FLEXIBLE RF CABLE / PHASE STABLE CABLE

Cable Name: W55

Part No: VXW550



18 GHz
MAX FREQUENCY

2000 V.DC
EXTREME HIGH VOLTAGE

Robust
POWER TRANSMISSION

< 750 PPM
PHASE STABILITY

General Description: The Vinstronics VXW550 is a premium, ultra-low loss RF cable for demanding microwave environments. Featuring a robust 5.60mm FEP jacket and LD PTFE dielectric, it ensures exceptional signal integrity up to 18GHz. With strict phase stability (<750PPM) and an extreme 2000 V.DC rating, it provides highly reliable power transmission for advanced aerospace and communication systems.

Core Features

- **Phase Stability:** <750PPM @ -55℃ to +85℃.
- **Ultra-Low Loss:** Optimized for precision transmission.
- **Extreme Voltage:** 2000 V.DC rating for intensity requirements.
- **Low PIM:** Outstanding -155dBc performance.
- **Robust Power:** Superior handling for high-intensity signals.

Target Applications

- **Avionics:** Meets stringent weight & stability standards.
- **Phased Array Radar:** Ensures precise phase consistency.
- **ECM Systems:** Reliable in harsh environments.
- **High-Power Interconnects:** Ideal for extreme high-voltage applications.

CONSTRUCTION SPECIFICATION

Component	Material & Process	Diameter mm [in]
1. Inner Conductor	Silver-plated copper	**1.60** [0.063]
2. Dielectric	Low Density PTFE (LD PTFE)	**4.30** [0.169]
3. Inner Shield	Silver-plated copper strip	**4.50** [0.177]
4. Outer Shield	Silver-plated copper wire braiding	**5.10** [0.201]
5. Jacket	FEP / Gray (Customizable)	**5.60** [0.220]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**18 GHz**
Cut-off Frequency	**26.5 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**83 %**
Shielding Effectiveness	**>90 dB**
Dielectric Withstanding Voltage	**2000 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**2000**	**3000**	**6000**	**8000**	**10000**	**12400**	**16000**	**18000**
Attenuation (dB/100m)	**22.3**	**31.6**	**38.8**	**55.0**	**63.6**	**71.2**	**79.5**	**90.5**	**96.1**
Average Power (kW)	**1.024**	**0.723**	**0.589**	**0.415**	**0.359**	**0.320**	**0.287**	**0.252**	**0.238**

K1 = 0.701472 **K2** = 0.000110 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**26 mm** [1.024 in]
Dynamic Bending Radius	**52 mm** [2.047 in]
Weight	**0.060 kg/m** [0.0403 lbs/ft]
Temperature Range	**-55 ~ +165 ℃** [-67 ~ +329 ℉]