**SEMI-RIGID COAXIAL CABLE / STANDARD**

# Cable Name: G22E

Part No: VXG22E



**40 GHz**
MAX FREQUENCY

**> 165 dB**
RF SHIELDING

**500 V.DC**
HIGH VOLTAGE

**Solid PTFE**
COST-EFFECTIVE

**General Description:** The Vinstronics VXG22E is a robust, industry-standard semi-rigid cable operating up to 40GHz. Encased in a 2.18mm seamless copper tube, it provides absolute >165dB shielding and an upgraded 500 V.DC power rating. Featuring a solid PTFE dielectric, it delivers highly economical, zero-PIM, and form-stable connections for demanding precision instrument internals.

## Core Features

- **Absolute Shielding:** Seamless copper tube provides >165dB isolation, eliminating cross-talk.
- **High Voltage Handling:** 500 V.DC rating provides enhanced safety and power capacity.
- **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 high-power microwave component interconnections.
- **Precision Instruments:** Reliable signal paths within high-end test equipment.
- **Tight Space Connection:** Essential for restricted yet high-power routing.
- **General RF Routing:** The economical backbone for standard chassis setups.

## CONSTRUCTION SPECIFICATION

| Component | Material & Process | Diameter mm [in] |
|---|---|---|
| 1. Inner Conductor | Silver-plated copper | **0.530** [0.021] |
| 2. Dielectric | Solid PTFE | **1.680** [0.066] |
| 3. Outer Shield/Jacket | Seamless Copper Tube | **2.180** [0.086] |

## ELECTRICAL CHARACTERISTICS

| | |
|---|---|
| Operating Frequency | **40 GHz** |
| Cut-off Frequency | **59 GHz** |
| Impedance | **50 ± 1 Ω** |
| Velocity of Propagation | **70 %** |
| 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) | **64.9** | **93.1** | **115.2** | **166.6** | **194.7** | **219.9** | **247.6** | **304.9** | **379.9** | **482.7** |
| Average Power (kW) | **0.256** | **0.179** | **0.144** | **0.100** | **0.085** | **0.076** | **0.067** | **0.055** | **0.044** | **0.034** |

**K1 =** 1.985320 **K2 =** 0.002140 **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 ~ +125 ℃** [-67 ~ +257 ℉] |