Product Specifications

COMMSCOPE®

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AVA5-50

AVA5-50, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 7/8 in, black PE jacket

This product will be discontinued on: December 31, 2013

Replaced By:

AVA5-50FX	AVA5-50FX, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 7/8 in, black PE jacket

Construction Materials

Jacket Material	PE
Outer Conductor Material	Corrugated copper
Dielectric Material	Foam PE
Flexibility	Standard
Inner Conductor Material	Copper tube
Jacket Color	Black

Dimensions

Nominal Size	7/8 in
Cable Weight	0.30 lb/ft | 0.45 kg/m
Diameter Over Dielectric	24.130 mm | 0.950 in
Diameter Over Jacket	27.991 mm | 1.102 in
Inner Conductor OD	9.4488 mm | 0.3720 in
Outer Conductor OD	25.400 mm | 1.000 in

Electrical Specifications

Cable Impedance	50 ohm ±1 ohm
Capacitance	22.0 pF/ft | 73.0 pF/m
dc Resistance, Inner Conductor	0.410 ohms/kft | 1.435 ohms/km
dc Resistance, Outer Conductor	0.340 ohms/kft | 1.116 ohms/km
dc Test Voltage	6000 V
Inductance	0.184 µH/m | 0.056 µH/ft
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	8000 V
Operating Frequency Band	1 – 5000 MHz
Peak Power	91.0 kW
Pulse Reflection	0.5%
Velocity	91%

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)

General Specifications

Brand	HELIAX®

Mechanical Specifications

Bending Moment	19.0 N-m | 14.0 ft lb
Flat Plate Crush Strength	75.0 lb/in
Minimum Bend Radius, Multiple Bends	254.00 mm | 10.00 in
Minimum Bend Radius, Single Bend	127.00 mm | 5.00 in
Number of Bends, minimum	15
Number of Bends, typical	30
Tensile Strength	159 kg | 350 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)
806–960 MHz	1.13	24.30
1700–2170 MHz	1.13	24.30

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Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.08	0.024	91.00
1	0.113	0.034	74.43
1.5	0.138	0.042	60.73
2	0.16	0.049	52.56
10	0.359	0.11	23.37
20	0.51	0.156	16.46
30	0.627	0.191	13.39
50	0.814	0.248	10.32
88	1.088	0.332	7.72
100	1.162	0.354	7.23
108	1.209	0.368	6.95
150	1.433	0.437	5.86
174	1.548	0.472	5.43
200	1.665	0.507	5.05
300	2.059	0.628	4.08
400	2.398	0.731	3.50
450	2.553	0.778	3.29
500	2.7	0.823	3.11
512	2.735	0.834	3.07
600	2.977	0.907	2.82
700	3.235	0.986	2.60
800	3.478	1.06	2.42
824	3.534	1.077	2.38
894	3.694	1.126	2.27
960	3.841	1.171	2.19
1000	3.927	1.197	2.14
1250	4.44	1.353	1.89
1500	4.912	1.497	1.71
1700	5.268	1.606	1.59
1800	5.439	1.658	1.54
2000	5.771	1.759	1.46
2100	5.933	1.808	1.42
2200	6.091	1.856	1.38
2300	6.247	1.904	1.34
2500	6.551	1.996	1.28
2700	6.845	2.086	1.23
3000	7.273	2.217	1.15
3400	7.819	2.383	1.07
3700	8.213	2.503	1.02
4000	8.596	2.62	0.98
5000	9.807	2.989	0.86

** Values typical, guaranteed within 5%*

Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

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