

HyperFlex

MegaPhase HyperFlex™ Watertight Series

MegaPhase's HyperFlex™ cable which offers superior flexibility when compared to traditional solder-terminated connectors of similar sizes and applications is now available with IP-67 Watertight Connectors. These IP-rated waterproof RF connectors are engineered specifically for outdoor or moisture-prone environments, preventing water or fluid ingress into the connector. The IP-67 protection rating is achieved through specialized O-rings and gaskets that seal the cable attachment and connector internal features. These proprietary connectors are rigorously tested to withstand immersion at 1 meter for 72 hrs. The cable is ideally suited for compact, tight-routing applications, such as inside-the-box installations and small form factor designs. Where market solutions using epoxy fail, MegaPhase Watertight HyperFlex™ series shines.



Electrical Data

Maximum Frequency:

HFx120W: 50.0 GHz

HFx141W: 40 GHz

Impedance:

50 Ω nominal

Propagation Velocity:

HFx120W, HFx141W: 69.5% nominal

Time Delay:

HFx120W, HFx141W: 1.47 ns/ft (4.82 ns/m)

Shielding Effectiveness:

-110 dB minimum (cable only)

Dielectric Withstanding Voltage:

HFx120W : 900 Vrms

HFx141W : 1100 Vrms

Capacitance:

HFx120W, HFx141W: 29.1 pF/ft (95.5 pF/m)

Mechanical Data

Cable Construction:

Triple Shielded

FEP Outer Jacket

Finished Outer Diameter:

HFx120W: 0.120 in (3.048 mm)

HFx141W: 0.141 in. (3.5814 mm)

Static Bend Radius:

HFx120W: 0.20 in (5.08 mm)

HFx141W: 0.30 in. (7.62 mm)

Weight:

HFx120W: 7.5 grams/ft (24.60 grams/m)

HFx141W: 11.2 grams/ft. (36.75 grams/m)

Available Connectors:

SMA, 2.92mm, 2.4mm, N, and Mega8

***Other connectors available upon request.

Operating Temperature: -55 to +125° C





MegaPhase HyperFlex™ Series Cable (continued)

Specifications

Frequency		HFx120W Series		HFx141W Series		Conn Loss dB	VSWR
		Attenuation		Attenuation			
Band	GHz	dB/ft	dB/m	dB/ft	dB/m		
UHF	0.3	0.084	0.277	0.091	0.297	0.006	1.10
	0.5	0.111	0.363	0.118	0.388	0.009	
	0.8	0.143	0.469	0.151	0.496	0.012	
L	1.00	0.162	0.530	0.170	0.558	0.014	
S	2.0	0.238	0.781	0.246	0.808	0.024	1.15
	2.4	0.264	0.867	0.272	0.892	0.027	
	3.0	0.301	0.986	0.307	1.008	0.032	
C	4.0	0.356	1.168	0.360	1.181	0.040	
	6.0	0.454	1.490	0.452	1.483	0.055	
X	8.0	0.542	1.779	0.533	1.747	0.070	1.20
	10.0	0.624	2.046	0.606	1.988	0.084	1.25
	12.4	0.715	2.346	0.687	2.255	0.101	
Ku	15.0	0.809	2.654	0.770	2.525	0.118	1.30
	18.0	0.912	2.993	0.859	2.818	0.139	
K	20.0	0.978	3.210	0.916	3.004	0.152	1.35
	22.0	1.043	3.422	0.970	3.184	0.165	
	24.0	1.106	3.630	1.024	3.359	0.178	
	26.5	1.184	3.883	1.089	3.572	0.194	
Ka	28.0	1.229	4.033	1.127	3.696	0.204	1.40
	30.0	1.289	4.230	1.176	3.859	0.217	
	32.0	1.348	4.423	1.225	4.019	0.230	
	34.0	1.406	4.614	1.273	4.176	0.243	
	36.0	1.464	4.803	1.320	4.331	0.256	
V	40.0	1.577	5.174	1.412	4.632	0.281	1.45
	45.0	1.715	5.627			0.313	
	50.0	1.850	6.071			0.344	
Cable		A	B	Cable Insertion Loss/ft			
HFx120W		0.145	0.0165	(A x √ freqGHz + B x freqGHz)			
HFx141W		0.160	0.010				

*All electrical and mechanical parameters provided within this specification are typical/nominal

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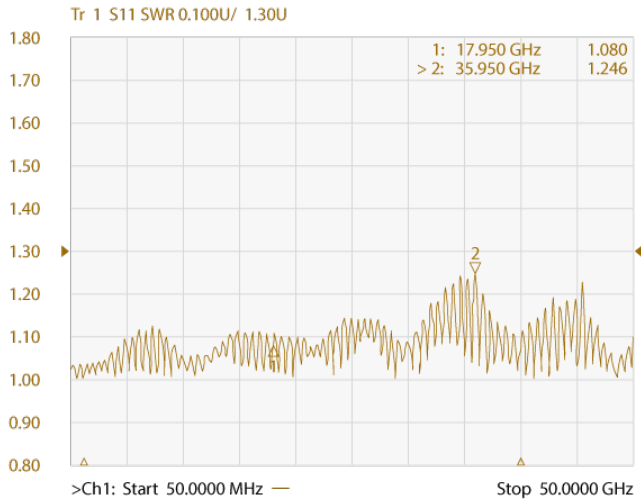
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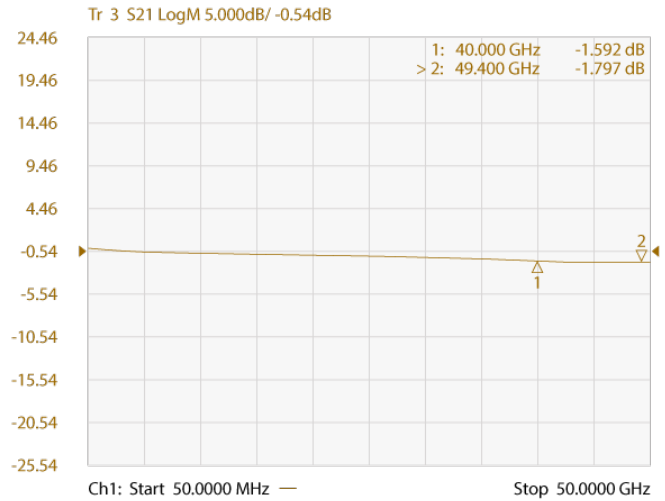
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MegaPhase HyperFlex™ Series Cable (continued)

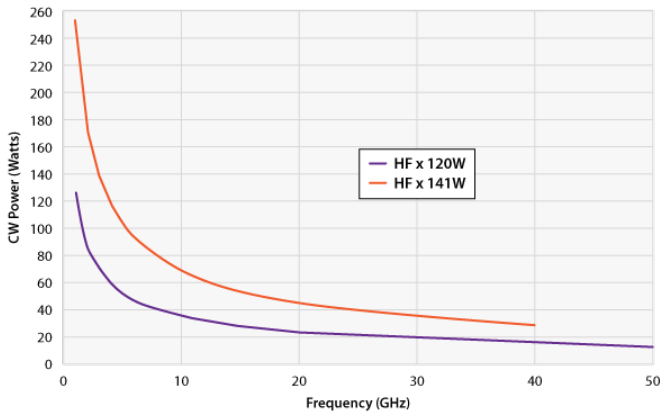
Typical VSWR Performance For HFx120 6in Assembly



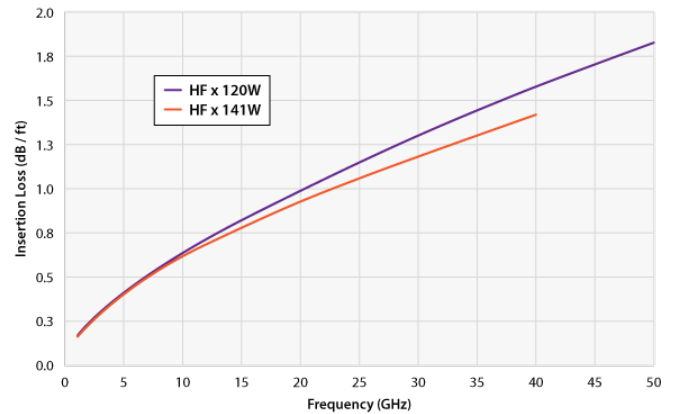
Typical Insertion Loss Performance For HFx120 6in Assembly



HyperFlex™ CW Power Capability 25°C @ Sea Level



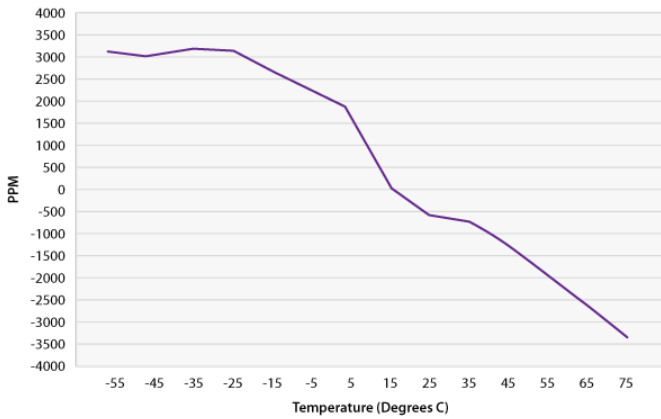
HyperFlex™ Insertion Loss





MegaPhase HyperFlex™ Series Cable (continued)

Phase Change vs. Temperature



Phase Change vs. Flexure

