

# F2A-DFDR-P

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FSJ2-50 Jumper with interface types 7/16 DIN Female and 7/16 DIN Male Right Angle, variable length



## Product Classification

<b>Product Type</b>	Wireless transmission cable assembly
<b>Product Series</b>	FSJ2-50

## General Specifications

<b>Body Style, Connector A</b>	Straight
<b>Body Style, Connector B</b>	Right angle
<b>Interface, Connector A</b>	7-16 DIN Female
<b>Interface, Connector B</b>	7-16 DIN Male
<b>Specification Sheet Revision Level</b>	A
<b>Variable Length</b>	For custom lengths contact 828-324-2200 or 1-800-982-1708 (toll free), or your local CommScope representative

## Dimensions

<b>Nominal Size</b>	3/8 in
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## Electrical Specifications

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

## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
698–960 MHz	1.11	26.4
1700–2200 MHz	1.11	26.4
2200–2700 MHz	1.11	26.4

## Jumper Assembly Sample Label

# F2A-DFDR-P

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## Environmental Specifications

### Immersion Test Method

Meets IEC 60529:2001, IP68 in mated condition

## Included Products

- F2TDF-LS — 7-16 DIN Female for 3/8 in foam and air coaxial cable, factory attached
- F2TDR-LS — 7-16 DIN Male Right Angle for 3/8 in foam and air coaxial cable, factory attached
- FSJ2-50 — FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black PE jacket

# F2TDF-LS

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7-16 DIN Female for 3/8 in foam and air coaxial cable, factory attached

## Product Classification

<b>Product Type</b>	Wireless and radiating connector
<b>Product Brand</b>	HELIAX®   SureFlex®

## General Specifications

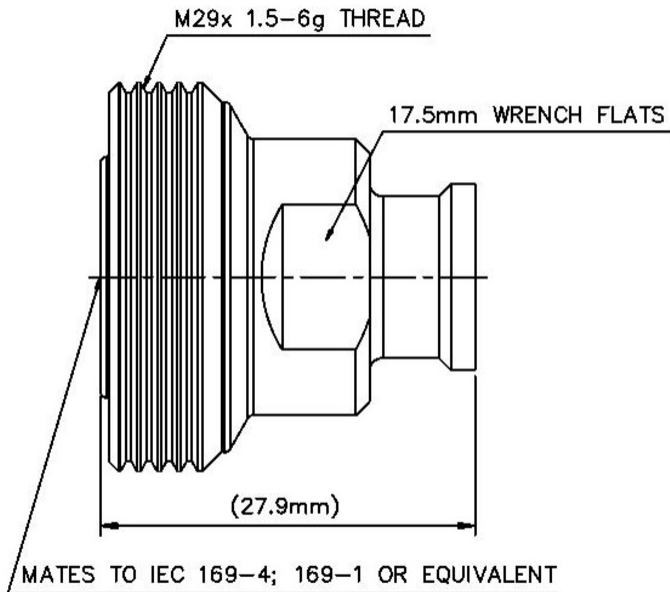
<b>Body Style</b>	Straight
<b>Inner Contact Attachment Method</b>	Solder
<b>Inner Contact Plating</b>	Silver
<b>Interface</b>	7-16 DIN Female
<b>Outer Contact Attachment Method</b>	Solder
<b>Outer Contact Plating</b>	Trimetal
<b>Pressurizable</b>	No

## Dimensions

<b>Length</b>	27.94 mm   1.1 in
<b>Diameter</b>	28.96 mm   1.14 in
<b>Nominal Size</b>	3/8 in

## Outline Drawing

# F2TDF-LS



## Electrical Specifications

<b>3rd Order IMD at Frequency</b>	-112 dBm @ 910 MHz
<b>3rd Order IMD Test Method</b>	Two +43 dBm carriers
<b>Insertion Loss, typical</b>	0.05 dB
<b>Average Power at Frequency</b>	0.7 kW @ 900 MHz
<b>Cable Impedance</b>	50 ohm
<b>Connector Impedance</b>	50 ohm
<b>dc Test Voltage</b>	2300 V
<b>Inner Contact Resistance, maximum</b>	0.4 mOhm
<b>Insulation Resistance, minimum</b>	10000 MOhm
<b>Operating Frequency Band</b>	0 – 6000 MHz
<b>Outer Contact Resistance, maximum</b>	1.5 mOhm
<b>Peak Power, maximum</b>	13.2 kW
<b>RF Operating Voltage, maximum (vrms)</b>	813 V
<b>Shielding Effectiveness</b>	-110 dB

## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
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# F2TDF-LS

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<b>0–960 MHz</b>	1.04	35
<b>1710–2200 MHz</b>	1.05	33
<b>2200–2700 MHz</b>	1.07	30
<b>2700–3000 MHz</b>	1.07	30
<b>3000–6000 MHz</b>	1.16	23

## Mechanical Specifications

<b>Connector Retention Tensile Force</b>	934.13 N   210 lbf
<b>Connector Retention Torque</b>	2.3 N-m   20.357 in lb
<b>Coupling Nut Proof Torque</b>	35 N-m   309.776 in lb
<b>Coupling Nut Proof Torque Method</b>	IEC 61169-16:9.3.11
<b>Coupling Nut Retention Force</b>	1000 N   224.81 lbf
<b>Coupling Nut Retention Force Method</b>	IEC 61169-15:9.3.11
<b>Insertion Force</b>	199.99 N   44.96 lbf
<b>Insertion Force Method</b>	IEC 61169-15:9.3.5
<b>Interface Durability</b>	500 cycles
<b>Interface Durability Method</b>	IEC 61169-4:17
<b>Mechanical Shock Test Method</b>	IEC 60068-2-27

## Environmental Specifications

<b>Operating Temperature</b>	-55 °C to +85 °C (-67 °F to +185 °F)
<b>Storage Temperature</b>	-65 °C to +125 °C (-85 °F to +257 °F)
<b>Attenuation, Ambient Temperature</b>	20 °C   68 °F
<b>Average Power, Ambient Temperature</b>	40 °C   104 °F
<b>Average Power, Inner Conductor Temperature</b>	100 °C   212 °F
<b>Corrosion Test Method</b>	IEC 60068-2-11
<b>Immersion Depth</b>	1 m
<b>Immersion Test Mating</b>	Mated
<b>Immersion Test Method</b>	IEC 60529:2001, IP68
<b>Moisture Resistance Test Method</b>	IEC 60068-2-3
<b>Thermal Shock Test Method</b>	IEC 60068-2-14
<b>Vibration Test Method</b>	IEC 60068-2-6

# F2TDF-LS

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## Packaging and Weights

**Weight, net** 44.69 g | 0.099 lb

### \* Footnotes

**Insertion Loss, typical** 0.05v̄freq (GHz) (not applicable for elliptical waveguide)

**Immersion Depth** Immersion at specified depth for 24 hours

# F2TDR-LS

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7-16 DIN Male Right Angle for 3/8 in foam and air coaxial cable, factory attached

## Product Classification

<b>Product Type</b>	Wireless and radiating connector
<b>Product Brand</b>	HELIAX®   SureFlex®

## General Specifications

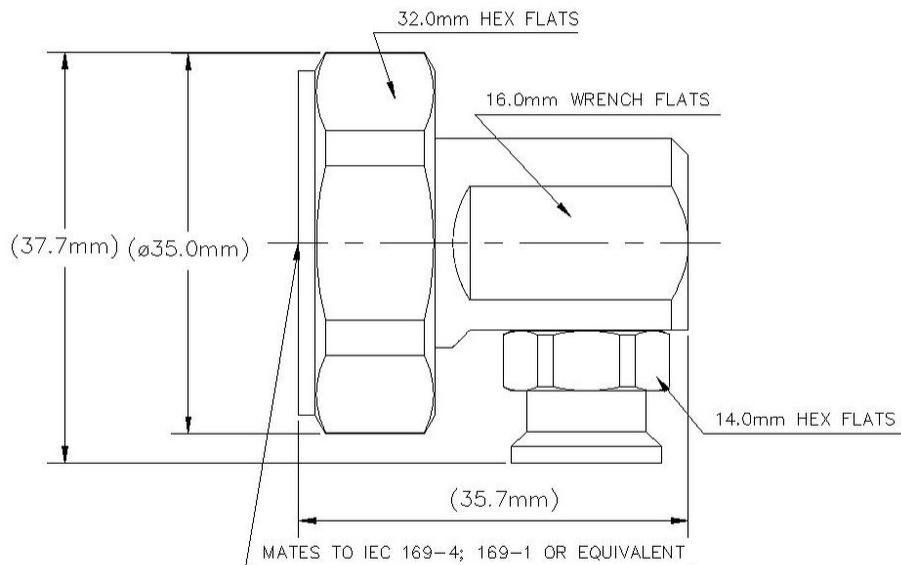
<b>Body Style</b>	Right angle
<b>Inner Contact Attachment Method</b>	Solder
<b>Inner Contact Plating</b>	Silver
<b>Interface</b>	7-16 DIN Male
<b>Outer Contact Attachment Method</b>	Solder
<b>Outer Contact Plating</b>	Trimetal
<b>Pressurizable</b>	No

## Dimensions

<b>Height</b>	37.59 mm   1.48 in
<b>Width</b>	35.05 mm   1.38 in
<b>Length</b>	35.81 mm   1.41 in
<b>Nominal Size</b>	3/8 in

## Outline Drawing

# F2TDR-LS



## Electrical Specifications

<b>3rd Order IMD at Frequency</b>	-112 dBm @ 910 MHz
<b>3rd Order IMD Test Method</b>	Two +43 dBm carriers
<b>Insertion Loss, typical</b>	0.05 dB
<b>Average Power at Frequency</b>	0.7 kW @ 900 MHz
<b>Cable Impedance</b>	50 ohm
<b>Connector Impedance</b>	50 ohm
<b>dc Test Voltage</b>	2300 V
<b>Inner Contact Resistance, maximum</b>	0.4 mOhm
<b>Insulation Resistance, minimum</b>	10000 MOhm
<b>Operating Frequency Band</b>	0 – 6000 MHz
<b>Outer Contact Resistance, maximum</b>	1.5 mOhm
<b>Peak Power, maximum</b>	13.2 kW
<b>RF Operating Voltage, maximum (vrms)</b>	813 V
<b>Shielding Effectiveness</b>	-110 dB

## VSWR/Return Loss



# F2TDR-LS

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Frequency Band	VSWR	Return Loss (dB)
0–960 MHz	1.04	35
1710–2200 MHz	1.05	33
2200–2700 MHz	1.07	30
2700–3000 MHz	1.07	30
3000–6000 MHz	1.23	20

## Mechanical Specifications

<b>Connector Retention Tensile Force</b>	934.13 N   210 lbf
<b>Connector Retention Torque</b>	2.3 N-m   20.357 in lb
<b>Coupling Nut Proof Torque</b>	35 N-m   309.776 in lb
<b>Coupling Nut Proof Torque Method</b>	IEC 61169-16:9.3.11
<b>Coupling Nut Retention Force</b>	1000 N   224.81 lbf
<b>Coupling Nut Retention Force Method</b>	IEC 61169-15:9.3.11
<b>Insertion Force</b>	199.99 N   44.96 lbf
<b>Interface Durability</b>	500 cycles
<b>Interface Durability Method</b>	IEC 61169-4:17
<b>Mechanical Shock Test Method</b>	IEC 60068-2-27

## Environmental Specifications

<b>Operating Temperature</b>	-55 °C to +85 °C (-67 °F to +185 °F)
<b>Storage Temperature</b>	-65 °C to +125 °C (-85 °F to +257 °F)
<b>Attenuation, Ambient Temperature</b>	20 °C   68 °F
<b>Average Power, Ambient Temperature</b>	40 °C   104 °F
<b>Average Power, Inner Conductor Temperature</b>	100 °C   212 °F
<b>Corrosion Test Method</b>	IEC 60068-2-11
<b>Immersion Depth</b>	1 m
<b>Immersion Test Mating</b>	Mated
<b>Immersion Test Method</b>	IEC 60529:2001, IP68
<b>Moisture Resistance Test Method</b>	IEC 60068-2-3
<b>Thermal Shock Test Method</b>	IEC 60068-2-14
<b>Vibration Test Method</b>	IEC 60068-2-6

# F2TDR-LS

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## Packaging and Weights

**Weight, net**

79.34 g | 0.175 lb

## Regulatory Compliance/Certifications

**Agency**

**Classification**

CHINA-ROHS

Below maximum concentration value

REACH-SVHC

Compliant as per SVHC revision on [www.commscope.com/ProductCompliance](http://www.commscope.com/ProductCompliance)

ROHS

Compliant



## \* Footnotes

**Insertion Loss, typical** 0.05v~freq (GHz) (not applicable for elliptical waveguide)

**Immersion Depth** Immersion at specified depth for 24 hours

# 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>Flexibility</b>	Superflexible
<b>Jacket Color</b>	Black

## 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
<b>Jacket Spark Test Voltage (rms)</b>	4000 V
<b>Operating Frequency Band</b>	1 – 13400 MHz

# FSJ2-50

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**Peak Power** 13.2 kW

**Velocity** 83 %

## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
2.5–2.7 GHz	1.11	26
680–800 MHz	1.11	26
800–960 MHz	1.11	26
1700–2200 MHz	1.1	26.45

## 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

# FSJ2-50

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**Cable weight**

0.12 kg/m | 0.081 lb/ft

## Regulatory Compliance/Certifications

**Agency**

**Classification**

CHINA-ROHS

Below maximum concentration value

ISO 9001:2015

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

ROHS

Compliant

