

# F2A-DMDM-5M-P

FSJ2-50 SureFlex® Jumper with interface types 7-16 DIN Male and 7-16 DIN Male, 5 m



## Product Classification

|                       |                               |
|-----------------------|-------------------------------|
| <b>Product Type</b>   | SureFlex® Premium, static PIM |
| <b>Product Brand</b>  | HELIAX®   SureFlex®           |
| <b>Product Series</b> | FSJ2-50                       |

## General Specifications

|   |               |
|---|---------------|
| <b>Body Style, Connector A</b>            | Straight      |
| <b>Body Style, Connector B</b>            | Straight      |
| <b>Interface, Connector A</b>             | 7-16 DIN Male |
| <b>Interface, Connector B</b>             | 7-16 DIN Male |
| <b>Specification Sheet Revision Level</b> | A             |

## Dimensions

|                     |                 |
|---------------------|-----------------|
| <b>Length</b>       | 5 m   16.404 ft |
| <b>Nominal Size</b> | 3/8 in          |

## Electrical Specifications

|   |                      |
|---|----------------------|
| <b>3rd Order IMD Static</b>             | -110 dBm             |
| <b>3rd Order IMD Static Test Method</b> | Two +43 dBm carriers |

## VSWR/Return Loss

| Frequency Band | VSWR  | Return Loss (dB) |
|----------------|-------|------------------|
| 698–960 MHz    | 1.101 | 26.36            |
| 1700–2200 MHz  | 1.101 | 26.36            |
| 2200–2700 MHz  | 1.101 | 26.36            |

## Jumper Assembly Sample Label

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## Environmental Specifications

**Immersion Test Method** Meets IEC 60529:2001, IP68 in mated condition

## Regulatory Compliance/Certifications

| Agency        | Classification   |
|---------------|--|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |

## Included Products

- 35422-42 – Heat Treated FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black PE jacket
- FSJ2-50 – FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black PE jacket



Heat Treated FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black PE jacket

## Product Classification

|                       |                        |
|-----------------------|------------------------|
| <b>Product Type</b>   | Coaxial wireless cable |
| <b>Product Brand</b>  | HELIAX®   SureFlex®    |
| <b>Product Series</b> | FSJ2-50                |

## General Specifications

|                         |  |
|-------------------------|--|
| <b>Flexibility</b>      | Superflexible                                    |
| <b>Jacket Color</b>     | Black  |
| <b>Performance Note</b> | Attenuation values typical, guaranteed within 5% |

## Dimensions

|                                 |                      |
|---------------------------------|----------------------|
| <b>Diameter Over Dielectric</b> | 7.112 mm   0.28 in   |
| <b>Diameter Over Jacket</b>     | 10.541 mm   0.415 in |
| <b>Inner Conductor OD</b>       | 2.794 mm   0.11 in   |
| <b>Outer Conductor OD</b>       | 9.652 mm   0.38 in   |
| <b>Nominal Size</b>             | 3/8 in               |

## Electrical Specifications

|                                       |                               |
|---------------------------------------|-------------------------------|
| <b>Cable Impedance</b>                | 50 ohm ±1 ohm                 |
| <b>Capacitance</b>                    | 79.7 pF/m   24.293 pF/ft      |
| <b>dc Resistance, Inner Conductor</b> | 4.232 ohms/km   1.29 ohms/kft |
| <b>dc Resistance, Outer Conductor</b> | 4.987 ohms/km   1.52 ohms/kft |
| <b>dc Test Voltage</b>                | 2300 V                        |
| <b>Inductance</b>                     | 0.2 µH/m   0.061 µH/ft        |
| <b>Insulation Resistance</b>          | 100000 MOhms-km               |

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|  |               |
|--|---------------|
| <b>Jacket Spark Test Voltage (rms)</b> | 4000 V        |
| <b>Operating Frequency Band</b>        | 1 – 13400 MHz |
| <b>Peak Power</b>                      | 13.2 kW       |
| <b>Velocity</b>                        | 83 %          |

## Attenuation

| <b>Frequency (MHz)</b> | <b>Attenuation (dB/100 m)</b> | <b>Attenuation (dB/100 ft)</b> | <b>Average Power (kW)</b> |
|------------------------|-------------------------------|--------------------------------|---------------------------|
| 1.0                    | 0.383                         | 0.117                          | 13.2                      |
| 1.5                    | 0.469                         | 0.143                          | 13.2                      |
| 2.0                    | 0.542                         | 0.165                          | 13.2                      |
| 10.0                   | 1.219                         | 0.372                          | 6.97                      |
| 20.0                   | 1.732                         | 0.528                          | 4.91                      |
| 30.0                   | 2.128                         | 0.649                          | 3.99                      |
| 50.0                   | 2.762                         | 0.842                          | 3.08                      |
| 85.0                   | 3.626                         | 1.105                          | 2.34                      |
| 88.0                   | 3.691                         | 1.125                          | 2.3                       |
| 100.0                  | 3.943                         | 1.202                          | 2.16                      |
| 108.0                  | 4.103                         | 1.25                           | 2.07                      |
| 150.0                  | 4.864                         | 1.482                          | 1.75                      |
| 174.0                  | 5.254                         | 1.601                          | 1.62                      |
| 200.0                  | 5.65                          | 1.722                          | 1.5                       |
| 204.0                  | 5.709                         | 1.74                           | 1.49                      |
| 300.0                  | 6.99                          | 2.13                           | 1.22                      |
| 400.0                  | 8.139                         | 2.481                          | 1.04                      |
| 450.0                  | 8.665                         | 2.641                          | 0.98                      |
| 460.0                  | 8.767                         | 2.672                          | 0.97                      |
| 500.0                  | 9.166                         | 2.794                          | 0.93                      |
| 512.0                  | 9.283                         | 2.829                          | 0.92                      |
| 600.0                  | 10.107                        | 3.081                          | 0.84                      |
| 700.0                  | 10.983                        | 3.347                          | 0.77                      |
| 800.0                  | 11.807                        | 3.599                          | 0.72                      |
| 824.0                  | 11.998                        | 3.657                          | 0.71                      |
| 894.0                  | 12.542                        | 3.823                          | 0.68                      |
| 960.0                  | 13.04                         | 3.974                          | 0.65                      |
| 1000.0                 | 13.334                        | 4.064                          | 0.64                      |

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|                |        |        |      |
|----------------|--------|--------|------|
| <b>1218.0</b>  | 14.861 | 4.529  | 0.57 |
| <b>1250.0</b>  | 15.075 | 4.595  | 0.56 |
| <b>1500.0</b>  | 16.68  | 5.084  | 0.51 |
| <b>1700.0</b>  | 17.887 | 5.452  | 0.48 |
| <b>1794.0</b>  | 18.436 | 5.619  | 0.46 |
| <b>1800.0</b>  | 18.47  | 5.629  | 0.46 |
| <b>2000.0</b>  | 19.599 | 5.974  | 0.43 |
| <b>2100.0</b>  | 20.147 | 6.141  | 0.42 |
| <b>2200.0</b>  | 20.685 | 6.305  | 0.41 |
| <b>2300.0</b>  | 21.214 | 6.466  | 0.4  |
| <b>2500.0</b>  | 22.247 | 6.781  | 0.38 |
| <b>2700.0</b>  | 23.249 | 7.086  | 0.37 |
| <b>3000.0</b>  | 24.701 | 7.529  | 0.34 |
| <b>3400.0</b>  | 26.558 | 8.094  | 0.32 |
| <b>3600.0</b>  | 27.456 | 8.368  | 0.31 |
| <b>3700.0</b>  | 27.899 | 8.503  | 0.3  |
| <b>3800.0</b>  | 28.337 | 8.637  | 0.3  |
| <b>3900.0</b>  | 28.771 | 8.769  | 0.3  |
| <b>4000.0</b>  | 29.201 | 8.9    | 0.29 |
| <b>4100.0</b>  | 29.628 | 9.03   | 0.29 |
| <b>4200.0</b>  | 30.051 | 9.159  | 0.28 |
| <b>4300.0</b>  | 30.47  | 9.287  | 0.28 |
| <b>4400.0</b>  | 30.886 | 9.414  | 0.28 |
| <b>4500.0</b>  | 31.298 | 9.539  | 0.27 |
| <b>4600.0</b>  | 31.708 | 9.664  | 0.27 |
| <b>4700.0</b>  | 32.114 | 9.788  | 0.26 |
| <b>4800.0</b>  | 32.518 | 9.911  | 0.26 |
| <b>4900.0</b>  | 32.919 | 10.033 | 0.26 |
| <b>5000.0</b>  | 33.316 | 10.154 | 0.26 |
| <b>6000.0</b>  | 37.158 | 11.325 | 0.23 |
| <b>8000.0</b>  | 44.264 | 13.491 | 0.19 |
| <b>8800.0</b>  | 46.943 | 14.308 | 0.18 |
| <b>10000.0</b> | 50.826 | 15.491 | 0.17 |
| <b>12000.0</b> | 57.001 | 17.373 | 0.15 |

## Material Specifications

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|                                 |                           |
|---------------------------------|---------------------------|
| <b>Dielectric Material</b>      | Foam PE                   |
| <b>Jacket Material</b>          | PE                        |
| <b>Inner Conductor Material</b> | Copper-clad aluminum wire |
| <b>Outer Conductor Material</b> | Corrugated copper         |

## Mechanical Specifications

|  |                           |
|--|---------------------------|
| <b>Minimum Bend Radius, multiple Bends</b> | 25.4 mm   1 in            |
| <b>Minimum Bend Radius, single Bend</b>    | 25.4 mm   1 in            |
| <b>Number of Bends, minimum</b>            | 20                        |
| <b>Number of Bends, typical</b>            | 50                        |
| <b>Tensile Strength</b>                    | 95 kg   209.439 lb        |
| <b>Bending Moment</b>                      | 2.3 N-m   20.357 in lb    |
| <b>Flat Plate Crush Strength</b>           | 1.8 kg/mm   100.795 lb/in |

## Environmental Specifications

|   |                                      |
|---|--------------------------------------|
| <b>Installation temperature</b>                   | -40 °C to +60 °C (-40 °F to +140 °F) |
| <b>Operating Temperature</b>                      | -55 °C to +85 °C (-67 °F to +185 °F) |
| <b>Storage Temperature</b>                        | -70 °C to +85 °C (-94 °F to +185 °F) |
| <b>Attenuation, Ambient Temperature</b>           | 68 °F   20 °C                        |
| <b>Average Power, Ambient Temperature</b>         | 104 °F   40 °C                       |
| <b>Average Power, Inner Conductor Temperature</b> | 212 °F   100 °C                      |

## Packaging and Weights

|                     |                         |
|---------------------|-------------------------|
| <b>Cable weight</b> | 0.12 kg/m   0.081 lb/ft |
|---------------------|-------------------------|

## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>  |
|---------------|--|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |

# FSJ2-50

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FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black PE jacket

## Product Classification

|                       |                        |
|-----------------------|------------------------|
| <b>Product Type</b>   | Coaxial wireless cable |
| <b>Product Brand</b>  | HELIAX®   SureFlex®    |
| <b>Product Series</b> | FSJ2-50                |

## General Specifications

|                         |  |
|-------------------------|--|
| <b>Product Number</b>   | 887019902/00   SZ887019902/00                    |
| <b>Flexibility</b>      | Superflexible                                    |
| <b>Jacket Color</b>     | Black  |
| <b>Performance Note</b> | Attenuation values typical, guaranteed within 5% |

## Dimensions

|                                 |                      |
|---------------------------------|----------------------|
| <b>Diameter Over Dielectric</b> | 7.112 mm   0.28 in   |
| <b>Diameter Over Jacket</b>     | 10.541 mm   0.415 in |
| <b>Inner Conductor OD</b>       | 2.794 mm   0.11 in   |
| <b>Outer Conductor OD</b>       | 9.652 mm   0.38 in   |
| <b>Nominal Size</b>             | 3/8 in               |

## Electrical Specifications

|                                       |                                  |
|---------------------------------------|----------------------------------|
| <b>Cable Impedance</b>                | 50 ohm $\pm$ 1 ohm               |
| <b>Capacitance</b>                    | 79.7 pF/m   24.293 pF/ft         |
| <b>dc Resistance, Inner Conductor</b> | 4.232 ohms/km   1.29 ohms/kft    |
| <b>dc Resistance, Outer Conductor</b> | 4.987 ohms/km   1.52 ohms/kft    |
| <b>dc Test Voltage</b>                | 2300 V                           |
| <b>Inductance</b>                     | 0.2 $\mu$ H/m   0.061 $\mu$ H/ft |

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|  |                 |
|--|-----------------|
| <b>Insulation Resistance</b>           | 100000 MOhms-km |
| <b>Jacket Spark Test Voltage (rms)</b> | 4000 V          |
| <b>Operating Frequency Band</b>        | 1 – 13400 MHz   |
| <b>Peak Power</b>                      | 13.2 kW         |
| <b>Velocity</b>                        | 83 %            |

## VSWR/Return Loss

| <b>Frequency Band</b> | <b>VSWR</b> | <b>Return Loss (dB)</b> |
|-----------------------|-------------|-------------------------|
| <b>2.5–2.7 GHz</b>    | 1.106       | 25.96                   |
| <b>680–800 MHz</b>    | 1.106       | 25.96                   |
| <b>800–960 MHz</b>    | 1.106       | 25.96                   |
| <b>1700–2200 MHz</b>  | 1.101       | 26.36                   |

## Attenuation

| <b>Frequency (MHz)</b> | <b>Attenuation (dB/100 m)</b> | <b>Attenuation (dB/100 ft)</b> | <b>Average Power (kW)</b> |
|------------------------|-------------------------------|--------------------------------|---------------------------|
| <b>1.0</b>             | 0.383                         | 0.117                          | 13.2                      |
| <b>1.5</b>             | 0.469                         | 0.143                          | 13.2                      |
| <b>2.0</b>             | 0.542                         | 0.165                          | 13.2                      |
| <b>10.0</b>            | 1.219                         | 0.372                          | 6.97                      |
| <b>20.0</b>            | 1.732                         | 0.528                          | 4.91                      |
| <b>30.0</b>            | 2.128                         | 0.649                          | 3.99                      |
| <b>50.0</b>            | 2.762                         | 0.842                          | 3.08                      |
| <b>85.0</b>            | 3.626                         | 1.105                          | 2.34                      |
| <b>88.0</b>            | 3.691                         | 1.125                          | 2.3                       |
| <b>100.0</b>           | 3.943                         | 1.202                          | 2.16                      |
| <b>108.0</b>           | 4.103                         | 1.25                           | 2.07                      |
| <b>150.0</b>           | 4.864                         | 1.482                          | 1.75                      |
| <b>174.0</b>           | 5.254                         | 1.601                          | 1.62                      |
| <b>200.0</b>           | 5.65                          | 1.722                          | 1.5                       |
| <b>204.0</b>           | 5.709                         | 1.74                           | 1.49                      |
| <b>300.0</b>           | 6.99                          | 2.13                           | 1.22                      |
| <b>400.0</b>           | 8.139                         | 2.481                          | 1.04                      |
| <b>450.0</b>           | 8.665                         | 2.641                          | 0.98                      |
| <b>460.0</b>           | 8.767                         | 2.672                          | 0.97                      |
| <b>500.0</b>           | 9.166                         | 2.794                          | 0.93                      |



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|               |        |       |      |
|---------------|--------|-------|------|
| <b>512.0</b>  | 9.283  | 2.829 | 0.92 |
| <b>600.0</b>  | 10.107 | 3.081 | 0.84 |
| <b>700.0</b>  | 10.983 | 3.347 | 0.77 |
| <b>800.0</b>  | 11.807 | 3.599 | 0.72 |
| <b>824.0</b>  | 11.998 | 3.657 | 0.71 |
| <b>894.0</b>  | 12.542 | 3.823 | 0.68 |
| <b>960.0</b>  | 13.04  | 3.974 | 0.65 |
| <b>1000.0</b> | 13.334 | 4.064 | 0.64 |
| <b>1218.0</b> | 14.861 | 4.529 | 0.57 |
| <b>1250.0</b> | 15.075 | 4.595 | 0.56 |
| <b>1500.0</b> | 16.68  | 5.084 | 0.51 |
| <b>1700.0</b> | 17.887 | 5.452 | 0.48 |
| <b>1794.0</b> | 18.436 | 5.619 | 0.46 |
| <b>1800.0</b> | 18.47  | 5.629 | 0.46 |
| <b>2000.0</b> | 19.599 | 5.974 | 0.43 |
| <b>2100.0</b> | 20.147 | 6.141 | 0.42 |
| <b>2200.0</b> | 20.685 | 6.305 | 0.41 |
| <b>2300.0</b> | 21.214 | 6.466 | 0.4  |
| <b>2500.0</b> | 22.247 | 6.781 | 0.38 |
| <b>2700.0</b> | 23.249 | 7.086 | 0.37 |
| <b>3000.0</b> | 24.701 | 7.529 | 0.34 |
| <b>3400.0</b> | 26.558 | 8.094 | 0.32 |
| <b>3600.0</b> | 27.456 | 8.368 | 0.31 |
| <b>3700.0</b> | 27.899 | 8.503 | 0.3  |
| <b>3800.0</b> | 28.337 | 8.637 | 0.3  |
| <b>3900.0</b> | 28.771 | 8.769 | 0.3  |
| <b>4000.0</b> | 29.201 | 8.9   | 0.29 |
| <b>4100.0</b> | 29.628 | 9.03  | 0.29 |
| <b>4200.0</b> | 30.051 | 9.159 | 0.28 |
| <b>4300.0</b> | 30.47  | 9.287 | 0.28 |
| <b>4400.0</b> | 30.886 | 9.414 | 0.28 |
| <b>4500.0</b> | 31.298 | 9.539 | 0.27 |
| <b>4600.0</b> | 31.708 | 9.664 | 0.27 |
| <b>4700.0</b> | 32.114 | 9.788 | 0.26 |
| <b>4800.0</b> | 32.518 | 9.911 | 0.26 |

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|                |        |        |      |
|----------------|--------|--------|------|
| <b>4900.0</b>  | 32.919 | 10.033 | 0.26 |
| <b>5000.0</b>  | 33.316 | 10.154 | 0.26 |
| <b>6000.0</b>  | 37.158 | 11.325 | 0.23 |
| <b>8000.0</b>  | 44.264 | 13.491 | 0.19 |
| <b>8800.0</b>  | 46.943 | 14.308 | 0.18 |
| <b>10000.0</b> | 50.826 | 15.491 | 0.17 |
| <b>12000.0</b> | 57.001 | 17.373 | 0.15 |

## Material Specifications

|                                 |                           |
|---------------------------------|---------------------------|
| <b>Dielectric Material</b>      | Foam PE                   |
| <b>Jacket Material</b>          | PE                        |
| <b>Inner Conductor Material</b> | Copper-clad aluminum wire |
| <b>Outer Conductor Material</b> | Corrugated copper         |

## Mechanical Specifications

|  |                           |
|--|---------------------------|
| <b>Minimum Bend Radius, multiple Bends</b> | 25.4 mm   1 in            |
| <b>Minimum Bend Radius, single Bend</b>    | 25.4 mm   1 in            |
| <b>Number of Bends, minimum</b>            | 20                        |
| <b>Number of Bends, typical</b>            | 50                        |
| <b>Tensile Strength</b>                    | 95 kg   209.439 lb        |
| <b>Bending Moment</b>                      | 2.3 N-m   20.357 in lb    |
| <b>Flat Plate Crush Strength</b>           | 1.8 kg/mm   100.795 lb/in |

## Environmental Specifications

|   |                                      |
|---|--------------------------------------|
| <b>Installation temperature</b>                   | -40 °C to +60 °C (-40 °F to +140 °F) |
| <b>Operating Temperature</b>                      | -55 °C to +85 °C (-67 °F to +185 °F) |
| <b>Storage Temperature</b>                        | -70 °C to +85 °C (-94 °F to +185 °F) |
| <b>Attenuation, Ambient Temperature</b>           | 68 °F   20 °C                        |
| <b>Average Power, Ambient Temperature</b>         | 104 °F   40 °C                       |
| <b>Average Power, Inner Conductor Temperature</b> | 212 °F   100 °C                      |

## Packaging and Weights

|                     |                         |
|---------------------|-------------------------|
| <b>Cable weight</b> | 0.12 kg/m   0.081 lb/ft |
|---------------------|-------------------------|

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## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>  |
|---------------|--|
| CHINA-ROHS    | Below maximum concentration value  |
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |
| ROHS          | Compliant  |
| UK-ROHS       | Compliant  |

