FLEXIBLE RF CABLE / PHASE STABLE CABLE

Cable Name: W83

Part No: VXW830



18 GHz	2500 V.DC
MAX FREQUENCY	WITHSTANDING VOLTS
8.30 mm	**< 750 PPM**
MAXIMUM ARMOR	PHASE STABILITY

General Description: The Vinstronics VXW830 is a premium, large-diameter phase-stable RF cable operating up to 18GHz. Protected by a thick 8.30mm FEP jacket and rated for 2500 V.DC, it balances ultra-low attenuation with elite environmental defense and strict phase consistency (<750PPM) for high-power aerospace systems.

Core Features

- **Phase Stability:** <750PPM @ -55℃ to +85℃.
- **Ultra-Low Loss:** Optimized for precision transmission.
- **High Voltage:** 2500 V.DC rating for intensity requirements.
- **Low PIM:** Outstanding -155dBc performance.
- **Maximum Armor:** 8.30mm outer diameter for ultimate protection.

Target Applications

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

CONSTRUCTION SPECIFICATION

Component	Material & Process	Diameter mm [in]
1. Inner Conductor	Silver-plated copper	**2.44** [0.096]
2. Dielectric	Low Density PTFE (LD PTFE)	**6.50** [0.256]
3. Inner Shield	Silver-plated copper strip	**6.90** [0.272]
4. Outer Shield	Silver-plated copper wire braiding	**7.65** [0.301]
5. Jacket	FEP / Gray (Customizable)	**8.30** [0.327]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**18 GHz**
Cut-off Frequency	**18 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**83 %**
Shielding Effectiveness	**>90 dB**
Dielectric Withstanding Voltage	**2500 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**2000**	**3000**	**6000**	**8000**	**10000**	**12400**	**16000**	**18000**
Attenuation (dB/100m)	**13.3**	**18.9**	**23.4**	**33.6**	**39.1**	**44.1**	**49.5**	**56.9**	**60.6**
Average Power (kW)	**1.894**	**1.326**	**1.075**	**0.747**	**0.641**	**0.569**	**0.507**	**0.442**	**0.414**

K1 = 0.408997 **K2** = 0.000320 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**41 mm** [1.614 in]
Dynamic Bending Radius	**83 mm** [3.268 in]
Weight	**0.162 kg/m** [0.1089 lbs/ft]
Temperature Range	**-55 ~ +165 ℃** [-67 ~ +329 ℉]