

35422-57



Heat treated LDF1RK-50, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/4 in, black non-halogenated fire retardant jacket

Product Classification

| | |
|-----------------------|------------------------|
| Product Type | Coaxial wireless cable |
| Product Brand | HELIAX® |
| Product Series | LDF1-50 |

General Specifications

| | |
|-------------------------|--|
| Flexibility | Standard |
| Jacket Color | Black |
| Performance Note | Attenuation values typical, guaranteed within 5% |

Dimensions

| | |
|---------------------------------|---------------------|
| Diameter Over Dielectric | 6.858 mm 0.27 in |
| Diameter Over Jacket | 9.017 mm 0.355 in |
| Inner Conductor OD | 2.54 mm 0.1 in |
| Outer Conductor OD | 7.874 mm 0.31 in |
| Nominal Size | 1/4 in |

Electrical Specifications

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|--|-------------------------------|
| Cable Impedance | 50 ohm ±1 ohm |
| Capacitance | 77 pF/m 23.47 pF/ft |
| dc Resistance, Inner Conductor | 5.151 ohms/km 1.57 ohms/kft |
| dc Resistance, Outer Conductor | 4.003 ohms/km 1.22 ohms/kft |
| dc Test Voltage | 2200 V |
| Inductance | 0.059 µH/m 0.018 µH/ft |
| Insulation Resistance | 100000 MOhms-km |
| Jacket Spark Test Voltage (rms) | 5000 V |
| Operating Frequency Band | 1 – 15800 MHz |
| Peak Power | 12.1 kW |
| Velocity | 86 % |

VSWR/Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|----------------|-------|------------------|
| 680–960 MHz | 1.201 | 20.79 |
| 1700–2200 MHz | 1.201 | 20.79 |
| 2200–2700 MHz | 1.433 | 14.99 |

Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 1.0 | 0.394 | 0.12 | 12.1 |
| 1.5 | 0.483 | 0.147 | 12.1 |
| 2.0 | 0.558 | 0.17 | 12.1 |
| 10.0 | 1.254 | 0.382 | 5.83 |
| 20.0 | 1.781 | 0.543 | 4.11 |
| 30.0 | 2.188 | 0.667 | 3.34 |
| 50.0 | 2.838 | 0.865 | 2.58 |
| 85.0 | 3.724 | 1.135 | 1.96 |
| 88.0 | 3.791 | 1.156 | 1.93 |
| 100.0 | 4.049 | 1.234 | 1.81 |
| 108.0 | 4.213 | 1.284 | 1.74 |
| 150.0 | 4.993 | 1.522 | 1.47 |
| 174.0 | 5.392 | 1.644 | 1.36 |
| 200.0 | 5.798 | 1.767 | 1.26 |
| 204.0 | 5.858 | 1.785 | 1.25 |
| 300.0 | 7.168 | 2.185 | 1.02 |
| 400.0 | 8.342 | 2.543 | 0.88 |
| 450.0 | 8.88 | 2.706 | 0.82 |
| 460.0 | 8.984 | 2.738 | 0.81 |
| 500.0 | 9.391 | 2.862 | 0.78 |
| 512.0 | 9.511 | 2.899 | 0.77 |
| 600.0 | 10.351 | 3.155 | 0.71 |
| 700.0 | 11.244 | 3.427 | 0.65 |
| 800.0 | 12.084 | 3.683 | 0.61 |
| 824.0 | 12.278 | 3.742 | 0.6 |
| 894.0 | 12.833 | 3.911 | 0.57 |

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|----------------|--------|--------|------|
| 960.0 | 13.339 | 4.066 | 0.55 |
| 1000.0 | 13.639 | 4.157 | 0.54 |
| 1218.0 | 15.192 | 4.63 | 0.48 |
| 1250.0 | 15.41 | 4.697 | 0.47 |
| 1500.0 | 17.04 | 5.194 | 0.43 |
| 1700.0 | 18.266 | 5.567 | 0.4 |
| 1794.0 | 18.823 | 5.737 | 0.39 |
| 1800.0 | 18.858 | 5.748 | 0.39 |
| 2000.0 | 20.003 | 6.097 | 0.37 |
| 2100.0 | 20.559 | 6.266 | 0.36 |
| 2200.0 | 21.104 | 6.432 | 0.35 |
| 2300.0 | 21.64 | 6.596 | 0.34 |
| 2500.0 | 22.686 | 6.914 | 0.32 |
| 2700.0 | 23.701 | 7.224 | 0.31 |
| 3000.0 | 25.171 | 7.672 | 0.29 |
| 3400.0 | 27.048 | 8.244 | 0.27 |
| 3600.0 | 27.956 | 8.521 | 0.26 |
| 3700.0 | 28.403 | 8.657 | 0.26 |
| 3800.0 | 28.846 | 8.792 | 0.25 |
| 3900.0 | 29.284 | 8.925 | 0.25 |
| 4000.0 | 29.719 | 9.058 | 0.25 |
| 4100.0 | 30.149 | 9.189 | 0.24 |
| 4200.0 | 30.576 | 9.319 | 0.24 |
| 4300.0 | 30.999 | 9.448 | 0.24 |
| 4400.0 | 31.419 | 9.576 | 0.23 |
| 4500.0 | 31.835 | 9.703 | 0.23 |
| 4600.0 | 32.249 | 9.829 | 0.23 |
| 4700.0 | 32.659 | 9.954 | 0.22 |
| 4800.0 | 33.066 | 10.078 | 0.22 |
| 4900.0 | 33.47 | 10.201 | 0.22 |
| 5000.0 | 33.871 | 10.323 | 0.22 |
| 6000.0 | 37.742 | 11.503 | 0.19 |
| 8000.0 | 44.888 | 13.681 | 0.16 |
| 8800.0 | 47.579 | 14.501 | 0.15 |
| 10000.0 | 51.475 | 15.689 | 0.14 |

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|----------------|--------|--------|------|
| 12000.0 | 57.664 | 17.575 | 0.13 |
| 14000.0 | 63.552 | 19.37 | 0.12 |
| 15800.0 | 68.646 | 20.922 | 0.11 |

Material Specifications

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|---------------------------------|--|
| Dielectric Material | Foam PE |
| Jacket Material | Non-halogenated, fire retardant polyolefin |
| Inner Conductor Material | Copper-clad aluminum wire |
| Outer Conductor Material | Corrugated copper |

Mechanical Specifications

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|--|--------------------------|
| Minimum Bend Radius, multiple Bends | 76.2 mm 3 in |
| Minimum Bend Radius, single Bend | 38.1 mm 1.5 in |
| Number of Bends, minimum | 15 |
| Number of Bends, typical | 30 |
| Tensile Strength | 91 kg 200.62 lb |
| Bending Moment | 1.4 N-m 12.391 in lb |
| Flat Plate Crush Strength | 1.4 kg/mm 78.396 lb/in |

Environmental Specifications

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|---|--------------------------------------|
| Installation temperature | -40 °C to +60 °C (-40 °F to +140 °F) |
| Operating Temperature | -40 °C to +60 °C (-40 °F to +140 °F) |
| Storage Temperature | -40 °C to +60 °C (-40 °F to +140 °F) |
| Attenuation, Ambient Temperature | 68 °F 20 °C |
| Average Power, Ambient Temperature | 104 °F 40 °C |
| Average Power, Inner Conductor Temperature | 212 °F 100 °C |
| Fire Retardancy Test Method | NFPA 130-2010 UL 1666/CATVR |
| Smoke Index Test Method | IEC 61034 |
| Toxicity Index Test Method | IEC 60754-1 IEC 60754-2 |

Packaging and Weights

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|---------------------|------------------------|
| Cable weight | 0.09 kg/m 0.06 lb/ft |
|---------------------|------------------------|

Regulatory Compliance/Certifications

Agency

ISO 9001:2015



Classification

Designed, manufactured and/or distributed under this quality management system