35422-75

Heat Treated FSJ1RK-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/4 in, black non-halogenated, fire retardant polyolefin jacket

Product Classification

Brand	HELIAX®
Product Series	FSJ1-50B
Product Type	Coaxial wireless cable

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	1/4 in
Cable Weight	0.05 lb/ft | 0.07 kg/m
Diameter Over Dielectric	4.826 mm | 0.190 in
Diameter Over Jacket	7.620 mm | 0.300 in
Inner Conductor OD	1.9050 mm | 0.0750 in
Outer Conductor OD	6.350 mm | 0.250 in

Electrical Specifications

Cable Impedance	50 ohm ±1 ohm
Capacitance	24.2 pF/ft | 79.4 pF/m
dc Resistance, Inner Conductor	3.000 ohms/kft | 9.843 ohms/km
dc Resistance, Outer Conductor	2.000 ohms/kft | 6.562 ohms/km
dc Test Voltage	1600 V
Inductance	0.200 µH/m | 0.061 µH/ft
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	4000 V
Operating Frequency Band	1 – 18000 MHz

Peak Power	6.4 kW
Velocity	82%

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)

Mechanical Specifications

Bending Moment	1.1 N-m | 0.8 ft lb
Fire Retardancy Test Method	UL 1666/CATVR/CMR
Flat Plate Crush Strength	100.0 lb/in | 1.8 kg/mm
Minimum Bend Radius, Multiple Bends	25.40 mm | 1.00 in
Minimum Bend Radius, Single Bend	25.40 mm | 1.00 in
Number of Bends, minimum	15
Number of Bends, typical	20
Smoke Index Test Method	IEC 61034
Tensile Strength	68 kg | 150 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)
680–960 MHz	1.2	20.80
1700–2200 MHz	1.2	20.80
2200–2700 MHz	1.43	15.00

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.407	0.124	6.40
1	0.577	0.176	6.40
1.5	0.707	0.215	6.40
2	0.816	0.249	6.40
10	1.833	0.559	3.99
20	2.6	0.792	2.81
30	3.192	0.973	2.29
50	4.136	1.261	1.77
85	5.419	1.652	1.35
88	5.516	1.681	1.33
100	5.889	1.795	1.24
108	6.125	1.867	1.19
150	7.25	2.21	1.01
174	7.825	2.385	0.93
200	8.408	2.563	0.87
204	8.495	2.589	0.86
300	10.373	3.162	0.71
400	12.051	3.673	0.61
450	12.817	3.906	0.57
460	12.965	3.952	0.56
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500	13.545	4.128	0.54
512	13.715	4.18	0.53
600	14.909	4.544	0.49
700	16.175	4.93	0.45
800	17.362	5.292	0.42
824	17.637	5.376	0.41
894	18.42	5.614	0.40
960	19.134	5.832	0.38
1000	19.556	5.96	0.37
1218	21.738	6.626	0.34
1250	22.044	6.719	0.33
1500	24.326	7.414	0.30
1700	26.038	7.936	0.28
1794	26.813	8.172	0.27
1800	26.862	8.187	0.27
2000	28.455	8.673	0.26
2100	29.227	8.908	0.25
2200	29.984	9.139	0.24
2300	30.727	9.365	0.24
2500	32.174	9.806	0.23
2700	33.576	10.233	0.22
3000	35.602	10.851	0.21
3400	38.183	11.638	0.19
3700	40.041	12.204	0.18

3800	40.647	12.389	0.18
4000	41.841	12.753	0.17
5000	47.5	14.477	0.15
6000	52.747	16.077	0.14
8000	62.37	19.01	0.12
8800	65.974	20.108	0.11
10000	71.173	21.693	0.10
12000	79.393	24.198	0.09
14000	87.172	26.569	0.08
15800	93.872	28.611	0.08
16000	94.601	28.833	0.08
18000	101.745	31.01	0.07

** Values typical, guaranteed within 5%*

Regulatory Compliance/Certifications

Agency	**Classification**
UL/ETL Certification	Compliant
RoHS 2011/65/EU	Compliant
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
China RoHS SJ/T 11364-2014	Below Maximum Concentration Value (MCV)