UFJ088D

UTiFLEX®

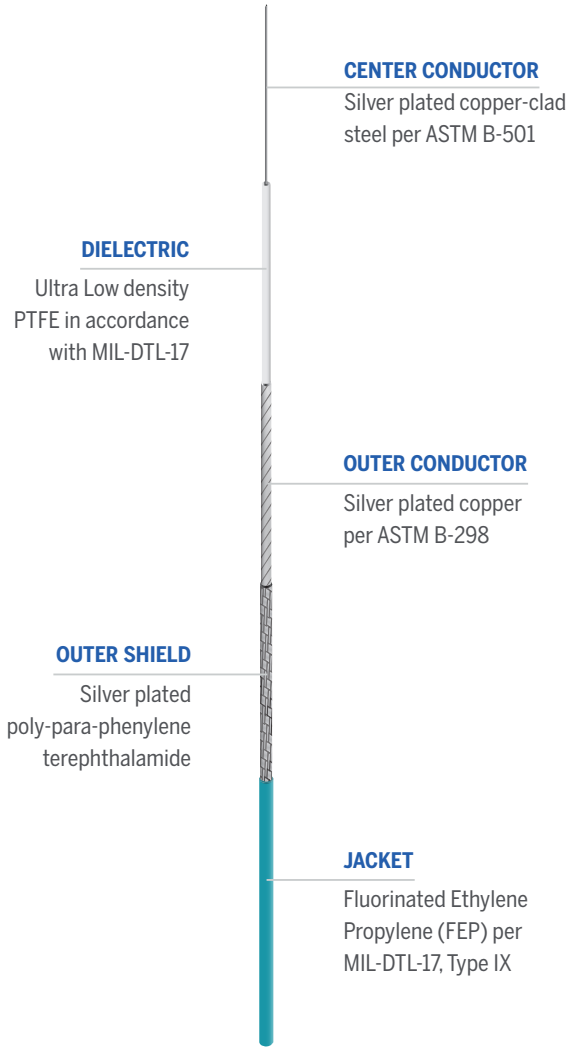
The UFJ088D coaxial solutions are optimized for spaceflight applications. They provide the lightest weight, lowest insertion loss, and best radiation resistance in a flexible cable construction. The cables utilize our ARACON® for the outer shield, an ultra-low-density PTFE for the dielectric, and a FEP jacket.

Impedance 50 Ohms | Operating Temperature -65°C to +125°C | RoHS Compliant

Mechanical/Physical Properties

Jacket Diameter	in	0.088
	mm	2.24
Weight	grams/ft	≤ 3.6
	grams/m	≤ 11.8
Min Static Bend Radius	in	0.250
	mm	6.35
Dynamic Flex Life[3]	cycles	TBD
Center Conductor Strands		1

Details and Materials



CENTER CONDUCTOR
Silver plated copper-clad steel per ASTM B-501

DIELECTRIC
Ultra Low density PTFE in accordance with MIL-DTL-17

OUTER CONDUCTOR
Silver plated copper per ASTM B-298

OUTER SHIELD
Silver plated poly-para-phenylene terephthalamide

JACKET
Fluorinated Ethylene Propylene (FEP) per MIL-DTL-17, Type IX

Electrical Properties

Velocity of Propagation	(%)	80
RF Shielding	(dB) at 1 GHz	≥ 100
Capacitance	pF/ft	25.00
	pF/m	82.02
Cutoff Frequency	GHz	77.93
Corona Extinction Voltage	VRMS @ 60Hz	1500
Dielectric Withstanding Voltage	VRMS @ 60Hz	5000
Insertion Loss Stability	% Change[2]	≤ 5
K1	Ft (m)	20.34 (0.667)
K2	Ft (m)	0.15 (0.005)

Maximum Attenuation[1], Power, and VSWR

(at 20°C and Sea Level)

Frequency GHz	Attenuation dB/100ft	dB/m	Power Watts (CW)	VSWR
0.5	14.0	0.47	175	1.35
1	20.0	0.67	124	1.35
5	46.0	1.52	55	1.35
10	66.0	2.16	39	1.35
18	89.0	2.92	29	1.35

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MICRO-COAX
AN AMPHENOL COMPANY

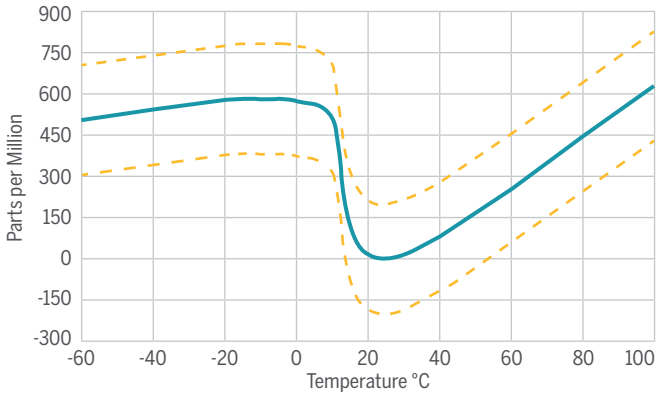
UFJ088D

UTiFLEX®

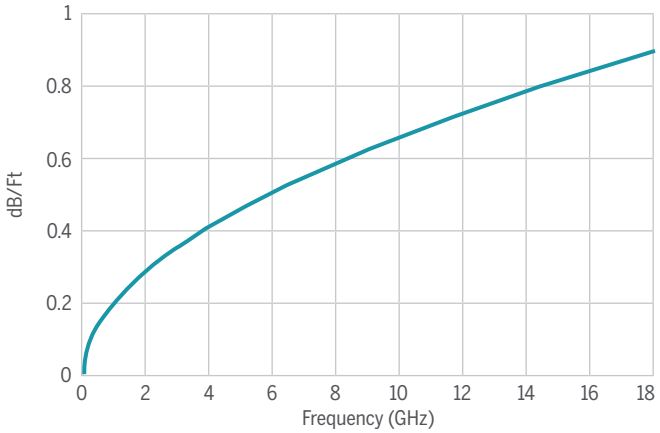
Environmental Properties

Thermal Shock	MIL-STD-202, Method 107, 20 Cycles, -65 to 125 °C (cable and SMA connectors only)
Aging Stability	MIL-DTL-17, Paragraph 4.8.16, +125 °C for 168 hours (cable and SMA connectors only)
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, Procedure1 and 2
Salt Fog	MIL-STD-810, Method 509, Procedure 1
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% CVCM
Radiation Resistance	30 Mrads
Flammability	14 CFR Part 25, Appendix F, Part I (b) (7), 60° flammability test

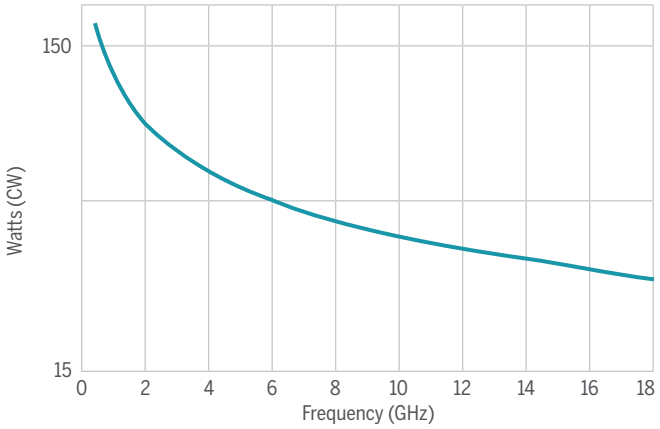
Typical Phase Change vs. Temperature[4]



Maximum Insertion Loss



Maximum Power Handling



Notes

1. Attenuation (db/100Ft) = K1.√F + K2.F 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. 3 ft sample. One end is fixed and the other end is moved inward along the axis of the sample for 1.5 ft forcing the cable into a "U" shape and then returns to straight configuration for one flex cycle.
4. Not used.
5. Cable assemblies of equal length and connectors made from the same cable manufacturing lot shall phase track within 200 PPM of each other.
6. Test Plots required with Shipment (Attenuation and VSWR).
7. VSWR testing to be performed on 20-foot minimum lengths with gating used to remove connector contributions. Minimum frequency points shall be 1601.

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