LDF1-50

LDF1-50, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/4 in, black PE jacket

Product Classification

Brand	HELIAX®
Product Series	LDF1-50
Product Type	Coaxial wireless cable

Construction Materials

Jacket Material	PE
Outer Conductor Material	Corrugated copper
Dielectric Material	Foam PE
Flexibility	Standard
Inner Conductor Material	Copper-clad aluminum wire
Jacket Color	Black

Dimensions

Nominal Size	1/4 in
Cable Weight	0.06 lb/ft | 0.09 kg/m
Diameter Over Dielectric	6.858 mm | 0.270 in
Diameter Over Jacket	8.763 mm | 0.345 in
Inner Conductor OD	2.5400 mm | 0.1000 in
Outer Conductor OD	7.874 mm | 0.310 in

Electrical Specifications

Cable Impedance	50 ohm ±1 ohm
Capacitance	23.4 pF/ft | 76.8 pF/m
dc Resistance, Inner Conductor	1.570 ohms/kft | 5.151 ohms/km
dc Resistance, Outer Conductor	1.220 ohms/kft | 4.003 ohms/km
dc Test Voltage	2200 V
Inductance	0.194 µH/m | 0.059 µH/ft
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	5000 V
Operating Frequency Band	1 – 15800 MHz
Peak Power	12.1 kW
Velocity	86%

Environmental Specifications

Installation Temperature	-40 °C to +60 °C (-40 °F to +140 °F)

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Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-70 °C to +85 °C (-94 °F to +185 °F)

Mechanical Specifications

Bending Moment	1.4 N-m | 1.0 ft lb
Flat Plate Crush Strength	80.0 lb/in | 1.4 kg/mm
Minimum Bend Radius, Multiple Bends	76.20 mm | 3.00 in
Minimum Bend Radius, Single Bend	38.10 mm | 1.50 in
Number of Bends, minimum	15
Number of Bends, typical	30
Tensile Strength	91 kg | 200 lb

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)	VSWR, typical	Return Loss, typical (dB)
806–960 MHz	1.15	23.00		
1700–2000 MHz	1.15	23.00		
4000–6000 MHz	1.43	15.00	1.29	18.00

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Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.278	0.085	12.10
1	0.394	0.12	12.10
1.5	0.483	0.147	12.10
2	0.558	0.17	12.10
10	1.254	0.382	5.83
20	1.781	0.543	4.11
30	2.188	0.667	3.34
50	2.838	0.865	2.58
85	3.724	1.135	1.96
88	3.791	1.156	1.93
100	4.049	1.234	1.81
108	4.213	1.284	1.74
150	4.993	1.522	1.47
174	5.392	1.644	1.36
200	5.798	1.767	1.26
204	5.858	1.785	1.25
300	7.168	2.185	1.02
400	8.342	2.543	0.88
450	8.88	2.706	0.82
460	8.984	2.738	0.81
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500	9.391	2.862	0.78
512	9.511	2.899	0.77
600	10.351	3.155	0.71
700	11.244	3.427	0.65
800	12.084	3.683	0.61
824	12.278	3.742	0.60
894	12.833	3.911	0.57
960	13.339	4.066	0.55
1000	13.639	4.157	0.54
1218	15.192	4.63	0.48
1250	15.41	4.697	0.47
1500	17.04	5.194	0.43
1700	18.266	5.567	0.40
1794	18.823	5.737	0.39
1800	18.858	5.748	0.39
2000	20.003	6.097	0.37
2100	20.559	6.266	0.36
2200	21.104	6.432	0.35
2300	21.64	6.596	0.34
2500	22.686	6.914	0.32
2700	23.701	7.224	0.31
3000	25.171	7.672	0.29
3400	27.048	8.244	0.27
3700	28.403	8.657	0.26

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3800	28.846	8.792	0.25
4000	29.719	9.058	0.25
5000	33.871	10.323	0.22
6000	37.742	11.503	0.19
8000	44.888	13.681	0.16
8800	47.579	14.501	0.15
10000	51.475	15.689	0.14
12000	57.664	17.575	0.13
14000	63.552	19.37	0.12
15800	68.646	20.922	0.11

** Values typical, guaranteed within 5%*

Regulatory Compliance/Certifications

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

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