



FSJ4RK-50B

FSJ4-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/2 in, black non-halogenated, fire retardant polyolefin jacket B2ca-s1a,d0,a1

Product Classification

| | |
|----------------|------------------------|
| Brand | HELIAX® SureFlex® |
| Product Series | FSJ4-50B |
| Product Type | Coaxial wireless cable |

Standards And Qualifications

| | |
|-----------------------------|-----------------|
| EN50575 CPR Cable EuroClass | B2ca s1a d0 |
|-----------------------------|-----------------|

Construction Materials

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

Dimensions

| | |
|--------------------------|------------------------|
| Nominal Size | 1/2 in |
| Cable Weight | 0.16 lb/ft 0.24 kg/m |
| Diameter Over Dielectric | 8.890 mm 0.350 in |
| Diameter Over Jacket | 13.462 mm 0.530 in |
| Inner Conductor OD | 3.5560 mm 0.1400 in |
| Outer Conductor OD | 12.192 mm 0.480 in |

Electrical Specifications

| | |
|---------------------------------|--------------------------------|
| Cable Impedance | 50 ohm ±1 ohm |
| Capacitance | 25.2 pF/ft 82.7 pF/m |
| dc Resistance, Inner Conductor | 0.820 ohms/kft 2.690 ohms/km |
| dc Resistance, Outer Conductor | 1.560 ohms/kft 5.120 ohms/km |
| dc Test Voltage | 2500 V |
| Inductance | 0.207 µH/m 0.063 µH/ft |
| Insulation Resistance | 100000 Mohms•km |
| Jacket Spark Test Voltage (rms) | 4000 V |
| Operating Frequency Band | 1 – 10200 MHz |
| Peak Power | 15.6 kW |

FSJ4RK-50B

Velocity 81%

Environmental Specifications

| | |
|--------------------------|--------------------------------------|
| 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) |

General Specifications

| | |
|---------------|---|
| Brand | HELIAX® |
| Ordering Note | CommScope® standard product in Asia Pacific |

Mechanical Specifications

| | |
|-------------------------------------|-----------------------------------|
| Bending Moment | 2.7 N-m 2.0 ft lb |
| Fire Retardancy Test Method | NFPA 130-2010 UL 1666/CATVR/CMR |
| Flat Plate Crush Strength | 110.0 lb/in 2.0 kg/mm |
| Minimum Bend Radius, Multiple Bends | 31.75 mm 1.25 in |
| Minimum Bend Radius, Single Bend | 33.02 mm 1.30 in |
| Number of Bends, minimum | 30 |
| Number of Bends, typical | 50 |
| Smoke Index Test Method | IEC 61034 |
| Tensile Strength | 79 kg 175 lb |
| Toxicity Index Test Method | IEC 60754-1 IEC 60754-2 |

Note

Performance Note Values typical, unless otherwise stated

Standard Conditions

| | |
|--|-----------------|
| Attenuation, Ambient Temperature | 20 °C 68 °F |
| Average Power, Ambient Temperature | 40 °C 104 °F |
| Average Power, Inner Conductor Temperature | 100 °C 212 °F |

Return Loss/VSWR

| Frequency Band | VSWR | Return Loss (dB) |
|----------------|------|------------------|
| 680–800 MHz | 1.2 | 20.80 |
| 800–960 MHz | 1.2 | 20.80 |
| 1700–2200 MHz | 1.2 | 20.80 |
| 2300–2700 MHz | 1.2 | 20.80 |

FSJ4RK-50B

Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 0.5 | 0.231 | 0.07 | 15.60 |
| 1 | 0.327 | 0.1 | 15.60 |
| 1.5 | 0.401 | 0.122 | 15.60 |
| 2 | 0.463 | 0.141 | 15.60 |
| 10 | 1.044 | 0.318 | 10.12 |
| 20 | 1.485 | 0.453 | 7.11 |
| 30 | 1.828 | 0.557 | 5.78 |
| 50 | 2.377 | 0.724 | 4.44 |
| 85 | 3.13 | 0.954 | 3.38 |
| 88 | 3.187 | 0.971 | 3.32 |
| 100 | 3.406 | 1.038 | 3.10 |
| 108 | 3.546 | 1.081 | 2.98 |
| 150 | 4.214 | 1.285 | 2.51 |
| 174 | 4.558 | 1.389 | 2.32 |
| 200 | 4.908 | 1.496 | 2.15 |
| 204 | 4.96 | 1.512 | 2.13 |
| 300 | 6.095 | 1.858 | 1.73 |
| 400 | 7.121 | 2.17 | 1.48 |
| 450 | 7.592 | 2.314 | 1.39 |
| 500 | 8.042 | 2.451 | 1.31 |
| 512 | 8.148 | 2.483 | 1.30 |
| 600 | 8.891 | 2.71 | 1.19 |
| 700 | 9.683 | 2.951 | 1.09 |
| 800 | 10.431 | 3.179 | 1.01 |
| 824 | 10.605 | 3.232 | 1.00 |
| 894 | 11.101 | 3.383 | 0.95 |
| 960 | 11.555 | 3.522 | 0.91 |
| 1000 | 11.824 | 3.604 | 0.89 |
| 1218 | 13.226 | 4.031 | 0.80 |
| 1250 | 13.423 | 4.091 | 0.79 |
| 1500 | 14.906 | 4.543 | 0.71 |
| 1700 | 16.027 | 4.885 | 0.66 |
| 1794 | 16.537 | 5.04 | 0.64 |
| 1800 | 16.57 | 5.05 | 0.64 |
| 2000 | 17.624 | 5.371 | 0.60 |
| 2100 | 18.137 | 5.528 | 0.58 |
| 2200 | 18.641 | 5.682 | 0.57 |
| 2300 | 19.138 | 5.833 | 0.55 |
| 2500 | 20.11 | 6.129 | 0.53 |
| 2700 | 21.056 | 6.418 | 0.50 |
| 3000 | 22.432 | 6.837 | 0.47 |
| 3400 | 24.198 | 7.375 | 0.44 |
| 3700 | 25.478 | 7.765 | 0.41 |
| 4000 | 26.727 | 8.146 | 0.40 |
| 5000 | 30.693 | 9.355 | 0.34 |
| 6000 | 34.427 | 10.493 | 0.31 |
| 8000 | 41.403 | 12.619 | 0.26 |
| 8800 | 44.054 | 13.427 | 0.24 |
| 10000 | 47.914 | 14.604 | 0.22 |

* Values typical, guaranteed within 5%

FSJ4RK-50B

Regulatory Compliance/Certifications

Agency

UL/ETL Certification
RoHS 2011/65/EU
China RoHS SJ/T 11364-2006
ISO 9001:2008
CENELEC

Classification

CATVR/CMR
Compliant
Below Maximum Concentration Value (MCV)
Designed, manufactured and/or distributed under this quality management system
EN 50575 compliant, Declaration of Performance (DoP) available

