SEMI-RIGID COAXIAL CABLE / STANDARD

Cable Name: G06E

Part No: VXG06E



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

General Description: The Vinstronics VXG06E is an ultra-micro, standard semi-rigid coaxial cable engineered for extreme tight-space 40GHz interconnects. Featuring a seamless copper tube outer shield, it delivers an absolute >165dB shielding efficiency with zero RF leakage. Utilizing a solid PTFE dielectric, it provides a highly cost-effective, form-stable routing solution for the most compact precision instruments.

Core Features

- **Absolute Shielding:** Seamless copper tube provides >165dB isolation, eliminating cross-talk.
- **Ultra-Micro OD:** Minimal 0.58mm diameter for microscopic internal routing.
- **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

- **Tight Space Connection:** The ultimate choice for microscopic internal routing.
- **RF Module Internal:** Perfect for dense microwave component interconnections.
- **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	**0.127** [0.005]
2. Dielectric	Solid PTFE	**0.432** [0.017]
3. Outer Shield/Jacket	Seamless Copper Tube	**0.580** [0.023]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**40 GHz**
Cut-off Frequency	**240 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)	**2.4**	**3.4**	**4.2**	**6.0**	**6.9**	**7.8**	**8.7**	**10.6**	**13.0**	**16.2**
Average Power (kW)	**0.034**	**0.024**	**0.019**	**0.014**	**0.012**	**0.010**	**0.009**	**0.008**	**0.006**	**0.005**

K1 = 0.075016 **K2 =** 0.000029 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**1.27 mm** [0.050 in]
Weight	**0.002 kg/m** [0.0013 lbs/ft]
Temperature Range	**-55 ~ +125 ℃** [-67 ~ +257 ℉]