

Product Specification

50 Ohm 1/2" Plenum Cable Inside Metal Raceway - MR-AP6012J50-RD

Description	Product Number
Plenum Rated Cable Inside Metal Raceway	
Metal Raceway, 1/2", Red, Corrugated (6 GHz), Jacketed CMP, Conforms to NFPA-262, UL-444, Canadian CSA 22.2/FT6	MR-AP6012J50-RD
Physical Dimensions	
Center Diameter, in (mm)	0.188 (4.78)
Diameter Over Outer Conductor, in (mm)	0.550 (13.97)
Maximum Diameter Over Jacket, in (Area (in ²))	0.62 (0.3019)
Inside Diameter of Metal Raceway, in (Area (in ²))	0.852 (0.5701)
Maximum Diameter Over Metal Raceway, in (mm)	1.08 (27.43)
Fill Rate of Metal Raceway	52.95%
Center Conductor	Copper-Clad Aluminum
Outer Conductor	Corrugated Aluminum
Jacket Color	Red
Metal Raceway	Interlocked Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	10
Peak Power Rating, KW	35
DC Resistance, Ohms/1,000 ft (1,000 m)	
Center	0.46 (1.51)
Outer	0.51 (1.67)
DC Breakdown, kV	2
Capacitance, pF/ft (m)	22 (72.12)
Inductance, μH/ft (m)	0.057 (0.187)
Jacket Spark, kV RMS	8
VSWR min, (dB)	1.25 (19.0)
VSWR typical, 150 / 450 / 698-960 / 1700-2200 MHz (dB)	1.13 (24.3)
Impedance, Ohms	50 ± 2
Velocity of Propagation	94%
Mechanical Characteristics	
Minimum Bend Radius, in (mm)	7 (178)
Cable Weight, lb/ft (kg/m)	0.26 (0.39)
Bending Moment, ft lb (N m)	15 (20.3)
Tensile Strength of Metal Raceway, lb (kg)	150 (68)
Crush Strength, lbf	1900
Clamp Spacing, ft (m)	5 (1.52)
Metal Raceway utilizes standard MC/AC ¾" connectors and hangers	
Recommended Install Temp., °F (°C)	+5° to 194° (-15° to 90°)
Recommended Storage Temp., °F (°C)	+5° to 194° (-15° to 90°)
Recommended Operating Temp., °F (°C)	+5° to 194° (-15° to 90°)
Standard Conditions	
For Attenuation: VSWR 1.0, Ambient Temperature 20°C (68°F)	
For Average Power: VSWR 1.0, Ambient Temperature 40°C (104°F), Inner Conductor Temperature 100°C (212°F), No Solar Loading	
Regulatory Compliance/Certifications	
RoHS 2011/65/EU Compliant	
TL 9000 H-V - All Cables designed and manufactured under this quality management system	
NFPA 72 (2019), Section 12.4.2 - Pathway Survivability Level 1 shall consist of pathways in buildings that are fully protected by an automatic sprinkler system in accordance with NFPA 13 with any interconnecting conductors, cables, or other physical pathways installed in metal raceways.	



Attenuation and Average Power			
Frequency, MHz	Attenuation		Average Power
	dB/100 ft	dB/100 m	kW
100	0.70	2.30	3.98
450	1.50	4.92	1.85
500	1.59	5.22	1.75
600	1.75	5.74	1.58
700	1.87	6.14	1.47
800	1.96	6.43	1.37
900	2.14	7.02	1.29
960	2.23	7.32	1.24
1000	2.30	7.55	1.21
1500	2.85	9.35	0.98
1700	3.05	10.01	0.98
1800	3.14	10.30	0.93
1950	3.24	10.63	0.85
2000	3.33	10.93	0.84
2100	3.42	11.22	0.82
2200	3.50	11.48	0.80
2300	3.59	11.78	0.78
2400	3.67	12.04	0.77
2500	3.75	12.30	0.75
2700	3.90	12.80	0.72
3000	4.14	13.58	0.68
3300	4.33	14.21	0.61
3400	4.45	14.60	0.60
4000	4.91	16.11	0.55
4900	5.61	18.41	0.50
5000	5.69	18.67	0.49
5200	5.92	19.42	0.48
5300	6.03	19.78	0.47
5600	6.37	20.90	0.46
5825	6.83	22.41	0.45

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