FLEXIBLE RF CABLE / HIGH POWER CABLE

Cable Name: B55

Part No: VXB550



18 GHz
MAX FREQUENCY

Aluminum Foil
HIGH TENSILE STRENGTH

1000 V.DC
POWER HANDLING

5.45 mm
HEAVY-DUTY BUILD

General Description: The Vinstronics VXB550 is a premium high-power RF cable for demanding 18GHz microwave environments. Reinforced by a high-temperature aluminum foil interlayer and a 5.45mm FEP jacket, it delivers unmatched tensile performance and >90dB shielding. Delivering low loss and -155dBc PIM, it provides highly reliable interconnects for avionics and communication systems.

Core Features

- **High Power:** Optimized structural design for intense signal transmission.
- **Aluminum Foil Layer:** Unique interlayer ensures excellent tensile properties.
- **Low PIM:** Outstanding -155dBc performance for clear communication.
- **Ultra-Low Loss:** LD PTFE dielectric for precision signal integrity.
- **Heavy-Duty Build:** 5.45mm outer diameter for enhanced protection.

Target Applications

- **Base Stations:** Ideal for internal wireless communication routing.
- **High Power Launch:** Dependable for intense high-power broadcasting.
- **Avionics:** Meets strict environmental and tensile stability standards.
- **ECM Systems:** Reliable in complex electronic countermeasure setups.

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)	**4.18** [0.165]
3. Inner Shield	Silver-plated copper strip	**4.42** [0.174]
4. Interlayer	High temperature aluminum foil	**4.55** [0.179]
5. Outer Shield	Silver-plated copper wire braiding	**4.95** [0.195]
6. Jacket	FEP / Blue (Customizable)	**5.45** [0.215]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**18 GHz**
Cut-off Frequency	**28 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**76 %**
Shielding Effectiveness	**>90 dB**
Dielectric Withstanding Voltage	**1000 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**2000**	**3000**	**6000**	**8000**	**10000**	**12400**	**16000**	**18000**
Attenuation (dB/100m)	**26.3**	**37.6**	**46.3**	**66.6**	**77.5**	**87.3**	**97.9**	**112.3**	**119.8**
Average Power (kW)	**0.810**	**0.567**	**0.460**	**0.320**	**0.275**	**0.244**	**0.218**	**0.190**	**0.178**

K1 = 0.813422 **K2** = 0.000591 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**22 mm** [0.866 in]
Dynamic Bending Radius	**55 mm** [2.165 in]
Weight	**0.072 kg/m** [0.0484 lbs/ft]
Temperature Range	**-55 ~ +200 ℃** [-67 ~ +392 ℉]