FLEXIBLE RF CABLE / PHASE STABLE CABLE

Cable Name: W54

Part No: VXW540W



26.5 GHz
MAX FREQUENCY

1500 V.DC
WITHSTANDING VOLTS

5.40 mm
HEAVY-DUTY
6-LAYER BUILD

< 750 PPM
PHASE STABILITY

General Description: The Vinstronics VXW540W is a premium, ultra-low loss, phase-stable RF cable for demanding microwave environments. Featuring a specialized 6-layer construction and a robust 5.40mm FEP jacket, it ensures exceptional signal integrity up to 26.5GHz. With strict phase stability (<750PPM) and a 1500 V.DC rating, it provides ideal heavy-duty interconnects for advanced aerospace and communication systems.

Core Features

- **Phase Stability:** <750PPM @ -55℃ to +85℃.
- **Ultra-Low Loss:** Optimized for precision transmission.
- **High Voltage:** 1500 V.DC rating for intensity requirements.
- **Low PIM:** Outstanding -155dBc performance.
- **Heavy-Duty Build:** 5.40mm outer diameter with LD PTFE interlayer.

Target Applications

- **Avionics:** Meets stringent weight & stability standards.
- **Phased Array Radar:** Ensures precise phase consistency.
- **ECM Systems:** Reliable in harsh environments.
- **High-Frequency:** Ideal for strict loss applications.

CONSTRUCTION SPECIFICATION

Component	Material & Process	Diameter mm [in]
1. Inner Conductor	Silver-plated copper	**1.45** [0.057]
2. Dielectric	Low Density PTFE (LD PTFE)	**3.99** [0.157]
3. Inner Shield	Silver-plated copper strip	**4.19** [0.165]
4. Interlayer	Low Density PTFE (LD PTFE)	**4.45** [0.175]
5. Outer Shield	Silver-plated copper wire braiding	**4.85** [0.191]
6. Jacket	FEP / Gray (Customizable)	**5.40** [0.213]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**26.5 GHz**
Cut-off Frequency	**29 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**83 %**
Shielding Effectiveness	**>90 dB**
Dielectric Withstanding Voltage	**1500 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**2000**	**3000**	**6000**	**8000**	**10000**	**12400**	**18000**	**26500**
Attenuation (dB/100m)	**23.4**	**33.3**	**41.0**	**58.5**	**67.9**	**76.3**	**85.4**	**103.8**	**127.5**
Average Power (kW)	**0.919**	**0.646**	**0.525**	**0.368**	**0.317**	**0.282**	**0.252**	**0.207**	**0.169**

K1 = 0.730000 **K2** = 0.000328 **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	**0.063 kg/m** [0.0423 lbs/ft]
Temperature Range	**-55 ~ +165 ℃** [-67 ~ +329 ℉]