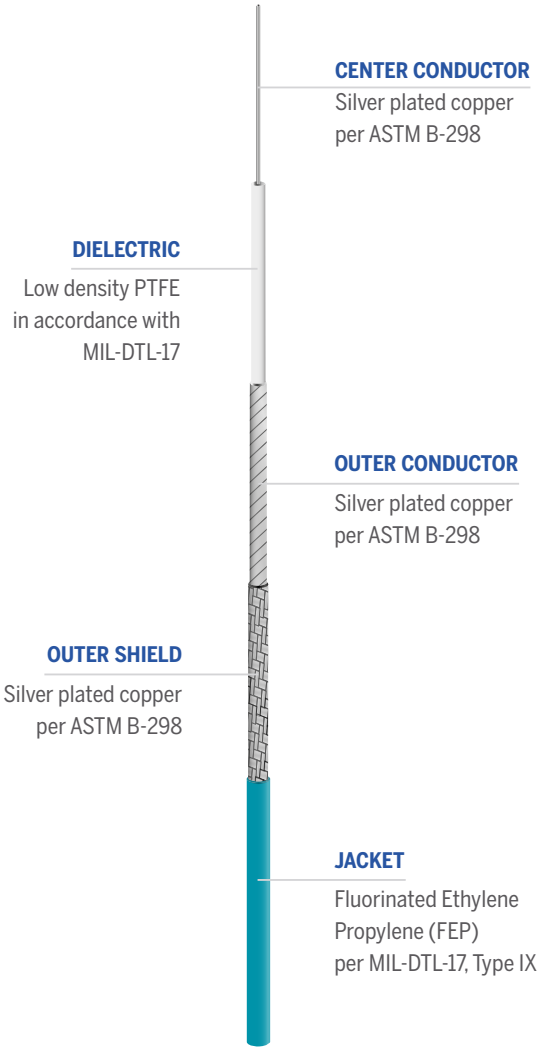
# UFA147B

## UTiFLEX®

UFA147B 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**
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**
Fluorinated Ethylene Propylene (FEP) per MIL-DTL-17, Type IX

## Mechanical/Physical Properties

| | | |
|---|---|---|
| Jacket Diameter | in | 0.147 |
| | mm | 3.73 |
| Weight | grams/ft | ≤ 12.1 |
| | grams/m | ≤ 39.7 |
| Min Static Bend Radius | in | 0.250 |
| | mm | 6.35 |
| Flex Life - Snake[3] | cycles | 100,000 |
| Center Conductor Strands | | 19 |

## Electrical Properties

| | | |
|---|---|---|
| Velocity of Propagation | (%) | 77 |
| RF Shielding | (dB) at 1 GHz | ≥ 100 |
| Capacitance | pF/ft | 27.59 |
| | pF/m | 90.53 |
| Cutoff Frequency | GHz | 41.36 |
| Corona Extinction Voltage | VRMS @ 60Hz | 2000 |
| Dielectric Withstanding Voltage | VRMS @ 60Hz | 5000 |
| Insertion Loss Stability | % Change[2] | ≤ 5 |
| K1 | Ft (m) | 15.20 (0.499) |
| K2 | Ft (m) | 0.40 (0.013) |

## 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 | 11.0 | 0.36 | 691 | 1.25 |
| 1 | 16.0 | 0.51 | 486 | 1.25 |
| 5 | 36.0 | 1.18 | 213 | 1.25 |
| 10 | 52.0 | 1.71 | 149 | 1.25 |
| 18 | 72.0 | 2.35 | 109 | 1.25 |
| 26.5 | 89.0 | 2.91 | 89 | 1.25 |
| 40 | 112.0 | 3.67 | 71 | 1.25 |

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MICRO·COAX
AN AMPHENOL COMPANY

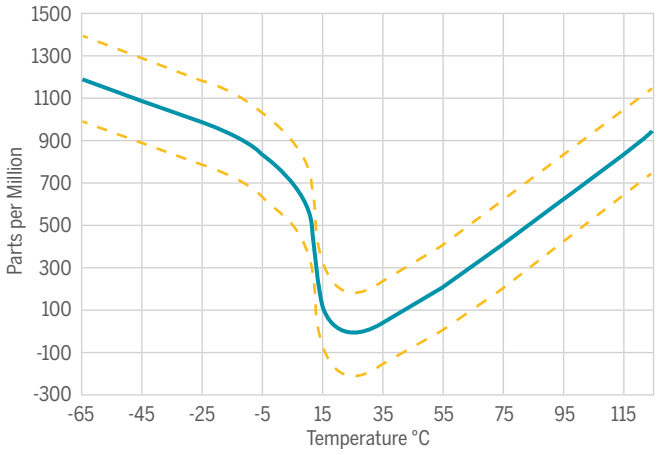
# UFA147B

UTiFLEX®

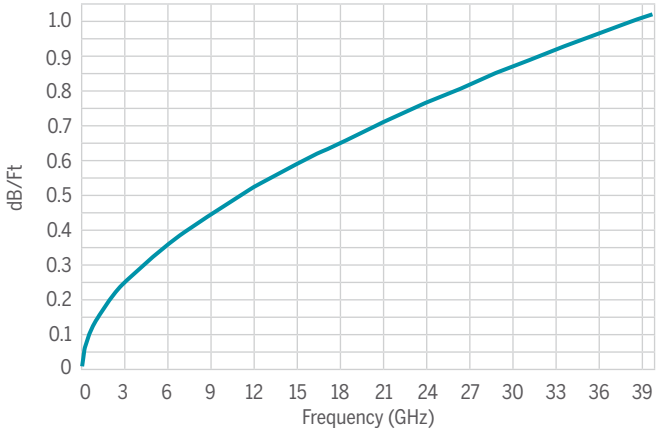
## Environmental Properties

| | |
|---|---|
| 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. |
| Low Pressure | SAE-AS-13441, Method 1004.1 |
| Humidity | MIL-STD-810, Method 108, Procedure 1 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 |

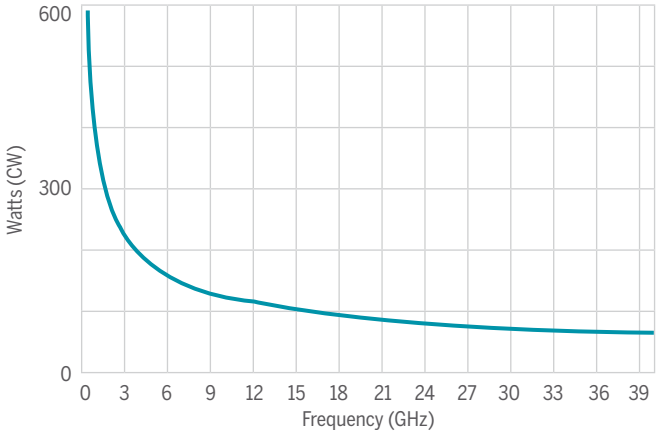
## Typical Phase Change vs. Temperature[5]




## 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 in.
3. Connect both ends of cable to flex (snake) machine. The movement of the flex machine arm from 36 to 18 inches, stopping, and then returning to 36 inches shall be 1 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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