



1-5/8" Air Dielectric, HJ Series – 50-ohm

HJ7-50A

Description	Type No.
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Cable Ordering Information

Standard and Fire Retardant Cables

Maximum VSWR 1.20 (824-960 and 1850-1990 MHz)

1-5/8" Standard Cable, Standard Jacket	HJ7-50A
1-5/8" Fire Retardant Jacket (CATVP)	HJ7RP-50A
1-5/8" Fire Retardant Jacket (CATVR)	HJ7RN-50A

Enhanced Power Cable

1-5/8" Cable with Polyolefin Dielectric for 25% increase in power ratings	27591-101
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Low VSWR and Specialized Cables

1-5/8" Low VSWR, specify operating band	HJ7P-50A-(**)
1-5/8" Low VSWR, specify operating band	HJ7SP-50A-(**)
Cable for Cellular, standard jacket 824-960 or 1850-1990 MHz, 1.10 VSWR, max.	25816A-33
Broadcast, Low VSWR 54-216 MHz, 1.05 VSWR, max. over broadcast channel	
470-740 MHz, 1.08 VSWR, max. over broadcast channel	
740-856 MHz, 1.10 VSWR, max. over broadcast channel	42140*

* For broadcast applications, specify channel and frequency.

** Insert suffix number from "Low VSWR Specifications" table.

Characteristics

Electrical

Impedance, ohms	50 ± 0.5
Maximum Frequency, GHz	2.7
Velocity, percent	92.1
Peak Power Rating, kW	305
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.22 (0.72)
Outer	0.10 (0.33)
dc Breakdown, volts	11000
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	22.1 (72.4)
Inductance, µH/ft (m)	0.055 (0.181)

Mechanical

Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	1.98 (50.3)
Diameter over Copper Outer Conductor, in (mm)	1.83 (46.5)
Diameter Inner Conductor, in (mm)	0.713 (18.1)
Nominal Inside Transverse Dimensions (cm)	3.99
Minimum Bending Radius, in (mm)	20 (510)
Number of Bends, minimum (typical)	15 (30)
Bending Moment, lb-ft (N·m)	30 (40.7)
Cable Weight, lb/ft (kg/m)	1.04 (1.55)
Tensile Strength, lb (kg)	750 (340)
Flat Plate Crush Strength, lb/in (kg/mm)	175 (3.1)

Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0138	0.0452	243
1	0.0195	0.0641	171.8
1.5	0.0239	0.0785	140.2
2	0.0277	0.0908	121.3
10	0.0623	0.205	53.8
20	0.0887	0.291	37.8
30	0.109	0.358	30.8
50	0.142	0.465	23.7
88	0.190	0.623	17.7
100	0.203	0.666	16.5
108	0.211	0.693	15.9
150	0.251	0.823	13.4
174	0.271	0.890	12.4
200	0.292	0.958	11.5
300	0.363	1.19	9.25
400	0.423	1.39	7.93
450	0.451	1.48	7.44
500	0.478	1.57	7.02
512	0.484	1.59	6.93
600	0.528	1.73	6.36
700	0.575	1.89	5.84
800	0.619	2.03	5.42
824	0.629	2.06	5.33
894	0.658	2.16	5.10
960	0.685	2.25	4.90
1000	0.701	2.30	4.79
1250	0.795	2.61	4.22
1700	0.948	3.11	3.54
2000	1.04	3.42	3.22
2300	1.13	3.71	2.97
2700	1.24	4.08	2.70

Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.