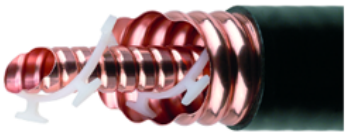
PRODUCT DATASHEET

HCA300-50JFN

3" HELIFLEX® Air-Dielectric Coaxial Cable, flame retardant/ halogen free jacket



HELIFLEX® 3" low loss air dielectric cable; flame retardant/ halogen free jacket

Feature / 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

STRUCTURE

Cable Type	Air-Dielectric, Corrugated
Size	3
Jacket Option	Black
Inner Conductor Diameter	29.3mm (1.15in)
Inner Conductor Material	Corrugated Copper Tube
Dielectric Diameter	63.5mm (2.5in)
Dielectric Material	Helical Polyethylene Spacer
Outer Conductor Diameter	72.4mm (2.85in)
Outer Conductor Material	Corrugated Copper
Jacket Diameter	76mm (2.992in)
Jacket Material	Polyethylene, PE, Metalhydroxite Filling

TESTING AND ENVIRONMENTAL

Fire Performance	Flame Retardant, LS0H
Flame Retardant Jacket Specifications	The jacketing meets the testing requirements of Underwriters Laboratories UL 1666, and qualifies for the NEC CATVR type rating code (NEC Section 820-51(b) Type CATVR- NEC 1996)as well as IEC 60332-1
Installation Temperature	-25°C to 60°C (-13°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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ELECTRICAL SPECIFICATIONS

Impedance	50 +/- 0.5 Ω
Maximum Frequency	1.63 GHz
Velocity	96 %
Capacitance	66.6pF/m (20.3pF/ft)
Inductance	0.167µH/m (0.051µH/ft)
Peak Power Rating	640 kW
RF Peak Voltage	8000 Volts
Jacket Spark	8000 Volt RMS
Inner Conductor dc Resistance	0.39ohm/1000 m (0.12ohm/1000 ft)
Outer Conductor dc Resistance	0.16ohm/1000 m (0.05ohm/1000 ft)
Return Loss (VSWR) Performance	Standard
Phase Stabilized	Phase stabilized and phase matched cables and assemblies are available upon request.

MECHANICAL SPECIFICATIONS

Cable Weight	2.3kg/m (1.55lb/ft)
Minimum Bending Radius	270mm (11in)
Minimum Bending Radius	760mm (30in)
Bending Moment	145 (107)
Tensile Strength	1800N (405lb)
Recommended / Maximum Clamp Spacing	0.8 / 1.2 (2.75 / 4)

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ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.028	0.009	596
1	0.04	0.012	421
1.5	0.049	0.015	343
2	0.056	0.017	297
10	0.127	0.039	132
20	0.181	0.055	92.3
30	0.223	0.068	74.9
50	0.291	0.089	57.4
88	0.391	0.119	42.8
100	0.418	0.127	40
108	0.436	0.133	38.4
150	0.519	0.158	32.2
174	0.561	0.171	29.8
200	0.605	0.184	27.7
300	0.754	0.23	22.2
400	0.883	0.269	19
450	0.943	0.287	17.8
500	1	0.305	16.8
512	1.01	0.309	16.6
600	1.11	0.338	15.2
700	1.21	0.368	13.9
800	1.3	0.398	13
824	1.33	0.404	12.7
894	1.39	0.424	12.1
900	1.4	0.425	12.1
925	1.42	0.432	11.9
960	1.45	0.441	11.6
1000	1.48	0.452	11.4
1250	1.69	0.515	10
1500	1.88	0.573	9.04
1700	2.03	0.618	8.39

External Document Links

Notes