Attenuation dB/100 m | Average Power, kW |
|---------------|-----------------------|----------------------|-------------------|
| 0.5           | 0.014                 | 0.044                | 247.0             |
| 1             | 0.019                 | 0.063                | 175.0             |
| 1.5           | 0.024                 | 0.077                | 142.0             |
| 2             | 0.027                 | 0.089                | 123.0             |
| 10            | 0.062                 | 0.202                | 54.3              |
| 20            | 0.088                 | 0.289                | 38.1              |
| 30            | 0.109                 | 0.356                | 30.9              |
| 50            | 0.142                 | 0.465                | 23.6              |
| 88            | 0.191                 | 0.627                | 17.5              |
| 100           | 0.205                 | 0.671                | 16.4              |
| 108           | 0.213                 | 0.699                | 15.7              |
| 150           | 0.254                 | 0.834                | 13.2              |
| 174           | 0.276                 | 0.904                | 12.2              |
| 200           | 0.297                 | 0.976                | 11.3              |
| 300           | 0.372                 | 1.22                 | 9.01              |
| 400           | 0.437                 | 1.43                 | 7.67              |
| 450           | 0.467                 | 1.53                 | 7.18              |
| 500           | 0.496                 | 1.63                 | 6.76              |
| 512           | 0.503                 | 1.65                 | 6.67              |
| 600           | 0.550                 | 1.81                 | 6.09              |
| 700           | 0.602                 | 1.97                 | 5.57              |
| 800           | 0.650                 | 2.13                 | 5.15              |
| 824           | 0.662                 | 2.17                 | 5.06              |
| 894           | 0.694                 | 2.28                 | 4.83              |
| 960           | 0.724                 | 2.38                 | 4.63              |
| 1000          | 0.742                 | 2.43                 | 4.52              |
| 1250          | 0.848                 | 2.78                 | 3.95              |
| 1500          | 0.947                 | 3.11                 | 3.54              |
| 1700          | 1.02                  | 3.35                 | 3.28              |
| 2000          | 1.13                  | 3.71                 | 2.96              |
| 2300          | 1.23                  | 4.05                 | 2.72              |
| 2500          | 1.30                  | 4.27                 | 2.58              |

#### Standard Conditions:

For Attenuation, VSWR 1.0, ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.