

**HCA618-50J****6 1/8" HELIFLEX® Air-Dielectric Coaxial Cable**

HELIFLEX® 6-1/8" low loss air dielectric cable

Features / Benefits

- **Low Attenuation**
The low attenuation of HELIFLEX® coaxial cable results in highly efficient signal transfer in your RF system.
- **Complete Shielding**
The solid outer conductor of HELIFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
- **Low VSWR**
Special low VSWR versions of HELIFLEX® coaxial cables contribute to low system noise.
- **Outstanding Intermodulation Performance**
HELIFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.
- **High Power Rating**
Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, HELIFLEX® cable provides safe long term operating life at high transmit power levels.
- **Wide Range of Application**
Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects.

Technical Features**APPLICATIONS**

Applications	TV & Radio	HF Defense	Cable Solutions
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STRUCTURE

Cable Type	HCA
Size	6-1/8"
Jacket Option	Outdoor
Inner Conductor Material	Corrugated Copper Tube
Dielectric Material	Helical Polyethylene Spacer
Outer Conductor Material	Corrugated Copper
Jacket Material	Black Polyethylene

**HCA618-50J****6 1/8" HELIFLEX® Air-Dielectric Coaxial Cable****MECHANICAL SPECIFICATIONS**

Inner Conductor Diameter	67mm (2.63in)
Dielectric Diameter	147mm (5.78in)
Outer Conductor Diameter	162mm (6.37in)
Jacket Diameter	169mm (6.65in)
Cable Weight	10kg/m (6.7lb/ft)
Min Bending Radius, Single Bend	1,000mm (39in)
Min. Bending Radius, Repeated Bends	1,500mm (59in)
Bending Moment	1000 Nm (738 lbf*ft)
Tensile Strength	6,000N (1,349lb)
Air Volume	19l/m (0.2045ft³/ft)
Recommended / Maximum Clamp Spacing	1 / 2 m (3.3 / 6.6) ft

ELECTRICAL SPECIFICATIONS

Impedance	50 +/- 0.5 Ω
Max. Operating Frequency	0.86 GHz
Velocity	97 %
Capacitance	69pF/m (21 pF/ft)
Inductance	0.173 μ H/m (0.053 μ H/ft)
Peak Power Rating	2,890 kW
RF Peak Voltage	17,000 v
Jacket Spark	8,000 V RMS
DC-Resistance Inner Conductor	0.17 Ω /km (0.052 Ω /kft)
DC-Resistance Outer Conductor	0.044 Ω /km (0.013 Ω /kft)
Return Loss (VSWR) Performance	Standard
Min. Return Loss (Max. VSWR)	Typical 20.8dBdB (1.2 VSWR or better within the operation bands of most global frequency ranges. Premium also available. Contact factory for options in your specific frequency band.VSWR)

TESTING AND ENVIRONMENTAL

Fire Performance	Halogene Free
Compliance	RoHS 2011/65/EU China RoHS SJ/T 11364-2006 IEC 60754-1/-2 Halogen Acid Gases REACH (EC 1907/2006) IEC 60754-1/-2 Halogen Acid Gases
Phase Stabilized	Phase matched cables and assemblies are available upon request.
Installation Temperature	-40°C to 60°C (-40°F to 140°F)
Storage Temperature	-70°C to 85°C (-94°F to 185°F)
Operation Temperature	-50°C to 85°C (-58°F to 185°F)



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ATTENUATION AND POWER RATING

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.013	0.004	2500
1	0.018	0.006	1770
1.5	0.022	0.007	1440
2	0.026	0.008	1250
10	0.058	0.018	554
20	0.082	0.025	390
30	0.101	0.031	318
50	0.132	0.04	243
88	0.176	0.054	183
100	0.189	0.058	171
108	0.196	0.06	165
150	0.233	0.071	139
174	0.252	0.077	129
200	0.272	0.083	120
300	0.338	0.103	97
400	0.395	0.12	83.6
450	0.421	0.128	78.8
500	0.446	0.136	74.7
512	0.452	0.138	73.7
600	0.493	0.15	68.1
700	0.537	0.164	63
800	0.579	0.176	58.9
824	0.588	0.179	58.1
860	0.602	0.184	56.9
Note	Standard Conditions: For attenuation: VSWR 1.0, cable temperature 20°C (68°F). For average power: VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 115°C (239°F). No solar loading.		

External Document Links

Notes