

UGF070D

UTiFLEX®



The UGF070D coaxial solutions have been designed to offer superior electrical performance in the smallest possible package for fixed installations. They are a cost-effective alternative when an RG cable cannot perform to your system needs, or when a semi-rigid cable is too cumbersome.

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 copper per ASTM B-298
JACKET	Perfluoroalkoxy fluoropolymer (PFA) in accordance with MIL-DTL- 17, Type XIII

 **Impedance**
50 Ohms

 **Operating Temperature**
-65°C to +165°C

 **RoHS**
Compliant

Mechanical/Physical Properties

Jacket Diameter	in	0.070
	mm	1.78
Weight	grams/ft	≤ 3.0
	grams/m	≤ 9.8
Min Static Bend Radius	in	0.300
	mm	7.62
Dynamic Flex Life - Snake ³	cycles	5,000
Center Conductor Strands		1

Electrical Properties

Velocity of Propagation	(%)	78
RF Shielding	(dB) at 1 GHz	≥ 70
Capacitance	pF/ft	26.11
	pF/m	85.68
Cutoff Frequency	GHz	106.6
Corona Extinction Voltage	VRMS @ 60Hz	1000
Dielectric Withstanding Voltage	VRMS @ 60Hz	3000
Insertion Loss Stability	% Change ²	≤ 5
K1	Ft (m)	29.49 (0.967)
K2	Ft (m)	0.25 (0.008)

Maximum Attenuation¹, Power, and VSWR^{5,6} (at 20°C and Sea Level)

Frequency	Attenuation		Power	VSWR
GHz	dB/100ft	dB/m		
0.5	21	0.69	159	1.35
1	30	0.98	111	1.35
5	67	2.20	46	1.35
10	96	3.14	31	1.35
18	130	4.26	22	1.35

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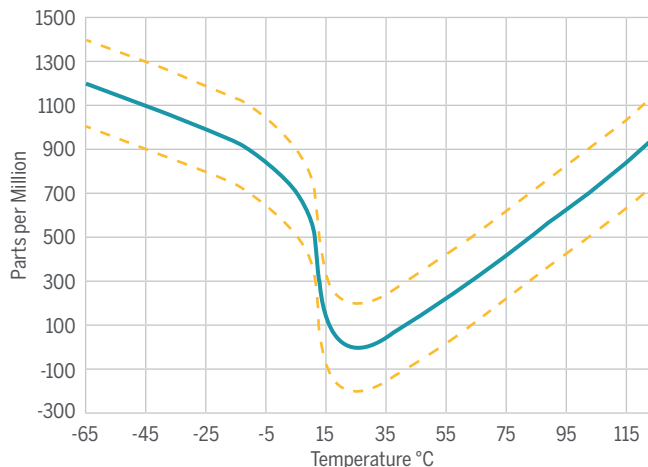
Environmental Properties

Thermal Shock	MIL-STD-202, Method 107, 20 Cycles, -65 to 165 °C (cable and SMA connectors only)
Aging Stability	MIL-DTL-17, Paragraph 4.8.16, +165 °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, 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

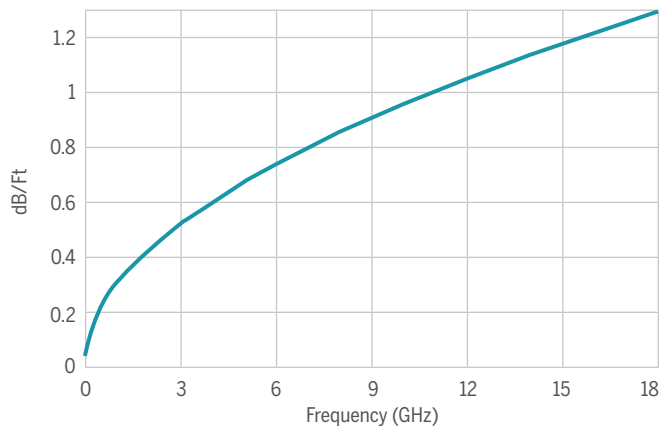
Notes

1. Maximum attenuation (db/100Ft) = $K1 \cdot \sqrt{F} + K2 \cdot F$ 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. Cable assemblies of equal length and connectors made from the same cable manufacturing lot shall phase track within 200 PPM of each other.
5. Test Plots required with Shipment (Attenuation and VSWR).
6. VSWR testing to be performed on 20-foot minimum lengths with gating used to remove connector contributions. Minimum frequency points shall be 1601.

Typical Phase Change vs. Temperature⁴



Maximum Insertion Loss



Maximum Power Handling

