

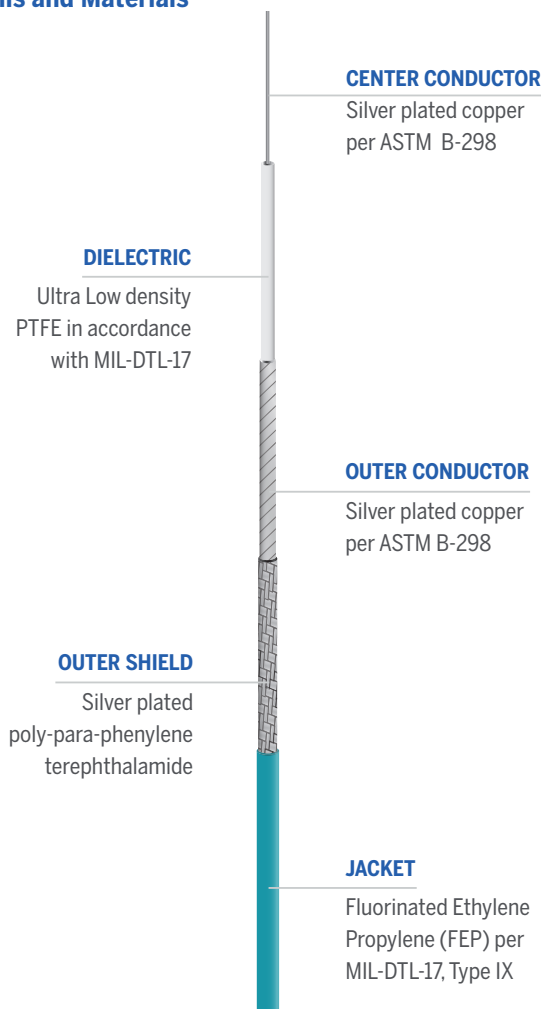
UFJ142A

UTiFLEX®



The UFJ142A coaxial solutions are optimized for spaceflight applications. They provide the lightest weight, lowest insertion loss, and best radiation resistance in a flexible cable construction. The cables utilize our ARACON® for the outer shield, an ultra-low-density PTFE for the dielectric, and a FEP jacket.

Details and Materials



 **Impedance**
50 Ohms

 **Operating Temperature**
-65°C to +125°C

 **RoHS**
Compliant

Mechanical/Physical Properties

Jacket Diameter	in	0.142
	mm	3.61
Weight	grams/ft	≤ 8.8
	grams/m	≤ 28.9
Min Static Bend Radius	in	0.380
	mm	9.65
Flex Life ³	cycles	18,000
Center Conductor Strands		1

Electrical Properties

Velocity of Propagation	(%)	83
RF Shielding	(dB) at 1 GHz	≥ 100
Capacitance	pF/ft	24.54
	pF/m	80.51
Maximum Frequency	GHz	40
Corona Extinction Voltage	VRMS @ 60Hz	1500
Dielectric Withstanding Voltage	VRMS @ 60Hz	5000
Insertion Loss Stability	% Change ²	≤ 5
K1	Ft (m)	10.01 (0.328)
K2	Ft (m)	0.11 (0.004)

Attenuation¹, Power, and VSWR⁴

(at 20°C and Sea Level)

Frequency GHz	Attenuation dB/100ft		Power Watts (CW)	VSWR
0.5	8	0.26	787	≤ 1.35:1
1	11	0.36	555	≤ 1.35:1
5	23	0.75	246	≤ 1.35:1
10	33	1.08	173	≤ 1.35:1
18	45	1.48	128	≤ 1.35:1
26.5	55	1.80	105	≤ 1.45:1
40	68	2.23	84	≤ 1.45:1

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MICRO-COAX
AN AMPHENOL COMPANY

UFJ142A

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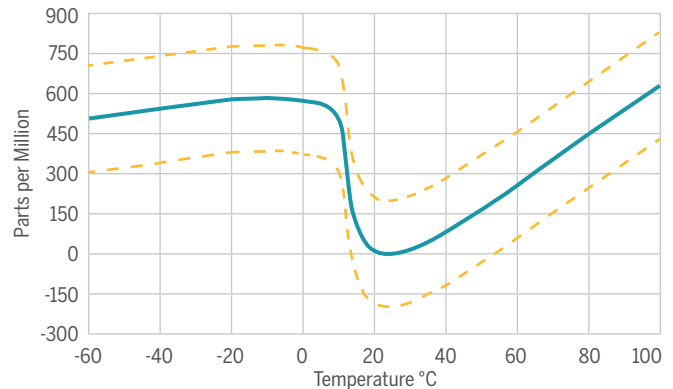
Environmental Properties

Thermal Shock	MIL-STD-202, Method 107, 20 Cycles, -65 to 125 °C (cable and SMA connectors only)
Aging Stability	Not Applicable for MIL-DTL-17, Type IX Jackets
Vibration	MIL-STD-202, Method 204, Test Condition B
High Pressure	Pressure increased ≤ 10 bar/min to 100 +/- 2 bar for 12 hrs.
Humidity	MIL-STD-810, Method 507.5, Procedure 1 and 2
Salt Fog	MIL-STD-810, Method 509
Sand and Dust	MIL-STD-810, Method 510, Procedure 1
Stress Crack Resistance	MIL-DTL-17, Paragraph 4.8.17
Cold Bend Test	MIL-DTL-17, Paragraph 4.8.19
Outgassing	Less than 1% TML and 0.1% CVM
Radiation Resistance	30 Mrads
Flammability	14 CFR Part 25, Appendix F, Part I (b)(7), 60° flammability test

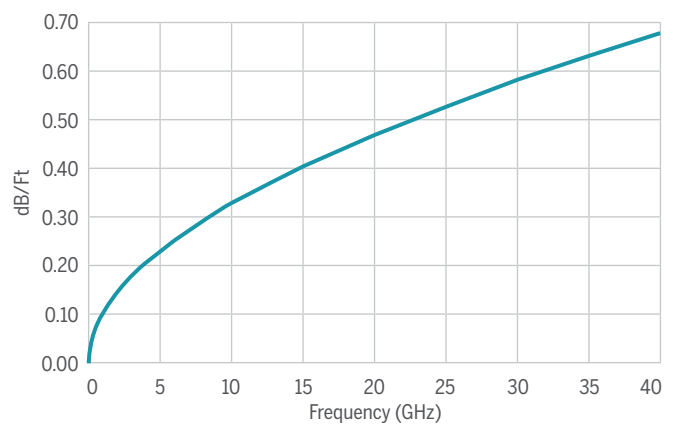
Notes

1. Maximum Attenuation (db./100Ft) = $K1\sqrt{F} + K2F$ where F is Frequency in GHz.
2. Insertion Loss change, while vibrated at a frequency of 6 Hz and an amplitude of 1 inch.
3. Snake test. One end of a 3-ft sample is fixed. The other end is moved inward along the axis of the sample forcing the cable into a "U" shape. It then returns to straight configuration for one flex cycle.
4. VSWR testing to be performed on 20-foot minimum lengths with gating used to remove connector contributions. Minimum frequency points shall be 1601.
5. Cable assemblies of equal length and connectors made from the same cable manufacturing lot shall phase track within 200 PPM of each other.

Typical Phase Change vs. Temperature⁵



Maximum Insertion Loss



Maximum Power Handling

