

# Product Specifications

## LDF4RK-50A

LDF4-50, HELIAX<sup>®</sup> Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black non-halogenated, fire retardant polyolefin jacket



## CHARACTERISTICS

### Construction Materials

Jacket Material	Non-halogenated, fire retardant polyolefin
Outer Conductor Material	Corrugated copper
Dielectric Material	Foam PE
Flexibility	Standard
Inner Conductor Material	Copper-clad aluminum wire
Jacket Color	Black

### Dimensions

Nominal Size	1/2 in
Cable Weight	0.17 lb/ft   0.25 kg/m
Diameter Over Dielectric	12.954 mm   0.510 in
Diameter Over Jacket	16.002 mm   0.630 in
Inner Conductor OD	4.8260 mm   0.1900 in
Outer Conductor OD	13.970 mm   0.550 in

### Electrical Specifications

Cable Impedance	50 ohm $\pm$ 1 ohm
Capacitance	23.1 pF/ft   75.8 pF/m
dc Resistance, Inner Conductor	0.450 ohms/kft   1.480 ohms/km
dc Resistance, Outer Conductor	0.580 ohms/kft   1.903 ohms/km
dc Test Voltage	4000 V
Inductance	0.190 $\mu$ H/m   0.058 $\mu$ H/ft
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	5000 V
Operating Frequency Band	1 – 8800 MHz
Peak Power	40.0 kW
Pulse Reflection	0.5%
Velocity	88%

### Environmental Specifications

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Installation Temperature	-25 °C to +60 °C (-13 °F to +140 °F)
Operating Temperature	-30 °C to +80 °C (-22 °F to +176 °F)
Storage Temperature	-30 °C to +80 °C (-22 °F to +176 °F)

## General Specifications

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Brand	HELIAX®
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## Mechanical Specifications

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Bending Moment	3.8 N-m   2.8 ft lb
Fire Retardancy Test Method	UL 1666/CATVR
Flat Plate Crush Strength	110.0 lb/in   2.0 kg/mm
Minimum Bend Radius, Multiple Bends	127.00 mm   5.00 in
Minimum Bend Radius, Single Bend	50.80 mm   2.00 in
Number of Bends, minimum	15
Number of Bends, typical	50
Smoke Index Test Method	IEC 61034
Tensile Strength	113 kg   250 lb
Toxicity Index Test Method	IEC 60754-1   IEC 60754-2

## Standard Conditions

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Attenuation, Ambient Temperature	20 °C   68 °F
Average Power, Ambient Temperature	40 °C   104 °F
Average Power, Inner Conductor Temperature	100 °C   212 °F

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## Attenuation

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Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.149	0.045	40.00
1	0.211	0.064	36.11
1.5	0.259	0.079	29.46
2	0.299	0.091	25.50
10	0.672	0.205	11.35
20	0.954	0.291	7.99
30	1.172	0.357	6.51
50	1.521	0.463	5.02
88	2.031	0.619	3.76
100	2.169	0.661	3.52
108	2.256	0.688	3.38
150	2.673	0.815	2.85
174	2.887	0.88	2.64
200	3.103	0.946	2.46
300	3.835	1.169	1.99
400	4.462	1.36	1.71
450	4.749	1.447	1.61
500	5.021	1.53	1.52
512	5.085	1.55	1.50
600	5.533	1.686	1.38
700	6.009	1.831	1.27
800	6.456	1.968	1.18
824	6.56	1.999	1.16
894	6.855	2.089	1.11
960	7.124	2.171	1.07
1000	7.284	2.22	1.05
1250	8.226	2.507	0.93
1500	9.093	2.771	0.84
1700	9.744	2.97	0.78
1800	10.058	3.066	0.76
2000	10.666	3.251	0.72
2100	10.961	3.341	0.70
2200	11.251	3.429	0.68
2300	11.535	3.516	0.66
2500	12.09	3.685	0.63
2700	12.627	3.849	0.60
3000	13.407	4.086	0.57
3400	14.401	4.389	0.53
3700	15.118	4.608	0.50
4000	15.815	4.82	0.48
5000	18.01	5.489	0.42
6000	20.055	6.113	0.38
8000	23.826	7.262	0.32
8800	25.244	7.694	0.30

\* Values typical, guaranteed within 5%

## Regulatory Compliance/Certifications

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## Agency

UL/ETL Certification  
RoHS 2002/95/EC  
China RoHS SJ/T 11364-2006  
ISO 9001:2008

## Classification

CATVR  
Compliant  
Below Maximum Concentration Value (MCV)  
Designed, manufactured and/or distributed under this quality management system



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