



HyperFlex™ MEGAPHASE HYPERFLEX™ WATERTIGHT SERIES



MegaPhase® HyperFlex™ Watertight Series

Flexible, IP67-Rated Performance for Harsh Environments

- IP67-rated watertight connectors prevent water and fluid ingress, making them ideal for outdoor and moisture-prone applications
- HyperFlex™ cable design provides superior flexibility and tight bend capability compared to traditional solder-terminated assemblies
- Sealed with specialized O-rings and gaskets, and tested for immersion up to 1 meter for 72 hours to ensure reliable performance in compact, demanding environments

Electrical Data

Maximum Frequency	Impedance	Propagation Velocity	Time Delay
HFx120W: 50.0 GHz HFx141W: 40 GHz	50 Ω nominal	HFx120W, HFx141W: 69.5% nominal	HFx120W, HFx141W: 1.47 ns/ft (4.82 ns/m)
Shielding Effectiveness (Typical)	Dielectric Withstanding Voltage	Capacitance	
-110 dB minimum (cable only)	HFx120W: 900 Vrms HFx141W: 1100 Vrms	HFx120W, HFx141W: 29.1 pF/ft (95.5 pF/m)	

Mechanical Data

Finished Outer Diameter	Static Bend Radius	Weight
HFx120W: 0.120 in (3.048 mm) HFx141W: 0.141 in. (3.5814 mm)	HFx120W: 0.20 in (5.08 mm) HFx141W: 0.30 in. (7.62 mm)	HFx120W: 7.5 grams/ft (24.60 grams/m) HFx141W: 11.2 grams/ft. (36.75 grams/m)

Cable Construction

Triple Shielded FEP Outer Jacket

Available Connectors

SMA, 2.92mm, 2.4mm, N, and Mega8
Other connectors available upon request

Operating Temp. Range

-55 to +125°C



MEGAPHASE HYPERFLEX™ WATERTIGHT SERIES CABLE

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	
	45.0	1.715	5.627	-	-	0.313	1.45
	50.0	1.850	6.071	-	-	0.344	

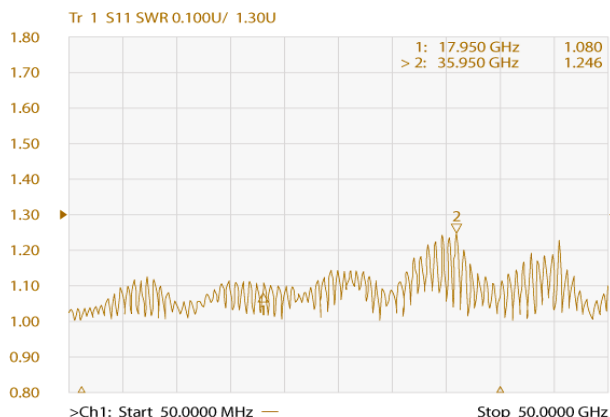
Cable	A	B	Cable Insertion Loss/ft
HFx120W	0.145	0.0165	(A x √ freqGHz + B x freqGHz)
HFx141W	0.160	0.010	

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

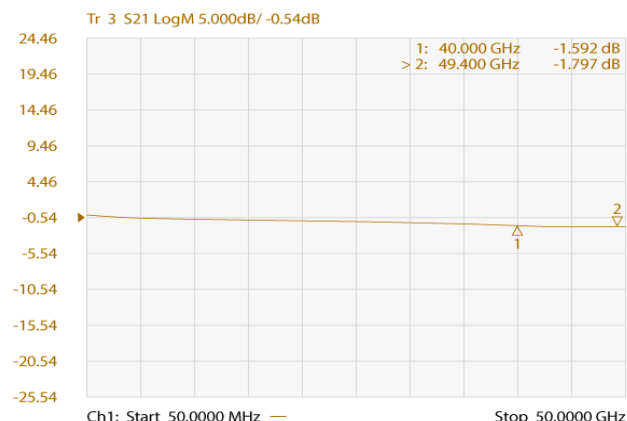


MEGAPHASE HYPERFLEX™ WATERTIGHT SERIES CABLE

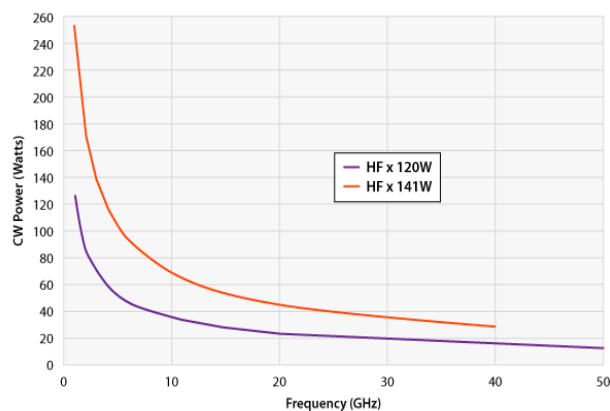
Typical VSWR Performance for HFX120 6 in. Assembly



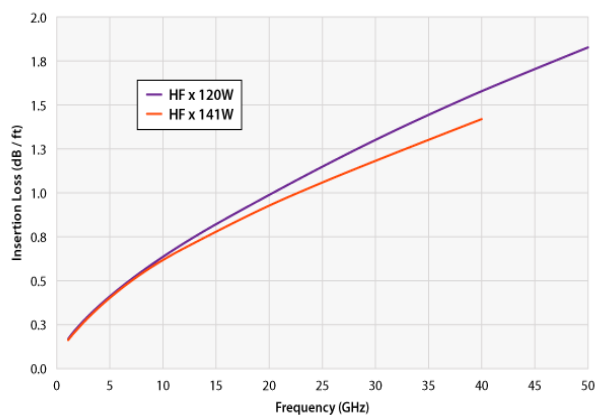
Typical Insertion Loss Performance for HFX120 6 in. Assembly



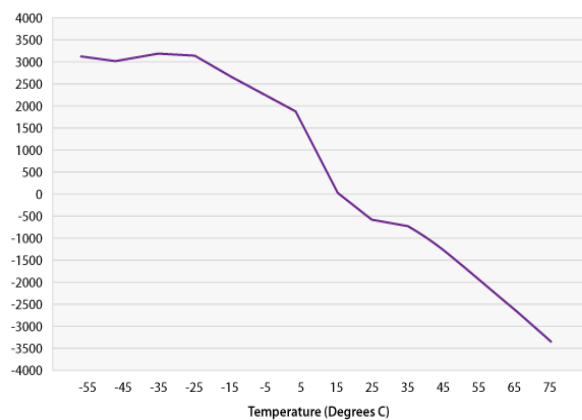
HyperFlex™ CW Power Capability 25°C at Sea Level



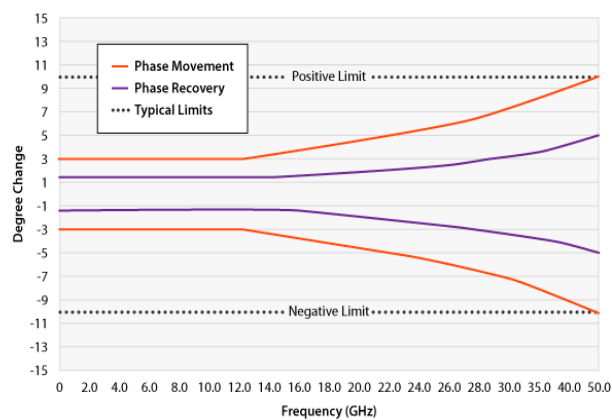
HyperFlex™ Insertion Loss



Phase Change vs. Temperature



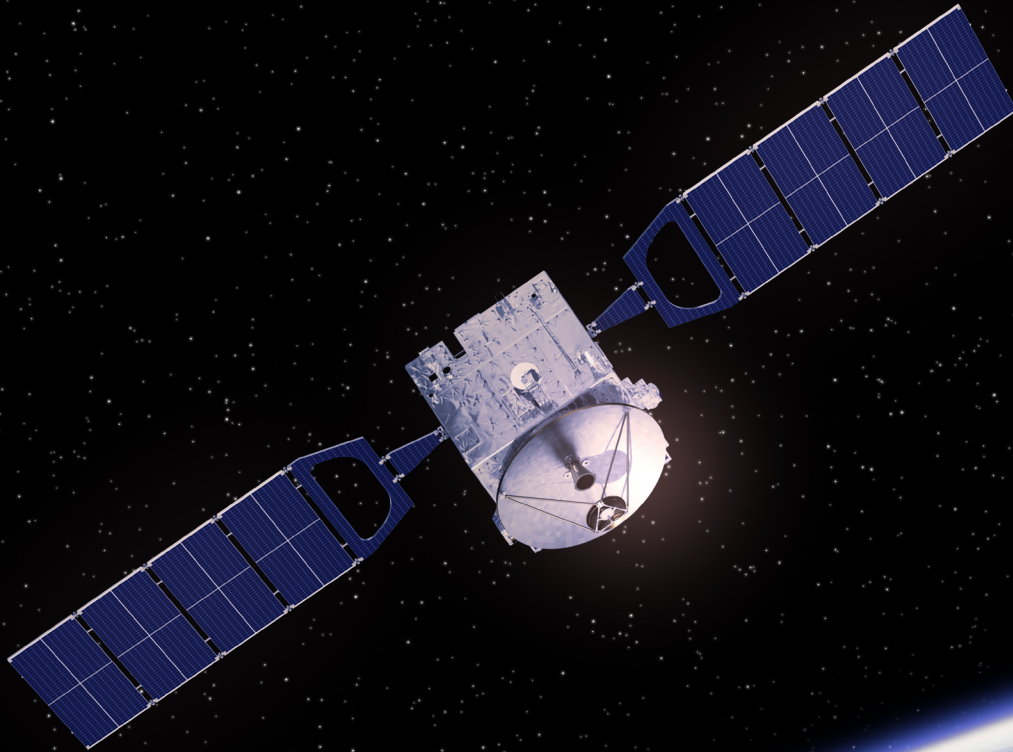
Phase Change vs. Flexure





MegaPhase®

With the right connection anything is possible



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About us

Founded in 1998 and headquartered in Stroudsburg, Pennsylvania, MegaPhase designs and manufactures high-performance RF coaxial cables and connectors for OEMs in critical markets including test instrumentation, defense, aerospace, telecommunications, and satellite systems. Serving more than 500 customers in 30 countries—including major technology leaders and the U.S. government—MegaPhase is best known for its industry-leading GrooveTube® technology, a breakthrough flexible cable design used in high-reliability, high-power, and phase-defined applications across ground, sea, air, and space platforms. All products are manufactured in-house, tested 100% in a state-of-the-art RF lab up to 110 GHz, and engineered to deliver exceptional phase stability, low loss, and long-term measurement repeatability, helping customers achieve more reliable results at a lower cost per measurement.

MegaPhase

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