SEMI-RIGID COAXIAL CABLE / PHASE STABLE

Cable Name: C22G

Part No: VXC22G



40 GHz
MAX FREQUENCY

< 750 PPM
PHASE STABILITY

81%
ULTRA-HIGH VELOCITY

Ultra Low Loss
AEROSPACE GRADE

General Description: The Vinstronics VXC22G is the absolute pinnacle of semi-rigid coaxial cables, engineered for ultra-precise 40GHz applications. By utilizing an advanced ultra-low density PTFE dielectric, it achieves an astonishing 81% velocity of propagation and outstanding temperature phase stability (<750PPM). Combined with absolute >165dB shielding, it guarantees zero signal drift for elite phased array radars and aerospace precision instruments.

Core Features

- **Phase Stability:** Incredible <750PPM (-45℃ to 85℃) for absolute signal precision.
- **Ultra-High Velocity:** Advanced dielectric achieves an industry-leading 81% propagation velocity.
- **Ultra-Low Loss:** Drastically minimized attenuation for critical high-frequency transmission.
- **Absolute Shielding:** Seamless copper tube provides >165dB isolation, eliminating cross-talk.
- **Extreme Temperature:** Survives ultra-harsh environments up to 250℃.

Target Applications

- **Phased Array Radar:** Flawless phase-stable routing for critical antenna arrays.
- **Avionics & Aerospace:** Meets the ultimate temperature and stability standards.
- **Precision Instruments:** Absolute zero-drift signal paths within high-end test equipment.
- **RF Module Internal:** Perfect for top-tier microwave component interconnections.

CONSTRUCTION SPECIFICATION

Component	Material & Process	Diameter mm [in]
1. Inner Conductor	Silver-plated copper	**0.590** [0.023]
2. Dielectric	PTFE (Ultra-Low Density)	**1.680** [0.066]
3. Outer Shield/Jacket	Seamless Copper Tube	**2.180** [0.086]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**40 GHz**
Cut-off Frequency	**68 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**81 %**
Shielding Effectiveness	**>165 dB**
Dielectric Withstanding Voltage	**500 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**2000**	**3000**	**6000**	**8000**	**10000**	**12400**	**18000**	**26500**	**40000**
Attenuation (dB/100m)	**54.5**	**77.4**	**95.1**	**135.5**	**157.1**	**176.2**	**196.9**	**238.9**	**292.4**	**363.4**
Average Power (kW)	**0.259**	**0.182**	**0.148**	**0.104**	**0.090**	**0.080**	**0.072**	**0.059**	**0.048**	**0.039**

K1 = 1.706810 **K2 =** 0.000550 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**7.0 mm** [0.276 in]
Weight	**0.021 kg/m** [0.0141 lbs/ft]
Temperature Range	**-55 ~ +250 °C** [-67 ~ +482 °F]
Temperature Stable Phase	**< 750PPM @ -45°C ~ 85°C**