

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

Product Classification

 Product Type
 Coaxial wireless cable

 Product Brand
 HELIAX® | SureFlex®

Product Series FSJ2-50

General Specifications

Flexibility Superflexible

Jacket Color Black

Performance Note Attenuation values typical, guaranteed within 5%

Dimensions

 Diameter Over Dielectric
 7.112 mm | 0.28 in

 Diameter Over Jacket
 10.541 mm | 0.415 in

 Inner Conductor OD
 2.794 mm | 0.11 in

 Outer Conductor OD
 9.652 mm | 0.38 in

Nominal Size 3/8 in

Electrical Specifications

Cable Impedance 50 ohm ±1 ohm

 $\textbf{Capacitance} \hspace{1.5cm} 79.7 \text{ pF/m} \hspace{.1cm} \mid \hspace{.1cm} 24.293 \text{ pF/ft}$

dc Resistance, Inner Conductor4.232 ohms/km | 1.29 ohms/kftdc Resistance, Outer Conductor4.987 ohms/km | 1.52 ohms/kft

dc Test Voltage 2300 V

 $\label{eq:local_potential} \mbox{Inductance} \qquad \qquad 0.2 \ \mu\mbox{H/m} \ \mid \ 0.061 \ \mu\mbox{H/ft}$

Insulation Resistance 100000 MOhms-km

Jacket Spark Test Voltage (rms) 4000 V

Operating Frequency Band 1 – 13400 MHz

Peak Power 13.2 kW

Page 1 of 4

35422-42

Velocity 83 %

Attenuation

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 4.564 1.482 1.75 174.0 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	Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
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	1.0	0.383	0.117	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 0.98 450.0 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 10.083 3.347 <th>1.5</th> <th>0.469</th> <th>0.143</th> <th>13.2</th>	1.5	0.469	0.143	13.2
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 10.0983 3.347 0.77 800.0 11.807 3.599 0.72 824.0 11.998 3.657 0.71	2.0	0.542	0.165	13.2
30.0 2128 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	10.0	1.219	0.372	6.97
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 19.83 3.347 0.77 804.0 11.807 3.599 0.72 824.0 11.998 3.65	20.0	1.732	0.528	4.91
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 <th>30.0</th> <th>2.128</th> <th>0.649</th> <th>3.99</th>	30.0	2.128	0.649	3.99
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 13.34 4.064 0.64 1218.0 14.861 4.529 0.57 <	50.0	2.762	0.842	3.08
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 1218.0 14.861 4.529 0.57	85.0	3.626	1.105	2.34
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 1218.0 14.861 4.529 0.57 1250.0 15.075 4.595 0.56	88.0	3.691	1.125	2.3
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 1218.0 14.861 4.529 0.57 1250.0 15.075 4.595 0.56	100.0	3.943	1.202	2.16
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 1218.0 14.861 4.529 0.57 1250.0 15.075 4.595 0.56	108.0	4.103	1.25	2.07
200.05.651.7221.5204.05.7091.741.49300.06.992.131.22400.08.1392.4811.04450.08.6652.6410.98460.08.7672.6720.97500.09.1662.7940.93512.09.2832.8290.92600.010.1073.0810.84700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	150.0	4.864	1.482	1.75
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 1218.0 14.861 4.529 0.57 1250.0 15.075 4.595 0.56	174.0	5.254	1.601	1.62
300.06.992.131.22400.08.1392.4811.04450.08.6652.6410.98460.08.7672.6720.97500.09.1662.7940.93512.09.2832.8290.92600.010.1073.0810.84700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	200.0	5.65	1.722	1.5
400.08.1392.4811.04450.08.6652.6410.98460.08.7672.6720.97500.09.1662.7940.93512.09.2832.8290.92600.010.1073.0810.84700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	204.0	5.709	1.74	1.49
450.08.6652.6410.98460.08.7672.6720.97500.09.1662.7940.93512.09.2832.8290.92600.010.1073.0810.84700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	300.0	6.99	2.13	1.22
460.08.7672.6720.97500.09.1662.7940.93512.09.2832.8290.92600.010.1073.0810.84700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	400.0	8.139	2.481	1.04
500.09.1662.7940.93512.09.2832.8290.92600.010.1073.0810.84700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	450.0	8.665	2.641	0.98
512.09.2832.8290.92600.010.1073.0810.84700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	460.0	8.767	2.672	0.97
600.010.1073.0810.84700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	500.0	9.166	2.794	0.93
700.010.9833.3470.77800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	512.0	9.283	2.829	0.92
800.011.8073.5990.72824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	600.0	10.107	3.081	0.84
824.011.9983.6570.71894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	700.0	10.983	3.347	0.77
894.012.5423.8230.68960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	800.0	11.807	3.599	0.72
960.013.043.9740.651000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	824.0	11.998	3.657	0.71
1000.013.3344.0640.641218.014.8614.5290.571250.015.0754.5950.56	894.0	12.542	3.823	0.68
1218.014.8614.5290.571250.015.0754.5950.56	960.0	13.04	3.974	0.65
1250.0 15.075 4.595 0.56	1000.0	13.334	4.064	0.64
	1218.0	14.861	4.529	0.57
1500.0 16.68 5.084 0.51	1250.0	15.075	4.595	0.56
	1500.0	16.68	5.084	0.51

Page 2 of 4



35422-42

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

Material Specifications

Dielectric MaterialFoam PEJacket MaterialPE

Page 3 of 4

35422-42

Inner Conductor Material Copper-clad aluminum wire

Outer Conductor Material Corrugated copper

Mechanical Specifications

Minimum Bend Radius, multiple Bends25.4 mm | 1 inMinimum Bend Radius, single Bend25.4 mm | 1 in

Number of Bends, minimum 20 Number of Bends, typical 50

 Tensile Strength
 95 kg | 209.439 lb

 Bending Moment
 2.3 N-m | 20.357 in lb

Flat Plate Crush Strength 1.8 kg/mm | 100.795 lb/in

Environmental Specifications

Installation temperature $-40 \,^{\circ}\text{C}$ to $+60 \,^{\circ}\text{C}$ ($-40 \,^{\circ}\text{F}$ to $+140 \,^{\circ}\text{F}$)

Operating Temperature $-55 \,^{\circ}\text{C}$ to $+85 \,^{\circ}\text{C}$ ($-67 \,^{\circ}\text{F}$ to $+185 \,^{\circ}\text{F}$)

Storage Temperature $-70 \,^{\circ}\text{C}$ to $+85 \,^{\circ}\text{C}$ ($-94 \,^{\circ}\text{F}$ to $+185 \,^{\circ}\text{F}$)

Attenuation, Ambient Temperature68 °F | 20 °CAverage Power, Ambient Temperature104 °F | 40 °CAverage Power, Inner Conductor Temperature212 °F | 100 °C

Packaging and Weights

Cable weight 0.12 kg/m | 0.081 lb/ft

Regulatory Compliance/Certifications

Agency Classification

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

