SEMI-RIGID COAXIAL CABLE / STANDARD

Cable Name: G12E

Part No: VXG12E



40 GHz	> 165 dB
MAX FREQUENCY	RF SHIELDING
1.22 mm	**Solid PTFE**
ULTRA-MICRO OD	COST-EFFECTIVE

General Description: The Vinstronics VXG12E is a highly popular, compact standard semi-rigid cable for demanding 40GHz connections. Utilizing a solid PTFE core and a seamless copper jacket, it delivers an absolute >165dB shielding performance, guaranteeing zero RF interference. It is the premier economical choice for permanent, form-stable routing inside precision RF modules.

Core Features

- **Absolute Shielding:** Seamless copper tube provides >165dB isolation, eliminating cross-talk.
- **Compact OD:** 1.22mm diameter balances flexibility with robust performance.
- **Form-Stable:** Retains its complex 3D routed shape permanently after bending.
- **Economy Build:** Solid PTFE dielectric delivers excellent performance-to-price ratio.
- **Zero PIM:** Solid structure ensures impeccable intermodulation performance.

Target Applications

- **RF Module Internal:** Perfect for dense microwave component interconnections.
- **Tight Space Connection:** Essential for highly restricted internal routing.
- **Precision Instruments:** Reliable signal paths within high-end test equipment.
- **High-Frequency Testing:** Ideal for 40GHz module verifications.

CONSTRUCTION SPECIFICATION

Component	Material & Process	Diameter mm [in]
1. Inner Conductor	Silver-plated copper	**0.290** [0.011]
2. Dielectric	Solid PTFE	**0.950** [0.037]
3. Outer Shield/Jacket	Seamless Copper Tube	**1.220** [0.048]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**40 GHz**
Cut-off Frequency	**110 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**70 %**
Shielding Effectiveness	**>165 dB**
Dielectric Withstanding Voltage	**100 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**2000**	**3000**	**6000**	**8000**	**10000**	**12400**	**18000**	**26500**	**40000**
Attenuation (dB/100m)	**1.1**	**1.6**	**2.0**	**2.9**	**3.4**	**3.8**	**4.3**	**5.2**	**6.5**	**8.2**
Average Power (kW)	**0.059**	**0.041**	**0.033**	**0.023**	**0.020**	**0.018**	**0.016**	**0.013**	**0.010**	**0.008**

K1 = 0.035016 **K2 =** 0.000029 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**4.2 mm** [0.165 in]
Weight	**0.004 kg/m** [0.0027 lbs/ft]
Temperature Range	**-55 ~ +125 ℃** [-67 ~ +257 ℉]