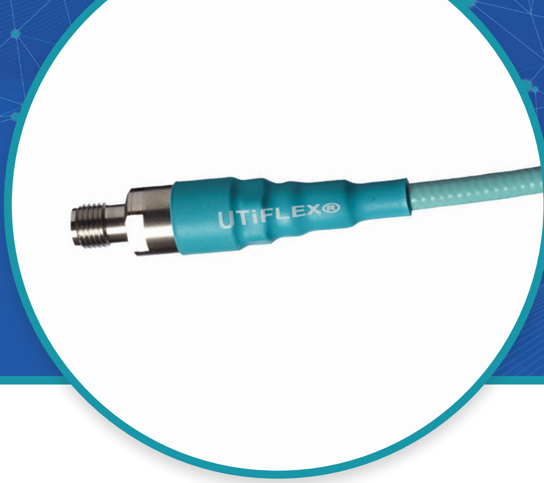
UFB142C

UTiFLEX®



UFB142C is the ideal coaxial solution for high-frequency applications in aerospace, defense, and advanced test systems. Its robust construction and reliable electrical performance make it perfect for use in radar systems, electronic warfare platforms, and space-constrained test environments. When design demands consistent performance under pressure, trust UTiFLEX® to deliver.

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

Details and Materials

CENTER CONDUCTOR
Silver plated copper per ASTM B-298

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

OUTER CONDUCTOR
Silver plated copper per ASTM B-298

OUTER SHIELD
High-strength, high-conductivity copper-alloy wire per UNS C17510, silver-coated per ASTM B-298

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

Mechanical/Physical Properties

Jacket Diameter	in	0.142
	mm	3.61
Weight	grams/ft	≤ 9.9
	grams/m	≤ 32.5
Min Static Bend Radius	in	0.380
	mm	9.65
Flex Life - Snake[3]	cycles	75,000
Center Conductor Strands		7

Electrical Properties

Velocity of Propagation	(%)	82.0
RF Shielding	(dB) at 1 GHz	≥ 100
Capacitance	pF/ft	27.11
	pF/m	88.94
Cutoff Frequency	GHz	42.14
Corona Extinction Voltage	VRMS @ 60Hz	2500
Dielectric Withstanding Voltage	VRMS @ 60Hz	5000
Insertion Loss Stability	% Change[2]	≤ 5
K1	Ft (m)	10.97 (0.360)
K2	Ft (m)	0.11 (0.004)

Maximum Attenuation[1], Power, and VSWR[6,7]

(at 20°C and Sea Level)

Frequency GHz	Attenuation dB/100ft	dB/m	Power Watts (CW)	VSWR
0.5	10	0.33	755	1.25
1	14	0.46	632	1.25
5	32	1.05	235	1.25
10	46	1.50	166	1.25
18	62	2.03	123	1.25
26.5	76	2.48	100	1.25
40	94	3.08	81	1.25

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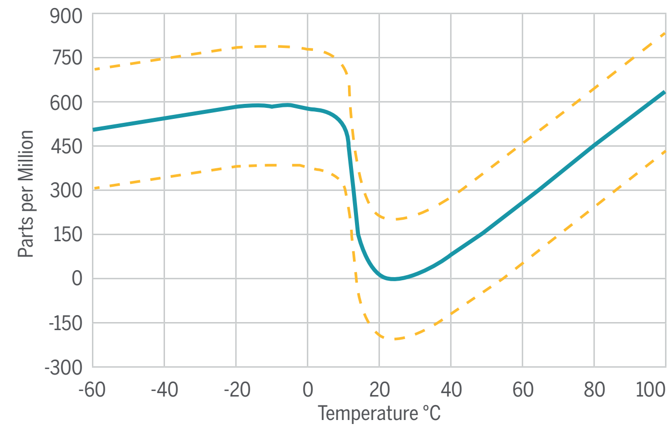
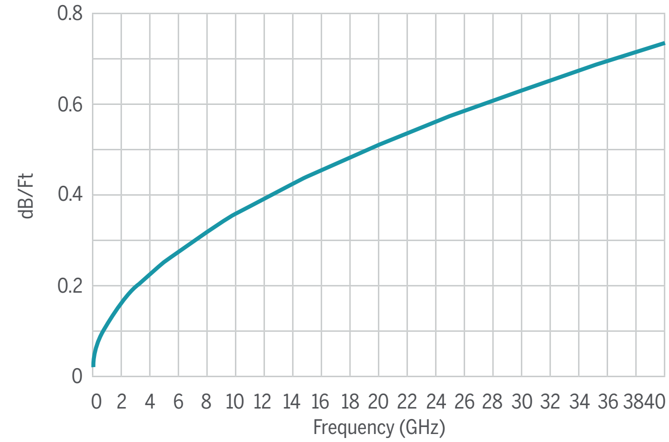
Environmental Properties

Thermal Shock	MIL-STD-202, Method 107, 20 Cycles, -65 to 125 °C (cable and SMA connectors only)
Aging Stability	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.
Low Pressure	SAE-AS-13441, Method 1004.1
Humidity	MIL-STD-810, Method 507.5, Procedure I and II
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

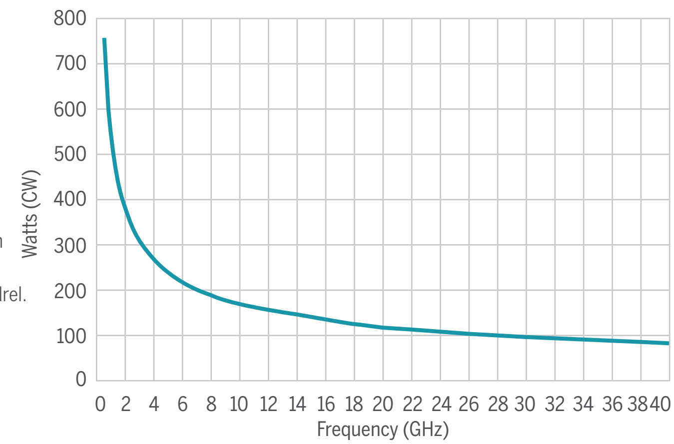
Typical Phase Change vs. Temperature[5]



Maximum Insertion Loss



Maximum Power Handling



Notes

1. Attenuation (db/100Ft) = K1√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. Connect both ends of cable to flex (snake) machine. The movement of the flex machine arm from 36 inches to 18 inches, stopping, and then returning to 36 inches shall be 1 flex cycle.
4. Typical phase change vs bending for cable wrapped 360° around a 4.5 in diameter mandrel.
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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